



AMERICAN INDIAN SCIENCE
AND ENGINEERING SOCIETY





Introduction



Kathy DeerInWater, PhD
Chief Program Officer

Citizen of the Cherokee Nation of
Oklahoma

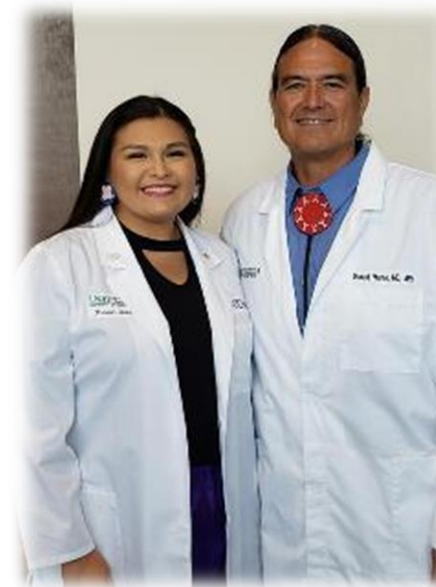
Mother of 3

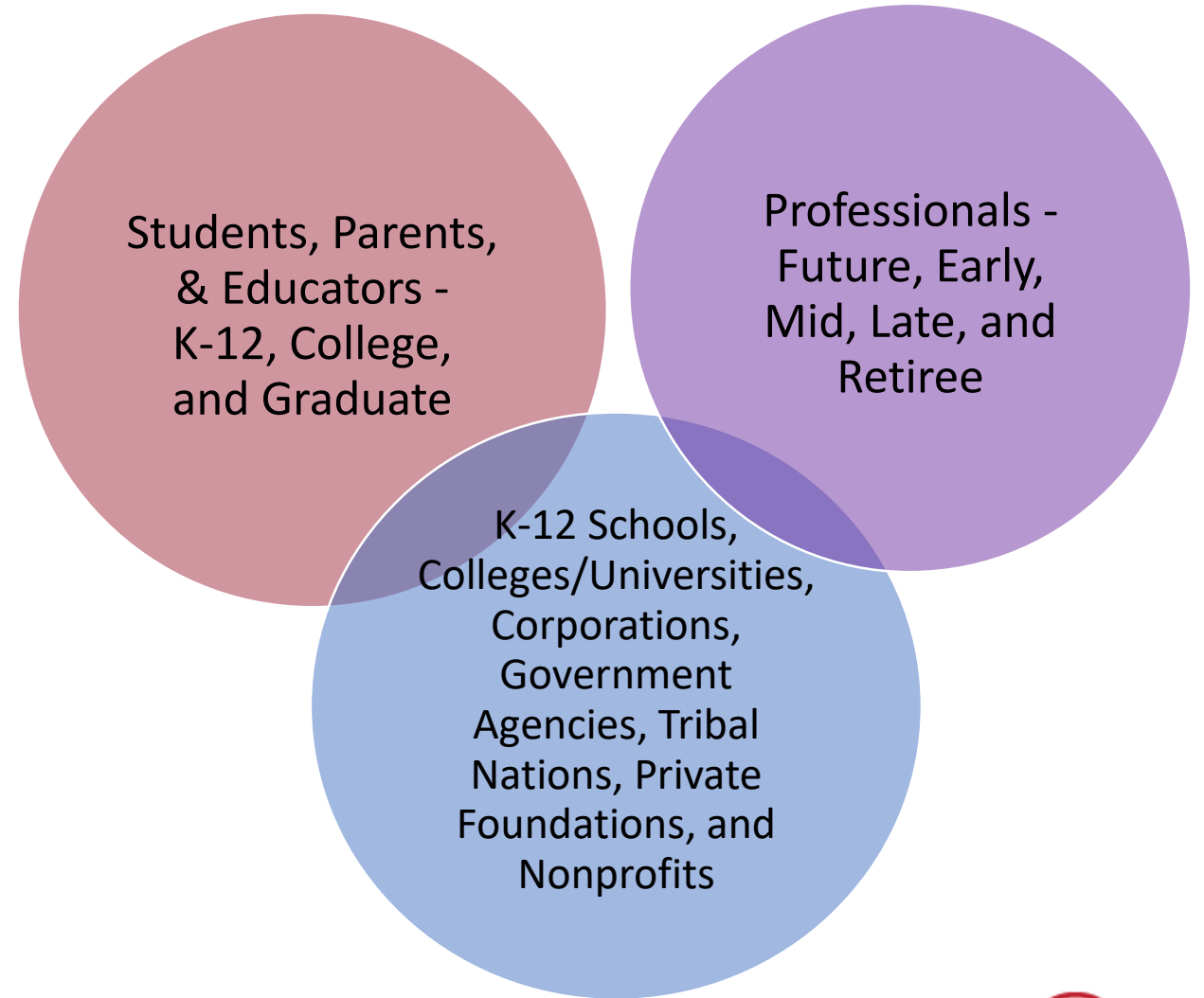
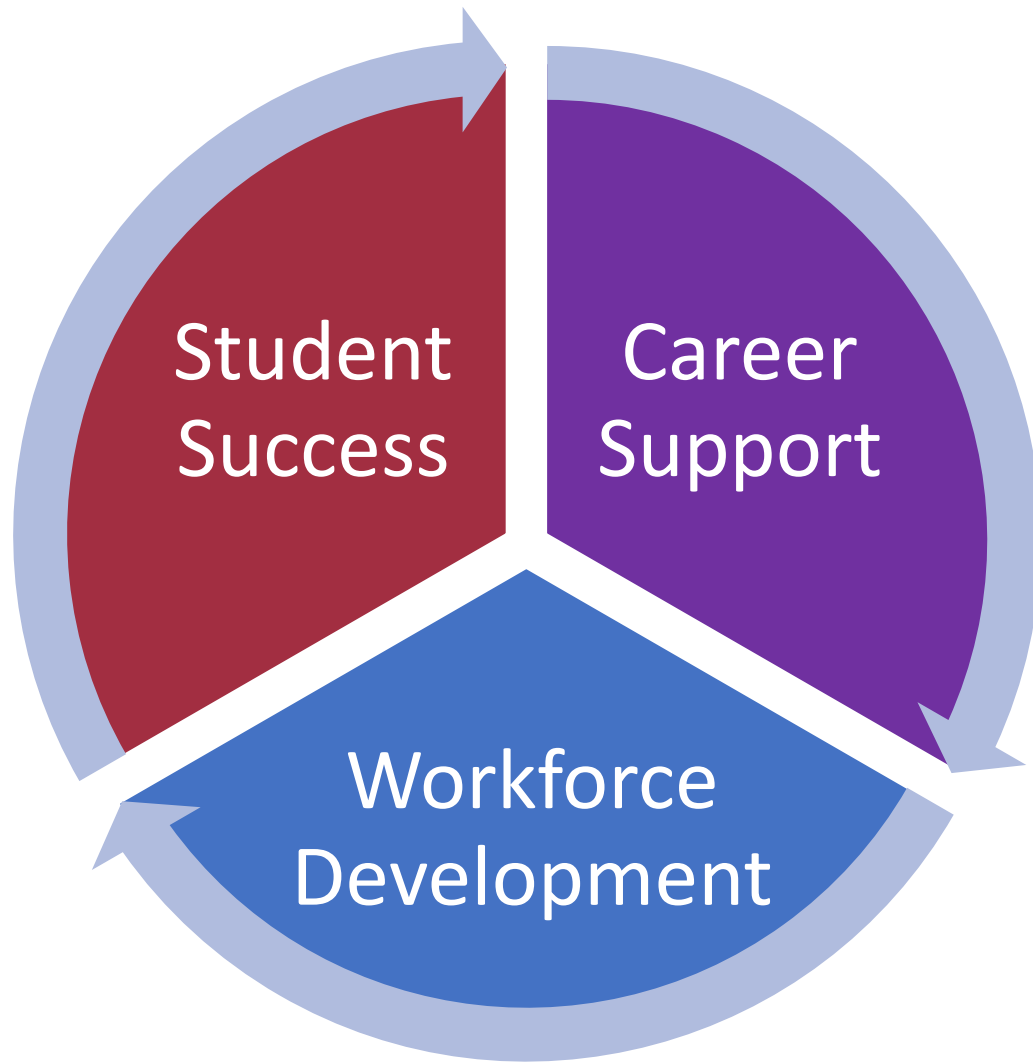




MISSION

Founded in 1977, AISES 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.







