Building STEM Identity

Chelsea Chee
Overview

• STEM identity in general
• STEM identity in specific
• Proposal
STEM Challenge

• Low interest
• Low diversity
STEM Identity

• Young people struggle to identify with STEM culture and professionals

• Identity
  – Distinctive characteristic(s) shared by all members of a particular social group (Leary & Tangney, 2003)
STEM Culture & Professionals
Sense of Belonging

• “Many of the students I knew shied away from science, and I think that’s because we’ve done a poor job of saying that doing science is not just something white guys do”
  – Juan E. Gilbert in *The Chronicle of Higher Education*

• Non-representation

• Stereotypes
  – Non-majority
Need for Change

• “A lot of black males don’t really have the people to look up to in STEM. They need examples of people who look like them who are successful and doing positive things.”

  – Ryan Charles Hynd in *The Chronicle of Higher Education*
Recommendations

• Tell stories of successes
  – Focus on positive

• Exposure to female STEM experts
  – Identity
  – Self-efficacy

• Introduce broader STEM career identities
  – Challenge stereotypes
  – Broaden range
Native STEM Identity

- No image representation = non-existence
- 3.3% Natives over 25 years old have STEM bachelor degrees or higher (2011 ACS)
Proposal

• Create images & videos of successful Native STEM professionals to be distributed to Native K-20 classrooms & communities
  – Posters
  – Videos
  – Website
Natives in STEM

• Establish framework
  – Partners
  – Look
  – Focus groups

• Spotlight Navajo & Pueblo STEM professionals

• Distribute material
  – Printed posters
  – Website announcement
  – Traveling exhibit/event

• Grow to include Indian Country
I am Navajo. I am a Civil and Structural Engineer. I am STEM.

SANDRA BEGAY-CAMPBELL
WEBSITE MOCK UP
Content for Natives in STEM
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<td>Dr. Karletta Chief</td>
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<td>Dr. Julius Yellowhair</td>
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**Academia**

- Dr. Karletta Chief, Assistant Professor at University of Arizona

**Entrepreneur**

- [NAME]

**Government**

- Dr. Julius Yellowhair, Optical Engineer at Sandia National Laboratories

**Private**

- Carrie Wood, Software Engineer at IBM
Biology

Photo [NAME]

Engineering

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Mathematics

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Physics

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Sandra Begay-Campbell

Dr. Karletta Chief

Karen McDaniel

Carrie Wood
Sandra Begay - Campbell

Biography – graphic/image of biography to depict path (highs and lows) of getting from point A to point B.

Interactive questions from audience & answers from featured Professional
Email – [EMAIL ADDRESS]

Form to request printed material -

[NAME]
[INSTITUTION/ORGANIZATION]
[TITLE]
[ADDRESS]
[PHONE]
POTENTIAL PARTNERS

- American Indian Science & Engineering Society
- Society for the Advancement of Chicanos & Native Americans in Science
- Sandia National Laboratories
- American Indian Higher Education Consortium
- National Indian Education Association
- Navajo Nation Department of Dine Education
- Navajo Technical University
- Dine College
- NOVA Corporation
- EPSCoR states with Tribal Colleges & Universities
- EPSCoR states with Federally Recognized Tribes
- EPSCoR states with State Recognized Tribes
Sources