



# Annual Report



More than scholarships

– AISES is a full Circle of Support

# Our Mission

## OUR MISSION

The mission of the American Indian Science and Engineering Society (AISES) is to substantially increase the representation of American Indians and Alaska Natives in Science, Technology, Engineering and Math (STEM) studies and careers.

## WHY OUR MISSION IS CRITICAL

In order to remain competitive in the global economy, technical innovation, sustained by a workforce highly educated in Science, Technology, Engineering, and Mathematics (STEM), is vital. As such, here in the U.S., we must utilize and maximize all of our talent. Unfortunately, American Indians and Alaska Natives are dramatically underrepresented in the STEM fields, which limits the future success of our children while also reducing the ability the U.S. to compete in the world of tomorrow. Case in point, in a 2012 article that appeared in the New York Times, Apple executives pointed out that much of the iPhone manufacturing was not here in the U.S. because “China provided engineers at a scale the United States could not match.<sup>1</sup>” Apple’s executives estimated that about 8,700 industrial engineers were needed. The company’s analysts had forecast it would take as long as nine months to find that many qualified engineers in the United States. It is becoming abundantly clear that we need to train and retain the best and brightest STEM professionals here in the U.S. if we are to maintain a competitive edge.

By connecting with American Indian and Alaska Native students in middle and high school, the goal of AISES is to interest and engage them in STEM at an early age. AISES provides huge opportunities in the STEM disciplines. We have awarded over \$8 million in scholarships to nearly 5,000 students and provided a myriad of ways for members to connect with mentors and peers across the AISES family. Our unique programs give middle and high school students the chance to participate in nationally recognized STEM events like Science Fairs and Science Bowls—fostering and rewarding their talents. Our College Program combines scholarships, student representatives, mentoring, leadership training, and internships. The Professional Program helps members find employment, make contacts, and broaden networks through our National Conference—a one-of-a-kind event that offers community, workshops, and networking. It brings the whole AISES family—pre-college, college, and professionals together to learn from one another, sharing wisdom with the young as our ancestors taught us.

<sup>1</sup> Barboza, David, Peter Lattman, and Catherine Rampell. “How the U.S. Lost Out on iPhone Work.” New York Times 24 Jan. 2012: n. pag. Print. Accessible: <http://www.nytimes.com/2012/01/22/business/apple-america-and-a-squeezed-middle-class.html?pagewanted=all>



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## From the CEO, Sarah EchoHawk

As I reflect back over the time I have spent as the CEO of AISES, I am reminded of my many trips through Indian Country. There is not always a definitive map but there is always someone there to welcome me and show me the way home. As a collective people, we are always available to help and guide one another. Everyone offers what they can to move someone or something a little further down the line. In this, our traditions guide us, always reaching back to those who came before us and carrying forward to the next generation. It is certainly a long road but always worth the journey.



We recognize there are many who have gone before us, who walk beside us, and who stand behind us, making it possible to continue our mission—to substantially increase the representation of American Indians and Alaska natives in engineering, science, and other related technology disciplines. I deeply appreciate the devotion and dedication of our members, friends, volunteers, council members, Elders, and partners. Our Board of Directors, under the outstanding leadership of our talented Chair, Melinda L. McClanahan, Ph.D., has always led us in the right direction. From our Pre-College Science Fairs and Science Bowls to the hugely successful 2013 AISES Leadership Summit and National Conference, our friends and supporters have helped make a year full of great achievements possible.

During 2013, we have seen a growing awareness for the importance of our mission. People are beginning to realize that if the United States is to remain competitive in the global economy, we can't afford to ignore the talent we have available and must be sure to include American Indians and Alaska Natives in training and hiring for STEM careers. Recently, more attention is being paid to this vital concern and we are seeing our membership and interest in our mission grow. We are fortunate to have a wealth of amazing partners who are as committed to solving this economic and human issue as we are. Truly, it is an exciting time for AISES.

As you look through this report to you--our valued friends—I am certain you too will be caught up in the enthusiasm. It runs through our Pre-College program as young students first find encouragement and pride in their accomplishments. Our college members look to us for scholarship support as the cost of tuition continues to skyrocket. The College Chapters are busy networking and also providing a sense of community and belonging for students in institutions where they might otherwise feel isolated. Meanwhile, members of our Professional Chapters are out in the world making tremendous contributions in their chosen STEM fields and then returning to events like our National Conference to share their expertise with other members of the AISES family. I'm honored to be part of such an exciting and worthwhile enterprise.

As the number one STEM organization in Indian Country, AISES is the organization others turn to when they need direction. We are the innovators who break the trails for the rest to follow. And, at AISES, the only way we are heading is forward. It's going to be an exciting journey and we are so glad you are a part of it!

Ta'Tura Tsiksu (With Much Respect),  
Sarah EchoHawk, Pawnee Nation of Oklahoma  
Chief Executive Officer, AISES

## Message the AISES Board Chair, Melinda L. McClanahan, Ph.D.

Dear AISES Community:

What a difference a year makes!

The progress of our beloved AISES organization over the past year in the areas of financial viability, program sponsorship, and organizational management is truly remarkable. Through the superb leadership of Sarah EchoHawk, AISES CEO, and her dedicated staff, we have successfully maneuvered our way through some problematic times to reach a stable but energetic state that will be a springboard to increased growth and national prestige for AISES. We have implemented a reorganization of our administrative structure, tightened our belts to eliminate non-profitable activities, sharpened our focus on long-term goals, and turned our attention to better supporting the needs of our AISES members. We have built new liaisons with corporate sponsors. We have reached out to our Council of Elders and Indian Nations to build stronger ties. We have transcended old ways of doing things and overcome fear of change. The courage of AISES leadership, including the Board of Directors, to navigate this new path is to be applauded.


Our bold new approach that we began working toward in 2013 is now paying dividends and has earned national recognition of the high quality of our unique organization. The recent major grant awarded by the National Science Foundation to AISES bears testimony to this fact. The life blood of AISES is its student and professional members and the AISES Chapters across the continent. This NSF grant, “Lighting the Pathway to Faculty Careers for Natives in STEM,” will provide a new avenue of holistic support to many of our STEM students and mentors during the next five years. “More than scholarships, a full circle of support” aptly describes this innovative and exciting program.

In summary, this Annual Report describes the activities and achievements of AISES and defines our outstanding organizational progress during the past year. I am both humble and proud to have served as Chair of the AISES Board of Directors during this time of transition. I want to thank all AISES members and sponsors for their love of their Native culture and unflagging support for AISES. I hope that you agree with me that this is an exciting time. The future of AISES looks bright!

Many thanks for the opportunity to serve you.

