Things We Did This Summer

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Purdue University
Director, Indiana Space Grant Consortium

INSGC Summer Activity

- 7 Summer Interns at NASA Centers
  - Multiple NASA Centers, multiple campuses, multiple majors
  - Challenge of offers, student / mentor match
- 6 Summer Projects
  - Academic and outreach affiliates
  - K-12, Higher Ed, and General Public activity
- 2 Director's Surprise

INSGC Summer Interns

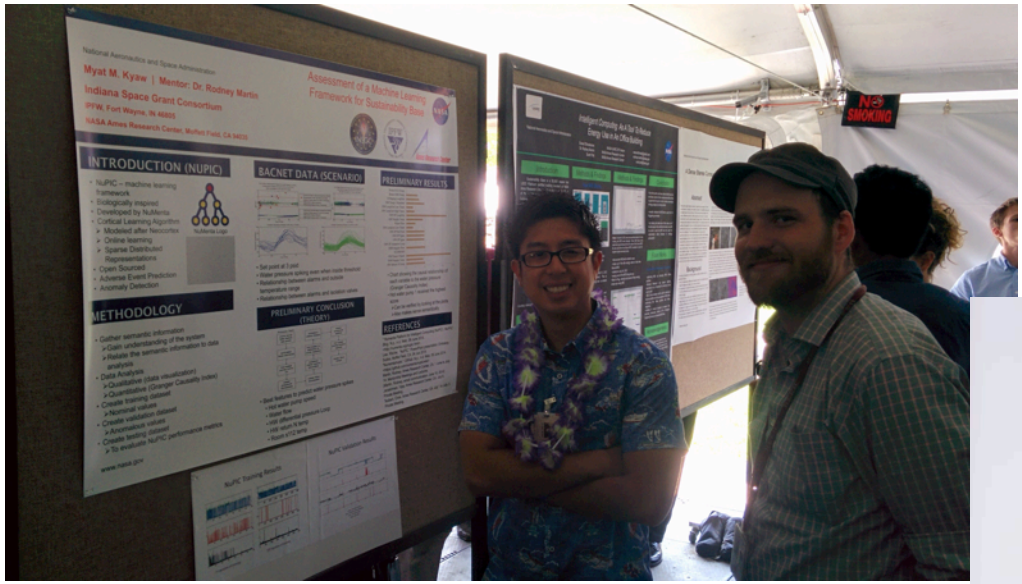
- Summer Interns
  - Highest ratio $ / bb
  - Impact-rich effects on student (and mentor)
  - Important pathway to permanent workforce
- Centers Placed
  - NASA Academy (not INSGC $)
  - ARC, GRC, LaRC, MSFC (Aero, Space, Propulsion Academies; LARSS, etc)

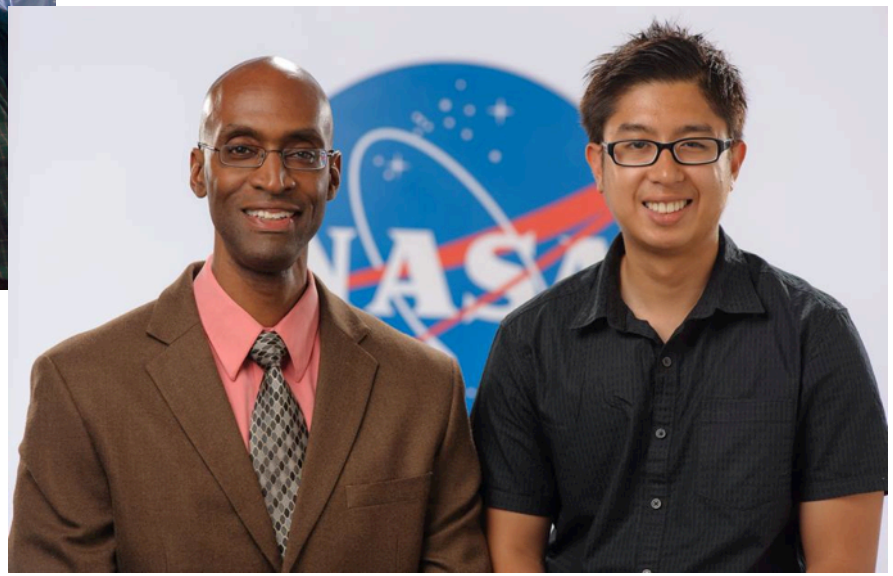
Evan Hill (IUPUI), GRC (Space Academy)

