



Engineering and Technology at Southwestern Indian Polytechnic Institute



Dennis G. Dye

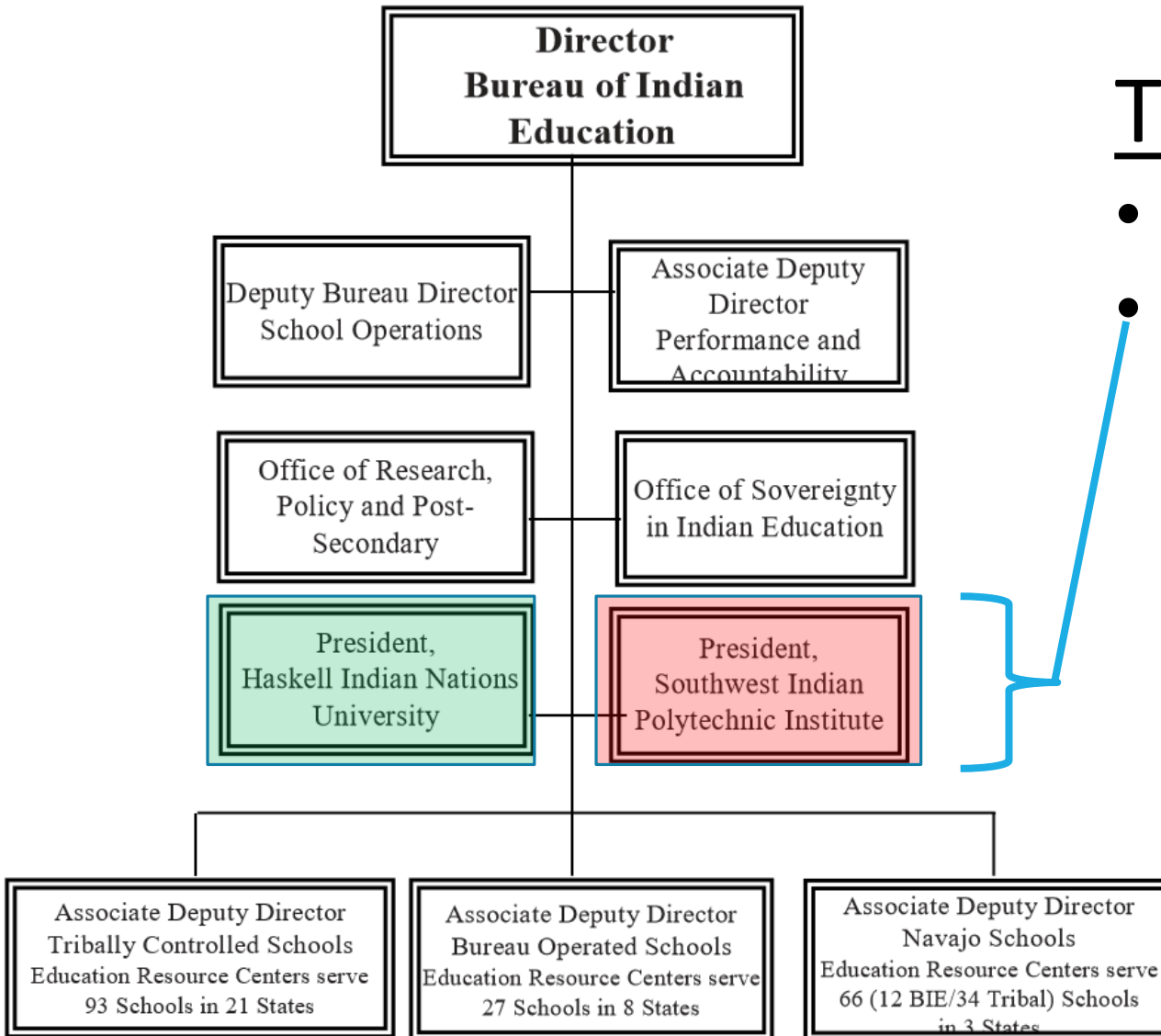
Geospatial Information Technology Program

Southwestern Indian Polytechnic Institute (SIPI)