Cordially,  
Melinda L. McClanahan, Ph.D., Choctaw Nation of Oklahoma  
Chair, AISES Board of Directors





# Pre-College

## Pre-College Affiliate School Program

### Awareness and Retention

The focus of the Pre-College Program is “Awareness and Retention.” In order to engage future professionals in the STEM fields early in their academic career, AISES’ Pre-College Affiliate School Program is open to all pre-college schools serving American Indian and Alaska Native students. Presently, approximately 55,000 Native students were served through 160 K-12 schools and educational organizations, and 80 Individual Pre-College affiliates. School affiliation is a prerequisite for participating in AISES workshops and national events. Teachers from the affiliated schools are also invited to participate in regional activities such as the regional conferences held each spring and are also provided with curricular and professional development support.

Students are given exposure to cutting edge science, technology, engineering, and math (STEM) programs and events. These experiences and opportunities support them in discovering, pursuing, and sustaining their interest in STEM as they prepare for their college careers and beyond.

We support early childhood through high school students in a variety of ways. These include teacher training, regional science bowls, science fairs, leadership development, mentorship, scholarships, internships and other programming designed to help both students and their families.

### National American Indian Virtual Science and Engineering Fair

The National American Indian Science and Engineering Fair (NAISEF) serves American Indians/Alaska Natives/Native Hawaiians (AI/AN/NH) in grades 5-12. In the past, NAISEF has always provided an opportunity for students to actively participate in a science based learning environment and create science projects and conduct scientific research that can be shared with peers, educators, and other Native role models.

In late 2013, as result of reduced funding support, AISES announced it would hold the first ever National American Indian Virtual Science and Engineering Fair (NAIVSEF). As a pilot project, AISES had the opportunity to be the first to secure the support of the Society for Science and the Public (SSP) for this new endeavor. The SSP is the organization that oversees the Intel International Science and Engineering Fair (ISEF) and all of the affiliated fairs, including AISES’ NAISEF. With the new virtual format, AISES was able to retain its affiliations with ISEF and continue to offer students the opportunity to compete in a ISEF affiliated science fair. Moreover we are encouraged by SSP’s interest in AISES’ ability to provide an online venue that other science fairs, facing similar funding challenges, may eventually adopt as an alternative model rather than having to completely suspend or cancel their events. And while small in size, first the virtual fair was met with a great deal of support, enthusiasm and talent. There were two major classes within its Senior Division, Life Sciences and Math & Engineering. The Junior Division was comprised of one overall class of both. AISES covered all travel-related expenses for the ISEF Grand Award Winners and their chaperones. The final judging included 30 high school projects (Senior Division) and seven 5th- 8th grade projects (Junior Division). These 37 projects included both team and individual entries. The Virtual Science and Engineering Fair was such a success. The SRC acknowledged that AISES did an excellent job in adhering to the International Rules and in providing the proper documentation in the submission of the project paperwork.

## Intertribal Middle School Science Bowl

AISES was proud to host the 3rd Annual Intertribal Middle School Science Bowl in conjunction with the National American Indian Science and Engineering Fair and EXPO, March 21-22, 2013 in Albuquerque, New Mexico at the Albuquerque Convention Center. The Science Bowl is an academic competition that tests students' knowledge in all areas of math and science. Students were quizzed in a fast paced question-and-answer format similar to that of a popular TV quiz show. Competing teams were chosen from Tribal communities around the nation and were composed of four to five students and a teacher who serves as an advisor and coach.



## Pre-College Profile

### Profile — Yolanda Flores

#### High School Hero

Navajo Preparatory School teacher Yolanda Flores has a special gift. It's one she thought she shared only with her students. But a gift this special could not go unnoticed. Flores' inspiring talent earned her more than popularity, it also earned her the Arizona Junior Science and Humanities Symposium 2014 Outstanding Teacher Award.

Her dedication to engaging Navajo students in science and technology fields goes beyond the classroom. According to an article in Farmington's *The Daily Times*, Flores said, "It's not only classroom teaching, it's the experience I want them to have. I want everybody to do a science fair project on their interests. From there, they will learn how to experience lab techniques and investigating the world around them."

Flores was surprised by the award. In the article, she states, "I did not expect any award. I was expecting awards for my kids because I want them to succeed and gain confidence from all this hard work."

Flores believes in exploring new tactics and trying new methods to give her students the chance to succeed. One of her efforts has been to increase campus science activities. She even re-started Navajo Prep's science fair in 2013 after a 15 year break.

The new and improved science fair was held in Gallup, New Mexico where students competed in categories such as biology, behavioral science, and chemistry. Bringing the fair back was such a big accomplishment that it was covered in the *The Daily Times*.

According to the article, Flores, who teaches physics and biology, assigned projects at the beginning of the school year and often stayed late, working with her students as they did their research and focused on the scientific process.

She told the reporter, "I saw the potential in all the kids. They are very eager to participate and this is something we need to bring out in the kids...they were very receptive to it."

At the 2013 Fair, Flores' students placed first in all seven categories (there were no students who competed in the Animal category). Moments like these show how Flores' fresh avenues and innovative approaches engage her students and provide them with new opportunities in the STEM fields.

Her award for Outstanding Teacher includes \$500, which Flores plans to invest in classroom materials. Clearly, she also plans to keep investing herself in the future of her students. And that is absolutely priceless.



# College Programs

## **Access and Success**

The college program is designed to increase “access to,” and boost “success in,” STEM careers. The program supports undergraduate and graduate education and students in STEM studies through college chapters; regional and national conferences; leadership development; mentorship; scholarships; internships; and career resources.

## **College Chapters**

Located at over 150 colleges, tribal colleges, and universities throughout North America, AISES College Chapters provide professional and social peer support, and serve as liaison between AISES National Office and our students. Exemplary chapters are recognized during awards ceremonies at the National Conference. Although each college chapter has unique priorities, goals, and member profiles, there are several common traits and roles that all share:

- ✦ provide peer support, career guidance, and leadership opportunities to fellow students;
- ✦ offer academic, cultural, and social support to members; contribute to local and regional communities;
- ✦ contribute to the fulfillment of the AISES mission; and demonstrate upstanding scholastic and character values to other students.



## Scholarships

AISES offers a universe of opportunities to students! Our students choose to move forward in their educational journeys by learning and acquiring new skills that will help them in meeting the ever-changing STEM needs of our communities. With the cost of tuition continually increasing and becoming even further out of reach, AISES scholarship support is often the critical lifeline Native students need in order to continue the pursuit of a STEM education. And that lifeline provides more than just scholarship support, it provides a link to *AISES Full Circle of Support*, ensuring our students will successfully meet their educational goals and go on to STEM careers.

