Building Tribal Nations

Defining the role of science, technology, engineering and mathematics within tribally controlled colleges and universities
A history of exclusion

From the Kennedy Report (1969):

Dr. Lionel H. de Montigny, Deputy Director of the Division of Indian Health in the Public Health Service at Portland, Oregon, reported the following incident in a letter to the subcommittee:

David Butler, a Makah Indian, wanted to enter college with the hope of entering medical school at a later date. His local advisers told him that it was out of the question. No Makah had ever applied before and he could not be expected to make it. He was advised to become a cook.\textsuperscript{57}
Colleges for communities


Tribal colleges are truly community institutions. After years of brutal physical hardship and disorienting cultural loss, Native Americans—through the tribal college movement—are building new communities based on shared traditions. They are challenging the conditions that plague their societies and continue to threaten their survival.
STEM for tribal nation building

• **Employment**: Provide jobs for graduates

• **Sovereignty**: Provide skills and credentials needed to manage tribal programs and services

• **Culture**: Sustain and strengthen knowledge that is older than western science
Challenges and dilemmas

• 1: Lack of capacity (labs, equipment, instructors)

• 2: Academically underprepared students

• 3: Relevance of STEM (both perceived and real)

• 4: Creating a culturally-grounded approach to STEM
Solutions (1)

Limited resources for STEM instruction

Partnerships that build capacity

• NSF
• NASA
• USDA
• DoE (among many others)
Solutions (2)

Academically underprepared students

• Summer science camps
• Family science nights
• Dual enrollment programs
• Remediation
• Peer tutoring and counseling
Solutions (3)

Relevance of STEM

- Exposure to STEM careers
- Focus on local employment
- Undergraduate research
- Place-based learning
Solutions (4)

Creating a culturally-grounded approach to STEM

• Science *is* traditional
• Broaden the definition of science
• Make science relevant to the needs of the nation
Ongoing challenges

• Poverty makes everything harder
• Limited number of jobs for graduates, especially at higher levels
• Sustainability. What happens when the funding ends?
• Grass roots solutions versus following the money and conforming to federal priorities