Bureau of Indian Education, US. Dept. of the Interior

Albuquerque, New Mexico

U.S. Bureau of Indian Education (BIE)



Tribal Colleges & Universities

- 24 Tribally controlled colleges
- **2 BIE-operated national colleges**
 - Haskell Indian Nations Univ., 4-yr
 - Southwestern Indian Polytechnic Institute (SIPI), 2-yr

K-12

- 122 Tribally controlled schools
- 62 BIE operated schools

SIPI Geospatial Information Technology (GIT) Program

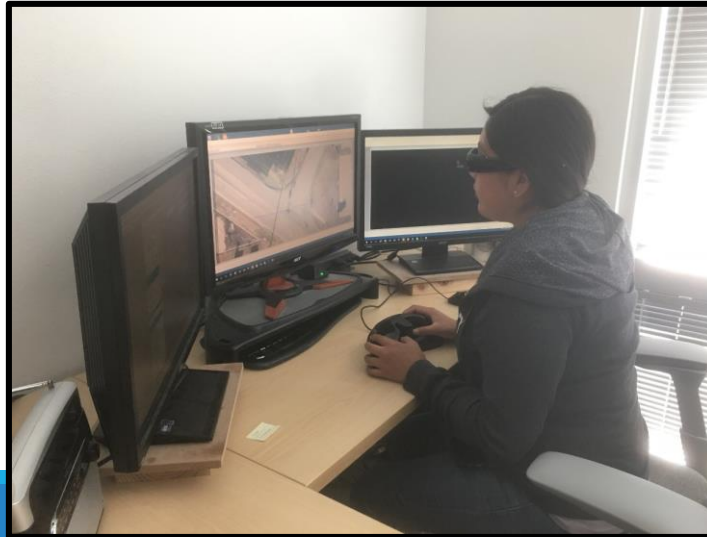
AAS Degree & Certificate

- GIS, GPS, remote sensing, sUAS for natural resources management
 - Geospatial laboratory
 - RTK-GPS, spectral radiometer, multispectral cameras, sUAS



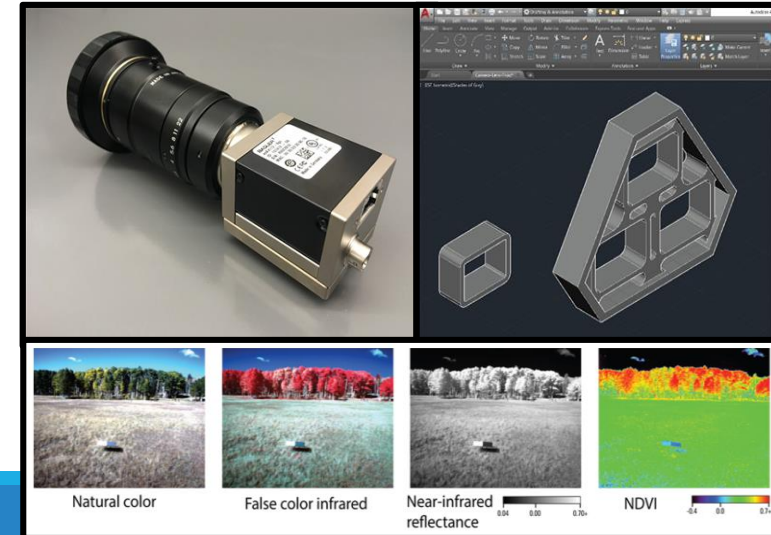
Extension & Outreach

- Summer short courses for Tribal employees



Research & Development

- Rangeland monitoring
- Mobile imaging system
- Student participation
- External partnerships



SIPI Pre-Engineering Program

Vertically Integrated Projects for Research, Outreach and Student Education in STEM