At AISES, we invest more than just scholarship support into our students; we are investing confidence, trust, and a large community of support and encouragement. Year after year, our AISES scholars bring potential and limitless possibilities for the future of STEM, each working towards advancing his or her opportunities in STEM career fields.

Corporate, government, foundation, individual and tribal partners provide the funding for AISES scholarships. Without their support, many students would not receive the critical financial support they need to complete their STEM studies. As such, at AISES, we are truly humbled and thankful for the support of our partners.

In addition to supporting scholarships, there are many other ways to partner with and support AISES. Visit our website to learn more about the myriad of opportunities available to corporations, foundations, government agencies, individuals, and tribes.



## Burlington Northern Santa Fe Foundation

Administered by AISES for the Burlington Northern Santa Fe Foundation, this scholarship is made available to American Indian high school seniors who reside in one of the 13 states serviced by the Burlington Northern and Santa Fe Pacific Corporation and its affiliated companies: Arizona, California, Colorado, Kansas, Minnesota, Montana, New Mexico, North Dakota, Oklahoma, Oregon, South Dakota, Texas and Washington. This award is for four years (for a maximum of eight semesters) or until baccalaureate degree is obtained, whichever occurs first. Those awarded must maintain a 2.0 GPA their freshman and sophomore years, and a 3.0 GPA their junior and senior years to receive full award. Awarded students do not have to reapply for this award each year.

**Scholarship Amount:** \$2,500 per academic year, up to four years. Five awards made each year.

**Eligible Degrees:** Business, Mathematics, Natural/Physical Sciences, Technology, Engineering, Education, Medicine, or Health Administration

## Intel Scholarships

AISES Intel Scholarships are awarded to American Indian, Alaska Native and Native Hawaiian AISES members pursuing degrees in the science, technology, engineering and math (STEM) fields. The scholarship was developed by AISES and Intel to support the advancement of students with technical and leadership accomplishments, as well as a commitment to and passion for the computer science field. The AISES Intel Scholarship is a one-time, non-renewable scholarship.

**Scholarship Amount:** \$5,000 for undergraduates for one academic year  
\$10,000 for graduate students for one academic year

Up to five awards each year

**Eligible Degrees:** Computer Science, Computer Engineering, Electrical Engineering, Chemical Engineering, and Material Science.

## NextEra Energy – Ford Dry Lake Scholarship Program

AISES is administering this program on behalf of the NextEra Energy Foundation and awards up to 15 scholarships annually to Native American students pursuing post-secondary education at accredited four year colleges/universities, two-year colleges, or vocational schools.

Each selected scholar is eligible for a maximum amount of \$20,000 in Scholarship Awards which are payable in installments of \$2,500 per semester, up to a maximum of eight semesters or until the student graduates, whichever occurs first. Funding is provided directly to the scholar. Funds may only be used to cover tuition, books and living expenses for the recipient's graduate or undergraduate program. Scholars need only have to apply once if awarded, and will continue to receive the award as long as they maintain a 2.66 GPA (on a 4.0 scale), are AISES members, and are considered full-time students (12 credit hours per semester or meet their school's definition of a full-time student).

### Tribal Membership Requirement

Applicants for this scholarship MUST be a member of one of the following participating tribes:

- ✦ Agua Caliente Band of Cahuilla Indians
- ✦ Cahuilla Indian Tribe
- ✦ Chemehuevi Indian Tribe
- ✦ Cocopah Indian Tribe
- ✦ Colorado River Indian Tribes
- ✦ Fort Mojave Indian Tribe
- ✦ Morongo Band of Mission Indians
- ✦ Quechan Indian Tribe
- ✦ Soboba Band of Luiseno Indians
- ✦ Torres Martinez Desert Cahuilla Indians
- ✦ Twenty-Nine Palms Band of Mission Indians

# College Programs

## Eligibility Requirements

Only applicants meeting the following requirements will be considered for this program:

- ✦ Student must have a 2.66 (on a 4.0 scale) or higher cumulative grade point average (GPA);
- ✦ Must be or will be a full-time student at an accredited four year college/university or a full-time student at a two-year college enrolled in a program leading to an academic degree or a full-time student enrolled in a vocational program leading to certification; and
- ✦ Must be an existing member of AISES, or join AISES within 30 days of award.

## A.T. Anderson Memorial Scholarship Program

The A.T. Anderson Memorial Scholarship Program is funded through a variety of sources, including memorials, private donations, AISES fundraisers, corporate grants/contracts, and government grants. The scholarship fund was established to memorialize A.T. Anderson, one of the founders of AISES. This scholarship does not renew automatically, a student must complete a new application each year funding is sought.

**Scholarship Amount:** \$1,000 for the academic year for Undergraduate students

\$2,000 for academic year for Graduate students

20-40 awards to be made.

**Eligible Degrees:** Mathematics, Medical Sciences, Physical Science, Technology, Science, Engineering, or Natural Resources

