

# ROCKETS IN WISCONSIN

## WSGC COLLEGIATE ROCKET COMPETITION AND FIRST NATIONS LAUNCH

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# Background

- 2004: WSGC responded to a state goal of drawing more engineering students into aerospace pursuits
- Concept: Hold a Rocket Competition modeled on other Engineering Competitions
- Objective: Engineering students choose the WSGC Rocket Competition as their senior project

# Initial Structure

- Student teams design, build and fly a rocket and science payload that must return robust data to be analyzed.
- Students submit proposal to WSGC for approval to compete
- Motor and accelerometer provided by WSGC
- Each team provided a \$1000 budget for supplies and travel
- Design report (written, oral) component of score
- Winning team receives cash prize, presentation to experts at Marshall Space Flight Center

# First Years: WSGC Collegiate

- Tried to tie together engineering (through rocket construction) and science (through payload design and construction)
  - This model had “limited success”
- Queried students who competed and those who chose not to
- Engineers need a box to work in





# Current Structure

- Competition is engineering challenge (changes each year)
- Students and advisor submit NOI to WSGC for approval to compete
- Motor and accelerometer provided by WSGC
- Each team provided a \$1000 budget for supplies and travel
- Design report (written, oral) component of score
- Top three scoring teams receive cash prize
- Non-engineering category



# Strategies for Success

- Longevity and momentum
- Mentoring every step of the way
- Personnel



Innovative? YES!

# Why do students compete?


- Fun and Free!
- Cash prizes (\$5000, \$2500, \$1000; \$2000 for first place non-engineering category)
- Recognition





# Hitting our stride

The 2010-2011 Launch showcased:

- 13 teams, with 54 students
  - 3 non-engineering teams
  - 5 affiliate members represented
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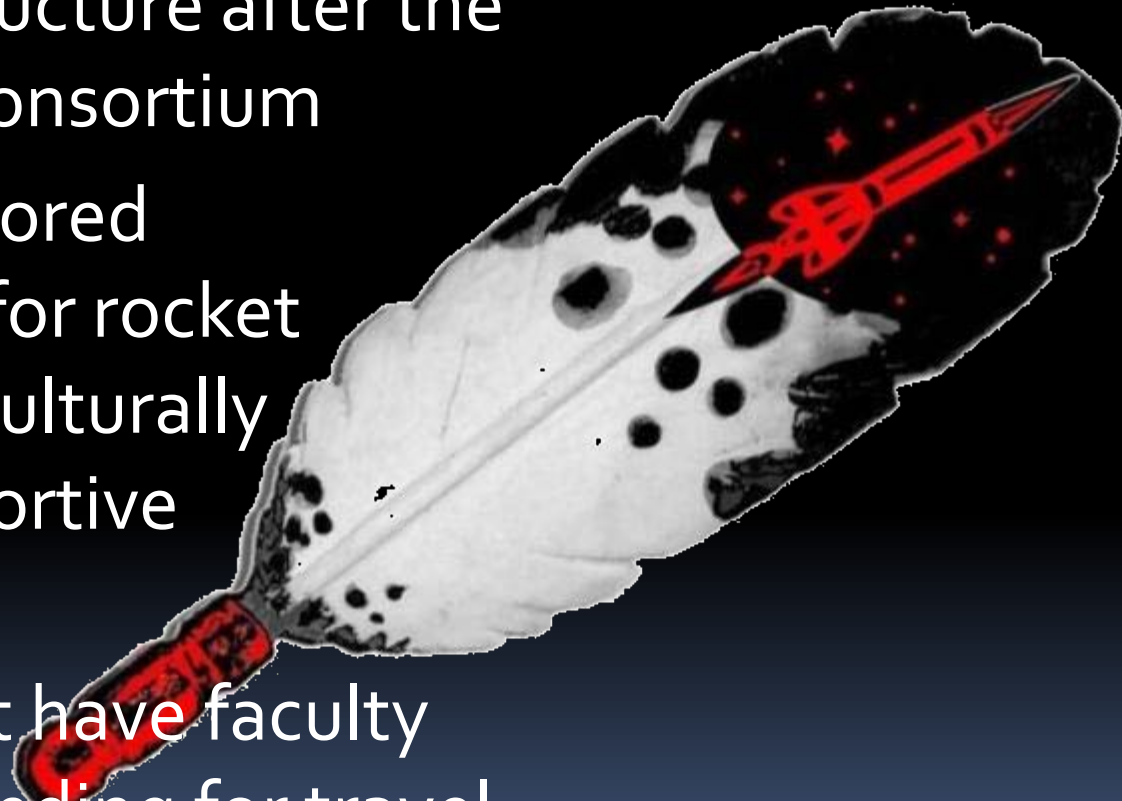


# Outgrowth

- One very energetic student at the College of Menominee Nation = the first Native American sounding rocket built on sustainable principles
- Rocket is now at the Smithsonian
- Team activities led to the concept of a Tribal College Rocket Consortium

# Tribal College Rocket Consortium

- Modeled in structure after the Space Grant Consortium
- Provides mentored opportunities for rocket activities in a culturally relevant, supportive environment
- All teams must have faculty mentor and funding for travel & expenses



# TCRC – first launch

- Two workshops for faculty and students
- Culminated in a launch opportunity
- Four colleges participated, representing 14 tribes
- Less a competition than a collaborative, supportive effort for all
- Problem: AISES students wanted to compete, but there was no vehicle for them to do so

# First Nations Competition

- THANKYOU to ESMD for their support of this grant
- Purpose is to recruit Native American STEM students into aerospace through a rocket competition
- Recruitment focuses on AISES chapters
- Supports the “Recruit and Retain” portions of the pipeline
- Workshops Oct. 9-10, Dec. 11-12, 2010
- Orals/Launch – Tentative Apr. 29/30, 2011



# Partnering opportunities

- Collegiate Rocket Competition
  - Assistance in setting up your own competition
  - Interest in regional competition?
- First Nations Competition/Tribal College Rocket Consortium
  - Help us contact your Tribal Colleges!
  - Consider financial support of faculty and students that want to participate in rocket activities