

www.NASAMICI.com

CHAT GROUPS

PRESENTATIONS

EXPO HALL





### Funded By:



National Aeronautics and Space Administration

### Managed By:



Florida Agricultural and Mechanical University

MICI is a project operated under the NASA MUREP MSP portfolio.





### MISSION:

To increase the number of under-represented undergraduate and graduate students participating in NASA technical competitions.







Space Grant and other NASA entities have proven that competitions:

- 1. Provide hands-on and real world experience for students
  - 2. Increase the likelihood of student retention in STEM
    - 3. Make the students more desirable to employers

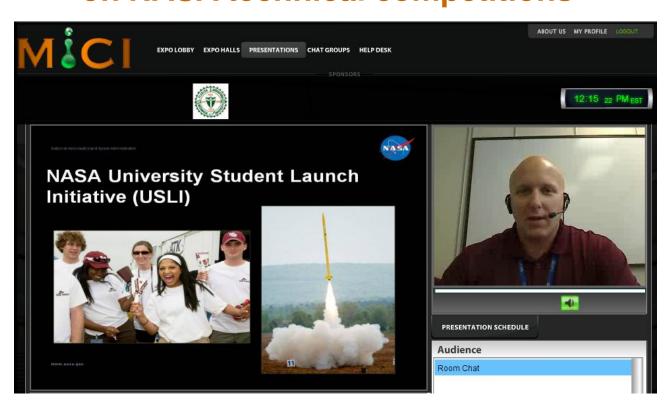




# MICI works to increase participation from under-represented students in 2 ways



## 1. Hosting live virtual conference sessions on NASA technical competitions









### VIRTUAL CONFERENCE SESSIONS FEATURE:

- \* Live broadcasts with full audio/video of presenter
- \* Simultaneous display of PowerPoint presentations
- \* Ability for students to submit questions via chat OR via their computer's microphone
- \* Ability to access recordings of all presentations 24 / 7 / 365
- \* Conference-like interface that encourages students to explore different technical contests
- The Bigger Picture

  Cash prizes are great, but don't forget...

  Real World Experiences

  Application of Classroom Knowledge

  Networking and Team Building

  Interacting with NASA and Industry

  Enhancing Yourself as Candidates for Employment

  Notoriety

  Audience

  Room Chat



CHALLENGES INSTITUTE



## MICI has produced more than 70 hours of presentations from:

\* NASA contest organizers

\* Contest subject matter experts

\* NASA Representatives from Education

covering 11 different challenges plus other NASA opportunities for students







### UNIVERSITY STUDENT LAUNCH INITIATIVE

This competition challenges university students to design, build & fly a reusable rocket with payload to one mile in altitude. It engages students in scientific real-world engineering processes with NASA engineers.



The eXploration Habitat (X-Hab) Academic Innovation Challenge

The challenge is for a senior and graduate level design course in which students design, manufacture, assemble, and test an inflatable loft that will be integrated onto an existing NASA built operational hard shell prototype.



Aeronautics & Space
Technology Student
Opportunities

A wide range of Aeronautics and Space Technology Opportunities for students including the Aeronautics Academy, the Space Technology Fellows Program for grad students, and the Aeronautics Scholarship.



Intercollegiate Rocket Engineering Competition Students are challenged to launch a 10 pound payload to 10,000 feet or 25,000 feet above ground level. Students are encouraged to design and construct as many of the rocket parts as possible.



NASA's SOLAR System

SOLAR stands for Student On-Line Application for Recruiting interns, fellows, and scholars. It serves as a one-stop shopping portal for students to search and apply for all types of NASA opportunities.





### NASA LUNABOTICS COMPETITION



The challenge is for students to design and build a remote controlled autonomous excavator, called a lunabot, that can collect and deposit a minimum of 10 kilograms of lunar simulant within 15 minutes.



ELEVATOR 200

The power beaming / climber competition challenges universities, enthusiasts and private industry teams to design and build the best possible Space Elevator climber prototype.



### STRONG TETHER

The Space Elevator requires a tether that is sufficiently light & strong enough to bear its own weight against the earth's gravity. This competition requires teams to produce a tether that can withstand intense pressure.



#### GREEN AVIATION ENGINEERING CHALLENGE

NASA invites students to propose ideas and designs for future aircraft that use less fuel, produce less harmful emissions, and make less noise.



Reduced Gravity Education Flight Program This program allows undergraduate students to successfully propose, design, fabricate, fly and evaluate an experiment aboard an airplane that makes several maneuvers which result microgravity (0G).







SpaceTech Engineering
Design Challenge

The purpose of this challenge is to submit an original design for technology that will further Space Exploration & Development in accepted areas for technology development.



Students are required to design a vehicle that addresses a series of engineering problems that are similar to those faced by the original NASA Moonbuggy. Students must navigate their vehicle through a timed course.



NASA ESMD Systems Engineering Paper Competition

NASA Exploration Systems Mission Directorate (ESMD) invites U.S. Universities to submit a paper related to Grounds Ops, Lunar & Planetary Surface Systems, Spacecraft, or Propulsion, using an engineering approach.





## 1,061 students and 255 faculty members are registered in MICI who represent 425 universities.

126 of these universities are MSIs

60% of the students registered in MICI are minorities

All of the demographic data is collected immediately upon registration





# The second way MICI works to increase participation from under-represented students is:





## 2. Providing small grants to MSIs to participate in NASA technical challenges

You've Got Funding!







## MINORITY INNOVATION CHALLENGES INSTITUTE



#### **MICI Grants to MSIs:**

- \* Provides up to \$4,000 to an MSI to help underwrite costs associated with competing in a NASA technical competition
- \* Funds can be used for equipment and/or travel to the competition
- \* Encourages MSIs to build a senior design course or special topics course around the challenge
- \* Requires them to participate in virtual mentoring sessions pertaining to the challenge.



### NASA

### 2011 MICI Grants to MSIs

21 MSIs submitted an application for grant funding.

10 MSIs were selected for funding based on:

- (a) experience of faculty in leading outside student projects / initiatives
  - (b) level of willingness to implement a course around the challenge
    - (c) a distribution geographically and ethnically diverse awards.































## So, how can MICI and Space Grant programs work together?





- 1. MICI can serve as a vehicle for NSGCFP to reach MSIs on a national scale.
  - 2. MICI can promote specific SG technical challenges, opportunities, activities.
- 3. If SGs want to provide funding, MICI has a system in place to award these funds to MSIs to compete in technical challenges.





## FYI ...MICI is funded on a no-cost extension through September 30, 2013

We are open to any ideas for partnerships which would allow us to continue to serve under-represented students nationally or in specific states.



## VISIT MICI WEBSITE: NASAMICI.com



## VISIT MICI VIRTUAL CONFERENCE: NASAMICIConference.com

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