### Sponsors:

Arizona Public Service

Chahta Petroleum

Chevron

ExxonMobil

Lockheed Martin

San Manuel Band of Mission Indians

Vancouver

### Individual Donors:

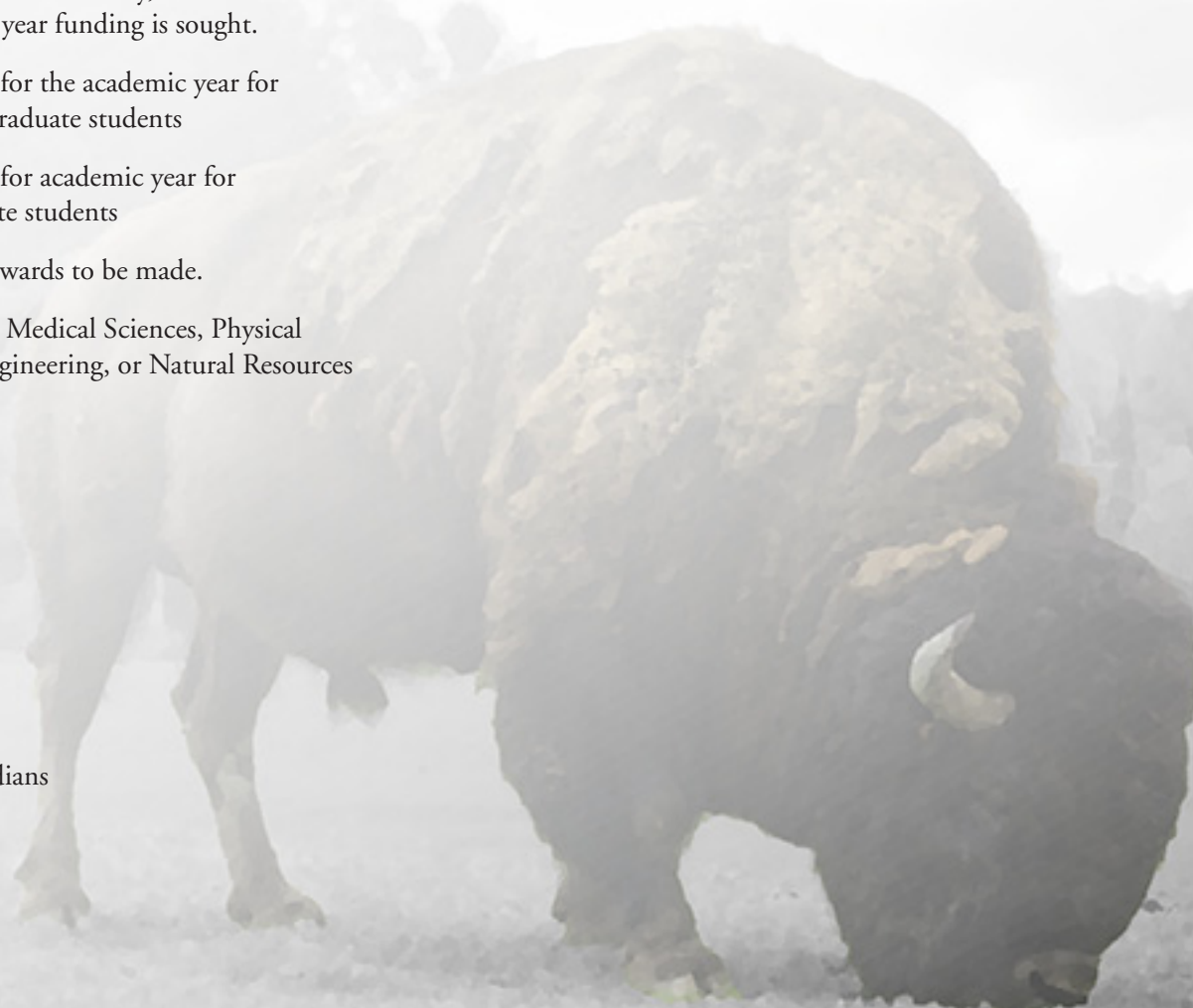
- ✦ Catherine Collier
- ✦ Denny & Merrily Parker

## AISES Scholarship Application Process

AISES only accepts applications submitted online via its online scholarship platform, found at <https://aises.starsscholarshipsonline.com/stars/default.aspx>.

### For More Information About AISES Scholarships

For more detailed information about this scholarship and other AISES scholarship programs you may be eligible to apply for, please go to: <http://www.aises.org/scholarships> You may also call or email Katherine Cristiano, Programs Manager, at (720) 552-6123 or [kcristiano@aises.org](mailto:kcristiano@aises.org) if you have questions



# College Programs

## Summer Internship Program:

The AISES Internship Program provides students with applied work experience and an opportunity to explore career options. Placing students in ten-week summer positions with partner agencies, the program also promotes advanced study to the graduate level and assists students in developing professional networks. AISES is proud to have a myriad of partners so we can offer wide and varied work experiences. These agencies include the US Bureau of Land Management (Arizona), USDA Food Safety and Inspection Services (DC Metro Area), the Veterans' Administration, and Bonneville Power Authority (Pacific Northwest).

## Bonneville Power Administration (BPA):

Interns will be involved in the following types of activities

- ✦ Planning, design and operations of the power grid and the supporting systems required to ensure its functioning; will include site visits, reviewing planning documents, assisting other engineers on design items, and viewing field construction and installation. May include participating in the power system section which could include transformer, breaker, capacitors and other high voltage equipment; in the protection and control area including relaying and remedial action schemes; in the communications area including radio and fiber networks; and in other supporting organizations.
- ✦ Hands-on experience in tributaries of the Columbia River on or near the Tribal Reservation learning about spiritual and cultural importance of salmon to its tribe, the strong co-management responsibilities the tribes share with state agencies, and provide integral involvement in performing work to support the return of salmon to their native waters. Activities may include fish hatchery operations; riparian habitat enhancement; and conducting field sampling to support research and monitoring of tribal efforts.

## U.S.D.A. Food Safety and Inspection Services (FSIS):

### ✦ Office of Policy and Program Development

**Location: Patriots Plaza III, 8th Floor 355 E Street, SW, Washington, DC 20024**

Description: The candidate will assist the Policy Analysis Staff (PAS) develop and conduct economic and statistical analysis of preliminary, final and existing agency regulations and policies, identifying regulatory alternatives, economic and social impacts, and ascertaining consistency with agency policy.

**Desired major: Economics, Statistics**

### ✦ Office of Policy and Program Development

**Location: Patriots Plaza III 355 E Street, SW, Washington, DC 2002**

Description: Presentations, graphics, layouts using graphic software devises. Planning, organizing, and carrying out visual information. Making audiovisual and visual presentations for staff.

Desired Major: Knowledge of principals of design and various methods of visual display. Experience using specialized desk top publishing and computer software programs. A science background is desired in order to better present information.

### ✦ Office of Policy and Program Development, Labeling & Program Delivery Staff

**Location: Patriots Plaza III 355 E Street, SW, Washington, DC 20024**

Brief description of duties: The intern will participate with management in developing and revising policy guidance related to nutrition, food standards and composition. The intern will also revise web based compliance guidance. The intern will be expected to complete a number of administrative duties including answering phones, data entry, typing and filing of correspondence.

Desired major(s): Food science, Ag science, nutrition and dietetics, IT, and computer science

## U. S. Bureau of Land Management (BLM):

Phoenix BLM is specifically interested in wildlife biologists, botanists, recreation specialists, rangeland management specialist, archaeologists, geologist, and cadastral surveyors.

### For More Information About AISES Internships

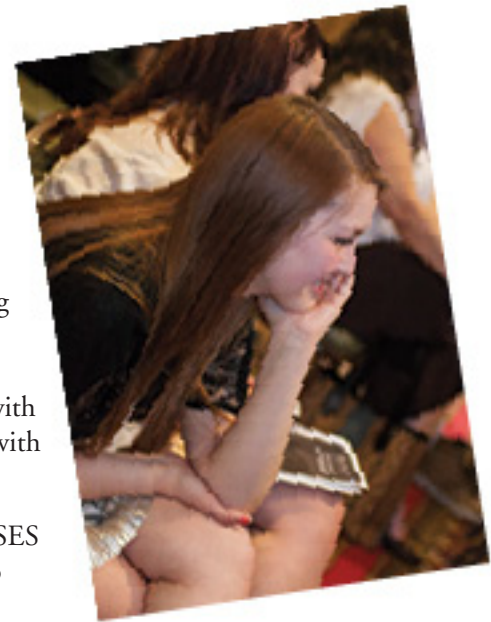
For more detailed information about internship programs you may be eligible to apply for, please go to: <http://www.aises.org/scholarships/internships>. You may also call or email Katherine Cristiano, Programs Manager, at (720) 552- 6123 or [kcristiano@aises.org](mailto:kcristiano@aises.org) if you have questions.