Faculty: Nader Vadiee, Massoud Ahghar, Brian Wika

AS Degree

Educational
Outreach

Research &
Development

VISION

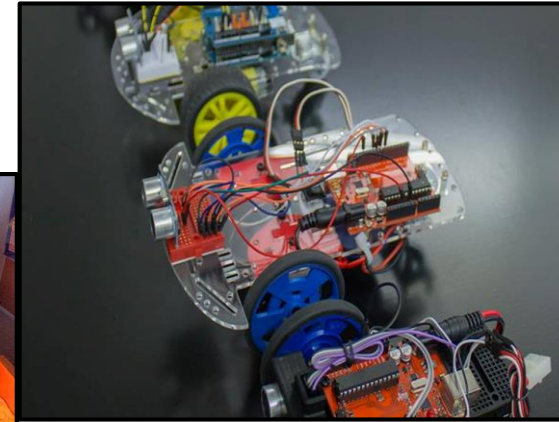
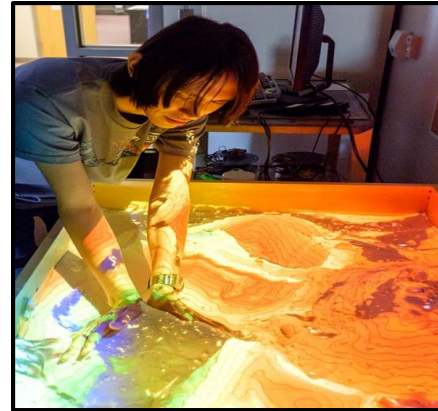
- Capacity building on SIPI campus
- Fair, equitable and win-win partnerships
- Partnership and resource-sharing among TCU's
- Community-based, culturally sensitive and sustainable programs

SIPI Engineering Activities and Resources

CADD, 3D Scanning, 3D Printing



Augmented Reality Sandbox

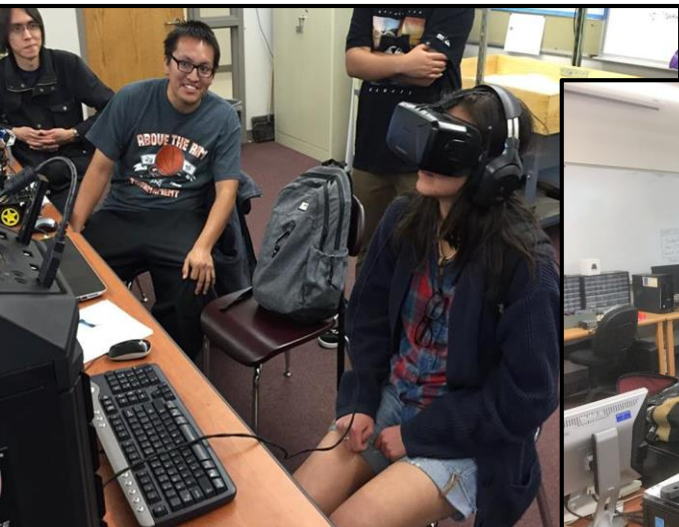


Roadrunner-series
STEM educational kits

Fabrication
Machine Shop



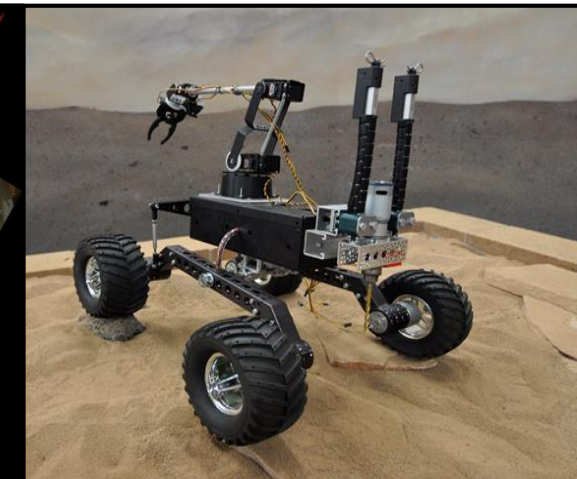
Virtual Reality Lab



Robotics Lab



Mars Yard





Goals and Opportunities at SIPI in Engineering & Geospatial Information Technology

- Build win-win partnerships and collaborations
- Deliver benefits for Native American students and Tribal communities
- Student internships
- Student scholarships
- R&D and applied research projects
- *and more*



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