AISES TODAY

- 5,600 Individual Members
- 3 Tribal Chapters
- 18 Professional Chapters
- 197 College/University Chapters
- 220 K-12 Affiliated Schools enrolling 55,000+ Native Students
- \$13+ Million in Academic Scholarships (\$900,000+ for 2019-2020 AY)





AISES Strategies for Increasing Native Americans in Computing

- Focus on Native Girls
- College and Career Readiness
- K-8
- Research





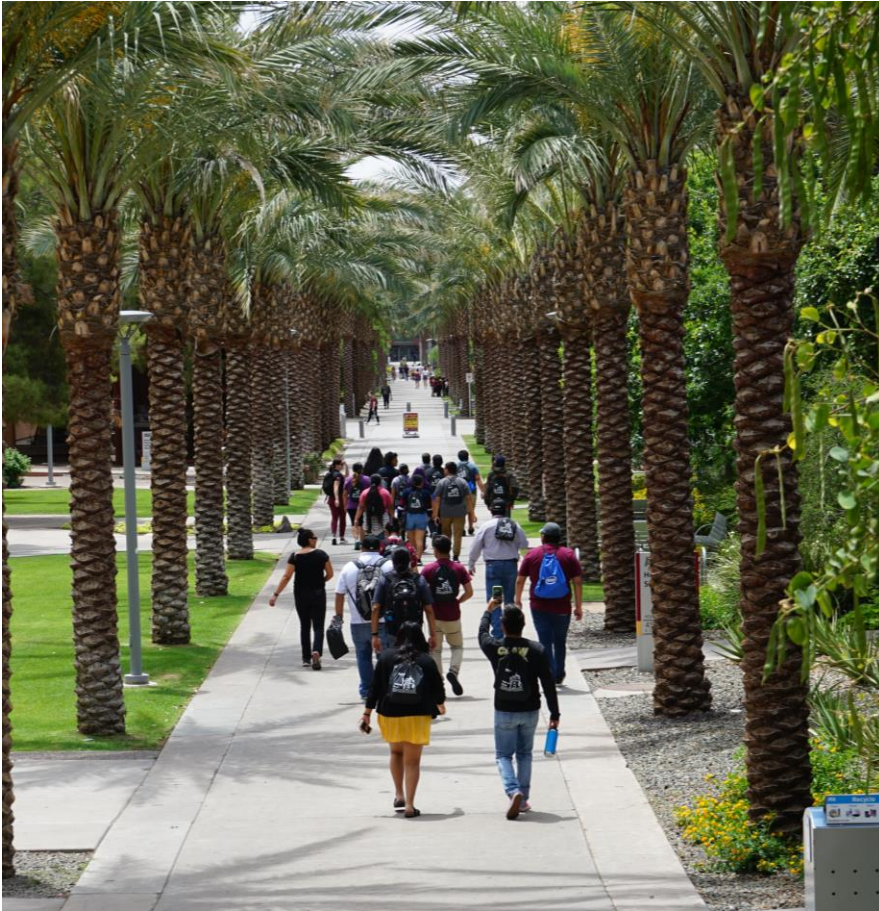
A Focus on Native Americans in Computing: Girls

- **Expanding Opportunities for Native Girls in CS**
- Partnership between AISES and Kapor Center; funded by Reboot Representation
- Goal: increase interest, engagement, and participation in computing education among Native girls/LGBTQ+/Two-Spirit.
- Recommendation: project- and community- based culturally relevant computing courses





A Focus on Native Americans in Computing: CCR



- **Intel Next Generation of Native Coders**
- Focus on applied computing and engineering principles, college and career readiness
- Also project-based and incorporating Native culture
- Recommendation: provide hands-on, real life experiences





A Focus on Native Americans in Computing: K-8

- **SPRK-ing Interest in Computer Science**
- Provide capacity building equipment and training, allowing STEM teachers to incorporate coding into their curricula
- Recommendation: Fun and engaging tools to captivate our youngest students





A Focus on Native Americans in Computing: Research

- **Native Women and Two-Spirit Individuals in Computing Higher Education: A Photo Elicitation Study**
- Co-PIs: Dr. Mia Ong & Dr. Nuria Jaumot-Pascual; Funded by Kapor Center
- What factors have influenced Native women and two spirit individuals' decision to pursue and persist in computing higher education? What are the barriers to, and enablers for, persistence?





A Focus on Native Americans in Computing: Research

- Literature Review:

Population	Number of Pieces of Literature *
Native Students in Higher Education **	38
Native Students in STEM Higher Education	15
Native Professionals in STEM	3
Native Women in Higher Education	5
Native Women in STEM Higher Education	4 (2 in CS)
Native Two-Spirit in Higher Education or STEM	0





A Focus on Native Americans in Computing: Research

- Preliminary Findings
 - Giving back as motivation to persist in computing education
 - Native culture often in the context of giving back as motivation to persist
 - Support findings from previous AISES/UNM/UNW NSF study
- Recommendations:
 - Provide opportunities and curricula that allow Native students and professionals to giving back and meaningfully engage with their communities.