## AISES Annual Leadership Summit

The Annual Leadership Summit provides professional development workshops, and a formal mentor matching and training program, as well as networking opportunities with early to mid-career level Native students in STEM. A study conducted by the Bayer Foundation in 2010 has shown that building peer support networks and providing positive role models, mentors, and career development programs have profound effects on minority college students in STEM. This is why the Leadership Summit focuses on providing positive role models, training and matching STEM professionals as mentors with mentees, professional development workshops, and networking opportunities not only with peers, but with other Native students and professionals.

The major focus of the Leadership Summit is to build the skill and aptitude levels of AISES members in the realm of professional and career development--to better prepare them to attain jobs and careers in STEM fields.



### Goals of the Summit include:

- ✦ Increasing the skill and aptitude level of AISES members in professional and career development.
- ✦ Developing AISES professional members as role models for the AISES college and graduate students.
- ✦ Providing Native college and graduate students with support and building their confidence to transition to the STEM workforce.

## American Indian Research and Education Initiative

In partnership with the Department of Energy, the American Indian Higher Education Consortium (AIHEC) and AISES support projects to foster tribal community-based energy research, technology transfer, economic development, and public education projects. These projects connect science education and research among American Indian college students and faculty at Tribal Colleges and Universities (TCUs) with mainstream higher education institutions while helping to address Tribal community energy priorities.

The overarching objective of AIREI is to foster the development of future American Indian scientists, engineers, and leaders with the scientific and technological skills to assist Tribal communities (and the nation) in developing and managing energy resources. Program goals are: 1) to engage American Indian college students in relevant and exciting applied research engineering, and technology transfer projects conducted on Tribal lands; 2) to strengthen and enhance access to energy-relevant STEM education programming by American Indian college students, and 3) to establish a community of energy practice involving faculty and students from TCUs and mainstream institutions, and DOE/National Laboratory research, engineering, and education personnel.

### AIREI project grantees are:

- ✦ Arizona State University\* and Navajo Technical University
- ✦ Montana State University\* and Little Bighorn College
- ✦ Northern Arizona University\* and Southwestern Indian Polytechnic Institute
- ✦ South Dakota School of Mines and Technology\* and Sinte Gleska University

\*portion of project managed by AISES

# College Programs

## Mini Grant Opportunities with Geosciences

With a grant from the National Science Foundation (NSF) Geoscience Education Directorate, AISES developed a new, innovative service learning education and outreach projects in geoscience education for tribal communities. The goals of this program are: 1) to increase the number of Native citizens participating in and boost community awareness of the geosciences; 2) to increase the number of Native American undergraduate students majoring in geoscience fields or integrating geoscience-related coursework and knowledge into their science, technology, engineering or mathematic (STEM) field of study.

A competitive application process was used to fund small-scale community-based, service learning education and outreach projects on geosciences topics. Each chapter was awarded up to \$7,000 for projects lasting one semester. Selected projects delivered informal science education activities for Native Americans in urban or rural communities on or off of Tribal Lands. The projects were managed and implemented by students and AISES College Chapter members.

## Two cycles of grants were awarded to the following AISES chapters:

### 2012 AISES College Chapter Grantees

- ✦ College of the Menominee Nation
- ✦ Salish Kootenai College
- ✦ Southwestern Indian Polytechnic Institute
- ✦ University of Minnesota-Morris
- ✦ University of Arizona
- ✦ University of Arkansas

### 2013 AISES College Chapter Grantees

- ✦ Mendocino Community College
- ✦ Montana State University- Bozeman
- ✦ Purdue University
- ✦ Salish Kootenai College
- ✦ University of Minnesota- Twin Cities
- ✦ University of Utah

# College Profile

## College Chapter Profile — Majoring in Success

### Jeffrey Ross, PhD in Biology, University of Utah

Jeffrey Ross is the perfect example of why the AISES College Program exists. Jeffrey, a graduate student at the University of Utah, currently serves as an AISES Junior National Student Representative (NSR). He first joined AISES when he was an undergraduate at the University of Montana.

He says, “My decision to do so was simply based on the desire to be involved in a non-political student group of Native American, Alaskan Native, and First Nation students that provided a support system for one another and sought to increase the visibility of Native American students in the various STEM fields through participation in various on-campus events.”

Jeffrey has been a member of AISES for five years. Although he initially just wanted help succeeding as an undergraduate majoring in a STEM field, he soon realized that AISES provided much more.

Explains Jeffrey, “For example, my attendance at various AISES National Conferences offered an opportunity to showcase my undergraduate and graduate research in a student competition. More so, attendance at these events allowed me to see the vast number of Native Americans in the STEM fields and identify role models who’ve encouraged me to pursue an advanced degree.”

Through AISES, he’s been able to serve as a role model himself and increase his peer network in biology. In addition to making important connections, AISES was able to connect him with a much needed scholarship. Says Jeffrey, “I also received an A.T. Anderson Memorial Scholarship during the 2013-14 year which was a great help in covering academic-related expenses.”

Jeffrey goes on to add, “In a time when funding of other programs supporting minority STEM education seems to be in a steady decline, AISES has been doing a great job, making sure scholarships and other opportunities are still available for its student membership.”

Even with all of his other commitments, Jeffrey made the decision to run for NSR. “In a time when many Native Americans enter and often fail to succeed in college as non-traditional students for a variety of reasons,” he states, “I felt that it was important to have an older student serve as an ambassador and role model for other AISES student members.”

Although it’s been a challenge to balance his NSR responsibilities with his many other commitments, Jeffrey says it’s all been worth it. What would he tell a prospective member about AISES? “Get involved! AISES offers something for everyone at the national, regional, and chapter level, regardless of your major. The National and Regional Student Representatives serve as the voice of AISES’ student members at the national level. Thus, if any student has questions or concerns, please get in touch with us at anytime! Contact information can be found at [www.aises.org/membership.college](http://www.aises.org/membership.college).”

AISES is proud to have dedicated members like Jeffrey. Although he may be a non-traditional student, he’s very traditional in one way—like most bright, talented Native people he wants to succeed. And AISES is honored to be able help give him that chance.