- Simulated Lunar Operations (SLOPE) Lab

Myat Kyaw (IPFW), ARC

- Biologically inspired machine learning



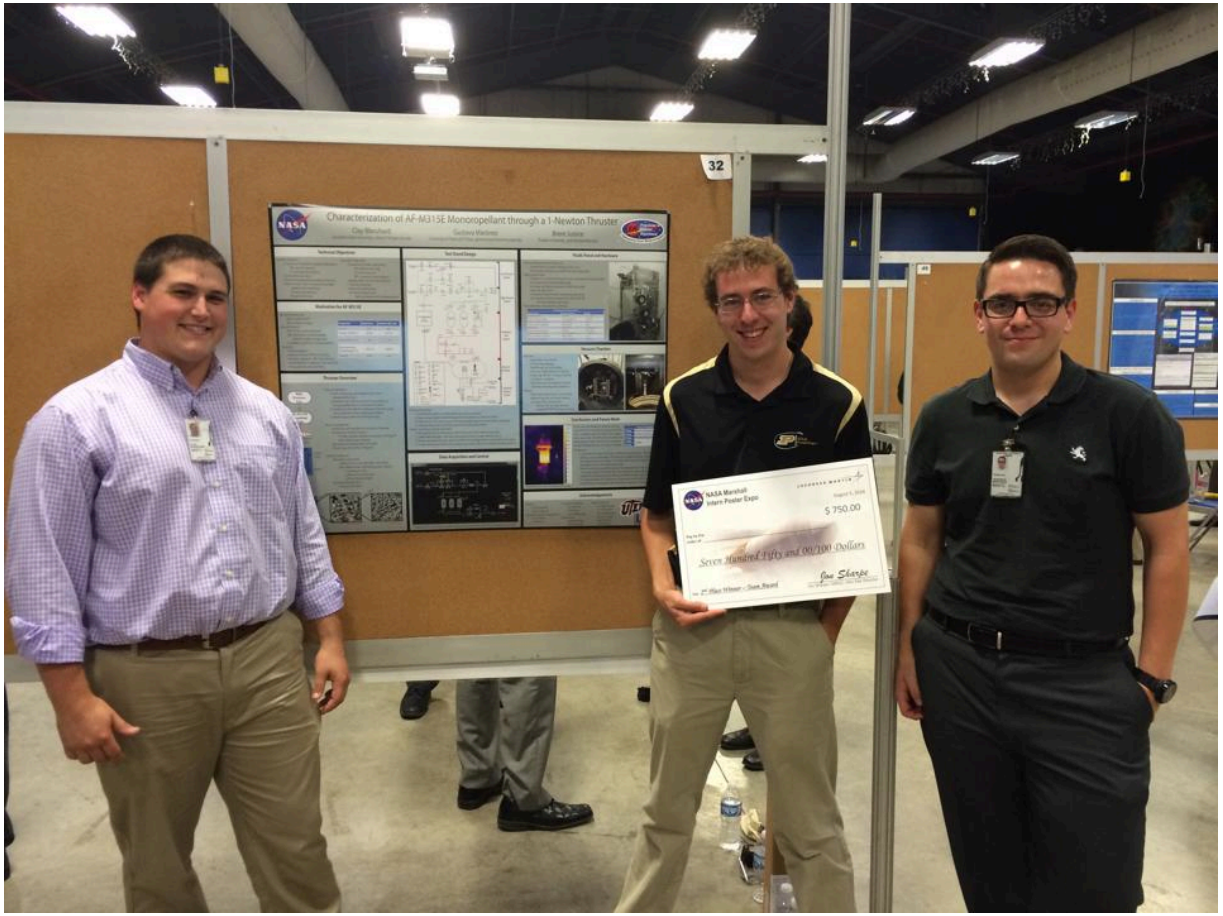


Lauren Kolkman (PUW) , LaRC

- Acoustics!

Brent Justice PUW, MSFC (Propulsion Academy)

- Microthruster Reaction Engines (1-Newton)



INSGC Summer Projects

- Outreach and Engagement Efforts
  - Science Central: Kids' Zone
  - Indiana State Univ.: Bat Ecology
    - Previous award for Indiana GIS data use
  - St. Joseph's College: Sustainable Agriculture
- Student and Teacher Training
  - Indiana Univ., Bloomington: Foundations in Science and Math
  - IUPUI: Nanotechnology Summer Scholars / Teachers
- Research
  - Purdue Univ: Student Reduced Gravity Educational Flight Program (last one?)

Purdue RGEFP 2014 Experiment June, 2014 (JSC-Ellington)

- Boiling and condensation in a phase-change heat transfer loop is still not sufficiently understood in zero-gravity.
- So phase-change heat transfer loops (refrigeration cycles) are not used. But they have many desirable performance qualities.
- "Flow Boiling" is the necessary design and our experiment investigates how flow boiling begins in zero-g on modern textured surfaces.

PURDUE
PUDDLE 2011
FLIGHT WEEK 2
FLIGHT WEEK 1
TEAM X
TEAM L
MAKERS

INSGC Director's Surprise

- Outreach Presentation at Spencer, IA (July)
  - Home of Dewey the Library Cat
  - "Little House in Orbit: Living and Working in Space"
- Planetary Analog Research, Arco, ID (Aug)
  - Craters of the Moon NMP
  - Multidisciplinary Solar System Engineering Research Virtual Institute (SSERVI) project

Iowans in Space

INSGC visits IASGC

- Thanks to Carmen (again)
- It must have happened: [it's on Facebook]

FINESSE Education and Public Outreach

- CRMO Interpretation
- National Space Grant College and Fellowship Program (Idaho SG, Indiana SG)
  - Idaho Science, Technology, Engineering and Math (STEM) teachers
  - Public talks and general outreach
  - Student project opportunities
  - Postdoctoral Scholar (Louisiana SG)

INSGC visits IDSGC: BSC at CRMO