# Professional Program

## Full Circle Mentor Program

The AISES Full Circle Mentor Program for Natives in STEM is designed to bring together college undergraduates and graduates and professionals in a safe space and formal setting where they can network, bond and focus on building relationships characterized by acceptance, trust, support, and commitment. The program provides a platform for mentees to realize their potential by enabling personal and professional relationships with mentors, who act as role models and provide guidance to them. It offers opportunities to develop business contacts, access industry information, and gain valuable insights from experienced and successful professionals.

- ✦ Most of the interaction between mentor and mentee takes place via e-mail and other web-related tools or face-to-face, as appropriate.
- ✦ Various types of support may be offered—specific feedback related to finding jobs, general career advice, information on higher studies, technical information, personal encouragement, and more.
- ✦ Commitments of at least six months to one year are best to ensure that the mentee is able to fully benefit from the experience.

## Professional Chapters

AISES' Professional Chapters provide members opportunity and support as they travel along their career path. AISES professional members complete the “circle of support” by serving as mentors, advisors, and role models to younger members. In their local communities, AISES Professional Chapter members provide a variety of activities on a local level that support STEM success for other American Indians and Alaska Natives.

- ✦ Providing role models for AI/AN students and professionals
- ✦ Playing a support/mentorship role for students in the transition from student status to professional status
- ✦ Organizing seminars and workshops that help develop management, communication, and other professional skills
- ✦ Giving access to networking resources such as community relations, scholarships, and job-opportunity awareness
- ✦ Serving as AISES-endorsed “Subject Matter Experts,” speaking in educational and media platforms and raising public awareness about AI/AN contributions in STEM
- ✦ Supporting educational partnerships with our affiliate schools, and by serving as judges for NAISEF and at our other events
- ✦ Encouraging participation in other technical societies.
- ✦ Nominating and supporting individuals for the AISES Board of Directors and AISES awards programs

## Professional Awards

AISES' goal is to assist Professional Chapters in building and strengthening themselves to meet the AISES mission and to encourage chapters to increase membership, build on current strengths and develop leadership among members. Each year the Professional Chapter Awards Program allows chapters to identify their strengths and recognize the accomplishments of their fellow chapters.

### CATEGORY AWARDS CRITERIA:

**Outreach & Community Service Chapter Award**— One award is given to the Chapter that has organized and conducted community service projects and developed outreach. The Outreach & Community Service Award is evaluated on the following criteria:

1. Community Service and Outreach Program and Activities;
2. Chapter community service and outreach success story;
3. Uniqueness of chapter's community service and outreach;
4. Adherence to AISES Principles.

**Professional & Chapter Development Chapter Award** – One award is given to the chapter that offers programs and opportunities for professional and leadership development for their members through chapter activities, seminars, guest speakers, etc. The Professional & Chapter Development Award is evaluated on the following criteria:

1. Professional Development Program;
2. Participation;
3. Uniqueness of chapter’s professional and chapter development programs;
4. Adherence to AISES Principles.

**AISES Distinguished Professional Chapter of the Year Award:**

The AISES Professional Chapter of the Year Award is presented for overall achievement by a professional chapter in the promotion of the principles and goals of the AISES. One chapter is selected from among all Professional Chapter Category Awards applicants.

**2013 Professional Chapter Award Recipients**

Professional & Chapter Development Award  
Phoenix AISES Professional Chapter

AISES Distinguished Professional Chapter of the Year  
Phoenix AISES Professional Chapter

Outreach & Community Service Chapter Award  
North Star AISES Alliance and Professional Chapter

**Professional of the Year Awards – The Best and the Brightest of AISES Professional Members**

In recognition of the significant contributions American Indians have made to the STEM disciplines, AISES conducts the Professional Awards Program. Each year, a group of distinguished leaders from AISES partner organizations convenes in person and spends two days reviewing and selecting award winners. One award is made in each of four categories:

**Executive Excellence** - The nominee must be an experienced upper-level manager or a well-established engineer, scientist, professional, or academician who has significant department and budget responsibilities.

**Technical Excellence** - The 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.

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

**Professional of the Year** - The overall award winner from all categories.

**2013 Professional of the Year Award Recipients**

Technical Excellence:  
Lawrence Short Bull (Rosebud Sioux), SPAWAR Systems Center Pacific

Most Promising Engineer:  
Kristina J. Halona (Navajo), Raytheon Missile Systems

Executive Excellence:  
Robbie E. Hood (Cherokee), DOC/National Oceanic and Atmospheric Administration (NOAA)

Professional of the Year  
Randall Mckee (Cherokee Nation), Sandia National Laboratories

# Professional Profile

## Professional Profile — Rick Stephens

### Professionally Speaking

While working toward a career in a STEM field, many students imagine jobs where their dreams will take flight, earning them financial success and personal satisfaction while making them models for other Native American or Alaskan Natives to follow. But one person is proof that high flying dreams can become reality—AISES Board Member and Sequoyah Fellow Rick Stephens.



Rick, whose own career soared upward from a beginning financial job at Boeing to a top executive position in Human Resources and Administration with the Corporation, is also a Marine, with an undergrad degree in Math and a graduate degree in Computer Science. He “retired” from Boeing in April of 2013 after 33 years, but is busier now than ever, helping to mentor AISES’ student members and also create a vision for the organization as member of the Board of Directors.

In 2004, Rick received a Professional of the Year Award and it stirred his interest in AISES. “Boeing has a host of programs that support women and minorities and I was always very active in those,” he says. “The company believes it’s important to have the best people, with the best capabilities—it’s just the right thing to do.” Once Rick joined AISES, he also got Boeing involved. So involved, in fact, that the corporation is now a valued partner and Turquoise sponsor.

Rick, a member of the Pala Band of Mission Indians, who first came to know about AISES when he won a Professional of the Year Award, is now the presenter of those same coveted prizes. He says his wife reminds him that, “once we reach the top of the mountain, we need to be a mountain guide.”

And that’s what he’s become, helping to provide leadership and mentoring to students who may be the first ones in their families to ever go to college. He states, “An organization is only as strong as the dream of where it’s going. As a member of the Board of Directors, I help to create that vision to which students can aspire.”

Rick says he learned about values and setting high expectations from his parents. He worked for his father, a General Contractor, from the age of seven until he went away to college. “He fired me four times!” Rick exclaims. But his dad taught him a good work ethic and “his goal was to work you so hard, you’ll *want* to go to college,” Rick says.

Today, Rick is a firm believer in giving our children real-world experiences—as opposed to the pre-determined outcomes of computer games. He explains, “If you’re in an airplane simulator and you crash, you just walk away. In the real world, there are consequences. We need to go back to the real world, go back to our heritage.”

That’s one reason Rick is such a respected member of AISES and of our Board. He knows the value of passing down his knowledge to our young students. So they can learn, both from the real world of today, and from the wisdom of the world of their ancestors.

# National Conference

## 2013 National Conference Denver, Colorado

The AISES National Conference is a one-of-a-kind, three-day event convening high school junior and senior students; educators and teachers; undergraduate and graduate students; faculty; professionals; and corporate, nonprofit, tribal, and government partners.

The AISES National Conference is the premier event for Native American STEM professionals and students attracting over 1,500 attendees from across the country each year.

The 2013 National Conference was hosted in the mile-high city of Denver, Colorado and themed appropriately by calling all participants to “elevate.” Students, professionals and partners were able to elevate their experience through a myriad of activities, events and opportunities:

- Social & Professional Networking
- Mentoring
- Research Presentations
- Awards & Ceremonies
- Nationally Recognized Speakers
- Leadership, Skills & Professional Development
- STEM Career & Education Expo
- Cultural Activities
- Meetings, Gatherings & Caucuses
- Campus Tours
- Resume Room
- Powwow & Marketplace



# Scholars and Interns

## 2013-14 AISES Scholars And Interns

### The 2013-2014 A.T. Anderson Memorial Scholarship Scholars and their sponsors:

#### Arizona Public Service

Krystal Charley, *Navajo*  
Natural Science at University of New Mexico

Kyra Yazzie, *Navajo*  
Medicine/Health at University of Arizona

Neilroy Singer, *Navajo*  
Science at New Mexico State University

Bo Delgarito, *Navajo*  
Computer Science at University of New Mexico

Natalie Holyan, *Navajo*  
Electrical Engineering at University of New Mexico

Yanabah Jaques, *Navajo*  
Natural Sciences at Brown University

Julian Benavidez, *Pueblo of Isleta/Pueblo of Santo Domingo*  
Medicine at University of New Mexico School of Medicine

Crystal Tulley-Cordova, *Navajo*  
Physical Sciences at University of Utah

Quinn Benally, *Navajo*  
Civil Engineering at University of Utah

#### Chahta Petroleum

Raymond Kangas, *Native Village of Ruby*  
Engineering at University of Alaska

#### Chevron

Matt Robertson, *Cherokee*  
Mechanical Engineering at Oklahoma State University

Russell Felicia, *Lower Brule Sioux Tribe*  
Civil Engineering at South Dakota State University

Steven Davis, *Lower Brule Sioux Tribe*  
Chemical Engineering at Montana State University

Matthew Hale, *Navajo*  
Aeronautical Engineering at Arizona State University

Jalando Edison, *Navajo*  
Engineering at Northern Arizona University

#### Dupont

Shayla Newbrough, *Navajo*  
Science at Colorado State University

Laine Begay, *Navajo*  
Chemical Engineering at University of Colorado

#### ExxonMobil Foundation

Lindsay Holiday, *Navajo*  
Energy Engineering at University of California, Berkley

#### IBM

Sebastian Subola, *Standing Rock Sioux*  
Computer Engineering at University of Wisconsin

Michael Trombley, *Blackfeet*  
Electrical Engineering at Wright State University

#### Individual Giving

Abby Jessell, *Cherokee*  
Medicine/Health at Oklahoma State University

#### Lockheed Martin

Kaitlyn Mulkey, *Navajo*  
Engineering at Texas A&M University

Kacey Chopito, *Zuni*  
Computer Science at University of Rochester

Chad Auginash, *Red Lake Band of Chippewa Indians*  
Electrical Engineering at University of Minnesota

Zane Irvine, *Smith River Rancheria*  
Computer Science at University of Mary

Quinn Martinez, *Navajo*  
Computer Science at Northern Arizona University

Thaddeus Smith, *Shoshone-Bannock*  
Computer Engineering at Arizona State University

Israel Hernandez, *Shoshone-Paiute*  
Electrical Engineering at University of Idaho

Gavin DeWilde, *Huslia Village*  
Computer Science at University of Massachusetts

Calvin Silas, *Navajo*  
Engineering at New Mexico State University

Hannah Dorough, *Native Village of Unalakleet,  
Waccamaw-Siouan*  
Engineering at University of Waterloo

Everett Noblin, *Cherokee*  
Electrical Engineering at University of Arkansas

## **Nancy & Lawrence Gutstein**

Emily Hancock, *Choctaw*  
Medicine/Health at Oklahoma Baptist University

## **Oracle**

Annabeth Pruett, *Three Affiliated Tribes of Fort Berthold  
Reservation*  
Medicine/Health at Lee University

Erica Poe, *Cherokee*  
Medicine/Health at University of Texas, Permian Basin

Blake Yort, *Citizen Potawatomi*  
Mechanical Engineering at Oklahoma Christian University

Drew Williams, *Oneida Tribe of Indians of Wisconsin*  
Computer Science at Marquette University

## **Praxair**

Samantha Brown, *Native Village of Unalakleet*  
Medicine at University of Alaska

## **Denny & Merrily Parker**

Justine Kimmi, *Prairie Band Pottawatomi*  
Mechanical Engineering at Kansas State University

## **Rosemary Schaefer**

Ted Williams, *Miami Tribe of Oklahoma*  
Biology at Western Kentucky University

Riley Askew, *Choctaw*  
Physical Sciences at Vanderbilt University

## **San Manuel Band of Mission Indians**

Edwin Jones, *Northern Cheyenne*  
Environmental Science at University of Montana

Hannah White, *Choctaw*  
Engineering at Stanford University

Holly Burk, *Muscogee Creek*  
Engineering at University of Texas

Hayden Holmes, *Muscogee Creek*  
Science Education at Hastings College

Sam Robertson, *Cherokee*  
Engineering at Oklahoma State University

Christy Kingfisher, *Cherokee*  
Science at Northeastern State University

Kathryn Waters, *Cherokee*  
Sustainability Science at Furman University

Spencer Foust, *Cherokee*  
Engineering at University of Arkansas

Luke Baumann, *Muscogee Creek*  
Computer Engineering at California Polytechnic State  
University

Katheryn Wesley, *Turtle Mountain Band of Chippewa Indians*  
Natural Science at Bakersfield College

Hannah Landreth, *Chickasaw*  
Medicine at University of Oklahoma College of Medicine

Shawna Wedde, *Nenana Native Association*  
Veterinary Medicine at Washington State  
University College of Veterinary Medicine

Brandon Frederick, *Iowa Tribe*  
Natural Sciences at University of Nebraska-Lincoln

John Gray, *Choctaw*  
Medicine at University of Texas Medical School at Houston

Lucas Tyree, *Monacan Nation*  
Natural Sciences at Yale University

Jeffrey Ross, *Northwest Angle No. 33*  
Natural Sciences at University of Utah

### **Shakopee Mdewakanton Sioux Community**

Robyn Emery, *Native Village of Shishmaref*  
Science at Northwest University

### **2013-14 Burlington Northern Santa Fe Scholars:**

Raquel Redshirt, *Navajo*  
Chemical Engineering at University of Oklahoma

Hannah Wright, *Navajo*  
Medicine/Health at Centenary College

Cera Hassinan, *Crow Creek Sioux Tribe*  
Medicine/Health at John Hopkins University

### **The 2013-2014 AISES Intel Scholars:**

Charlie Carlson, *Native Village of Larsen Bay*  
Computer Science University of Alaska

Kyle Mann, *Cherokee*  
Electrical Engineering University of Tulsa

Katherine Huffman, *Cherokee*  
Electrical Engineering Stanford University

Dianne Numkena, *Hopi*  
Computer Science Arizona State University

### **Tourism/Vancouver**

Bradley Orndorff, *Choctaw*  
Computer Science at New Mexico Institute  
of Mining and Technology

Rourke Nakai, *Navajo*  
Chemical Engineering at New Mexico Institute  
of Mining and Technology

### **Verizon**

Levi Lange, *Oglala Sioux*  
Mechanical Engineering at South Dakota School  
of Mines & Technology



Jennifer Martin, *Cherokee*  
Biology/Science at Centralia College

Brianna Bahe, *Navajo*  
Chemical Engineering at University of Notre Dame

Sandra Kjono, *Kahnawake Mohawk*  
Electrical Engineering Stanford University

Jarod White, *Muscogee Creek*  
Electrical Engineering University of Minnesota

Blake MacQueen, *Cherokee*  
Chemical Engineering University of Alabama

Delbert Willie, *Navajo*  
Electrical Engineering Colorado State University

## The 2013-2014 AISES Google Scholars:

Alec White, *Muscogee Creek*  
Computer Science at University of Kansas

David Hayden Demerson, *Choctaw*  
Technology at Carnegie Mellon University

Lonny Strunk, *Native Village of Kwinhagak*  
Computer Science at University of Alaska

Brandon Bass, *Cherokee*  
Computer Science at Colorado Technical University

Harrison Kurtz, *Choctaw*  
Computer Engineering at Texas A&M University

John Holland, *Shawnee*  
Computer Science at Covenant College

Robert Boling, *Comanche*  
Computer Science at Harvard University

## 2013 AISES Summer Interns

### Bureau of Land Management

Rafael Joseph Tapaha

### Veterans Administration

Tara Dennison

### Northrop Grumman

Gabrielle Lucero

Iris Sisneros

LaCrisha Cuaron

Erin Apodaca

### USDA FSIS

Ashley Harper

### Bonneville Power Administration

Mika Boyd



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## Our Supporters

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## 2013 REGIONAL CONFERENCES

3M  
Chevron  
San Manuel Band of Mission Indians

## 2013 COLLEGE RELATIONS

3M

## 2013 PROFESSIONAL AWARDS PROGRAM

Sandia National Laboratories owned and operated by Lockheed Martin (\$5,000)

## 2013 HIGH SCHOOL INTERNSHIP PROGRAM – AISES HQ

Northrop Grumman (\$7,500)

## 2013 COLLEGE INTERNSHIP PROGRAM

Bonneville Power Administration  
Bureau of Land Management  
USDA Food Safety & Inspection Service  
Veterans Administration

## 2013 SUN PROJECT

Department of Energy (\$67,000)

## 2013 SCHOLARSHIPS

Google (\$70,000)  
Burlington Northern Santa Fe Foundation (\$52,500)  
Intel Corporation (\$50,000)

### A.T. Anderson Memorial Scholarship Funders:

San Manuel Band of Mission Indians (\$22,000)  
Northrop Grumman Foundation (\$15,000)  
Arizona Public Service Foundation (\$13,000)  
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Chevron (\$5,500)  
Oracle (\$5,000)  
Tourism Vancouver (\$2,000)  
Denny & Merrily Parker (\$1,500)  
Chahta Petroleum (\$1,000)  
Catherine Collier (\$100)



# Supporters

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Kellogg's (\$2,000) – Travel Scholarships, Branding  
Bureau of Land Management (\$1650) – Travel Scholarship  
Salt River Project (\$1,200) – General Sponsorship  
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### **2013 CIRCLE OF SUPPORT GENERAL PROGRAM SUPPORT**

The Boeing Company (\$20,000)  
GE Aviation (\$10,000)  
United Space Alliance (\$1,000)

## 2013 GRANT PROGRAMS (not already listed elsewhere)

Funder	Amount	Purpose
American Indian Higher Education Consortium	\$85,572	DOE Cooperative Agreement DE-ED0000129 American Indian Research and Education Initiative
Arizona Public Service Foundation	\$50,000	APS Scholarship & Leadership Program
Cherokee Preservation Foundation	\$19,420	Grant to increase STEM opportunities for Eastern Band of Cherokee Tribal Members, establish chapter at Cherokee Central HS
Motorola Solutions Foundation	\$25,000	2013 Innovation Generation Local Impact Grant
NASA	\$19,823	NNX13AP84G: Strengthening Successful Transitions from TCUs to 4-Year Institutions and Graduate Institutions
National Science Foundation - REESE	\$347,496	DRL-1251588 Collaborative Research to Understand the Role of Culture, Identity, Epistemology and Bi-Cultural Efficacy in American Indian Educational and Professional Success in STEM
Toyota USA Foundation	\$100,000	Food for Thought-Feeding Young Minds with STEM Enrichment (covers powerup workshops and brochures, NAISEF recruitment and registration, ISEF costs, rewarding STEM achievement, new affiliate school recruitment and recruiting presenters from local museums, labs and firms to present workshops/presentations)



## AISES Full Circle of Support

The Full Circle of Support partnership designation is reserved for organizations that have established a multi-program partnership with AISES for three or more years at the \$75,000 level. Full Circle Partners are those who are most deeply engaged with AISES' strategic mission, working alongside AISES staff to serve the evolving strategic interests of both organizations. They enjoy the highest level of recognition in all AISES external materials, signage, and event planning, as dedicated allies in serving AISES' mission. By sharing their expertise and industry engagement, Full Circle of Support Partners provide valuable advice and leadership to the AISES family.

### Full Circle of Support Partners



## AISES Circle of Support

At the \$30,000 threshold, AISES Circle Partners reach the Circle of Support designation. These outstanding organizations are recognized for their commitment to supporting the educational and career development of American Indians and Alaska Natives in the STEM fields. Circle of Support partners assist in funding at least two distinct AISES programs or events in a calendar year.

### Circle of Support Partners



### Excellence Circle



### Success Circle



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