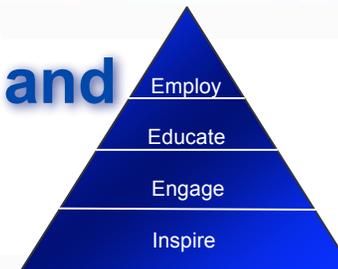


National Aeronautics and Space Administration



# NASA's Minority University Research and Education Program (MUREP)



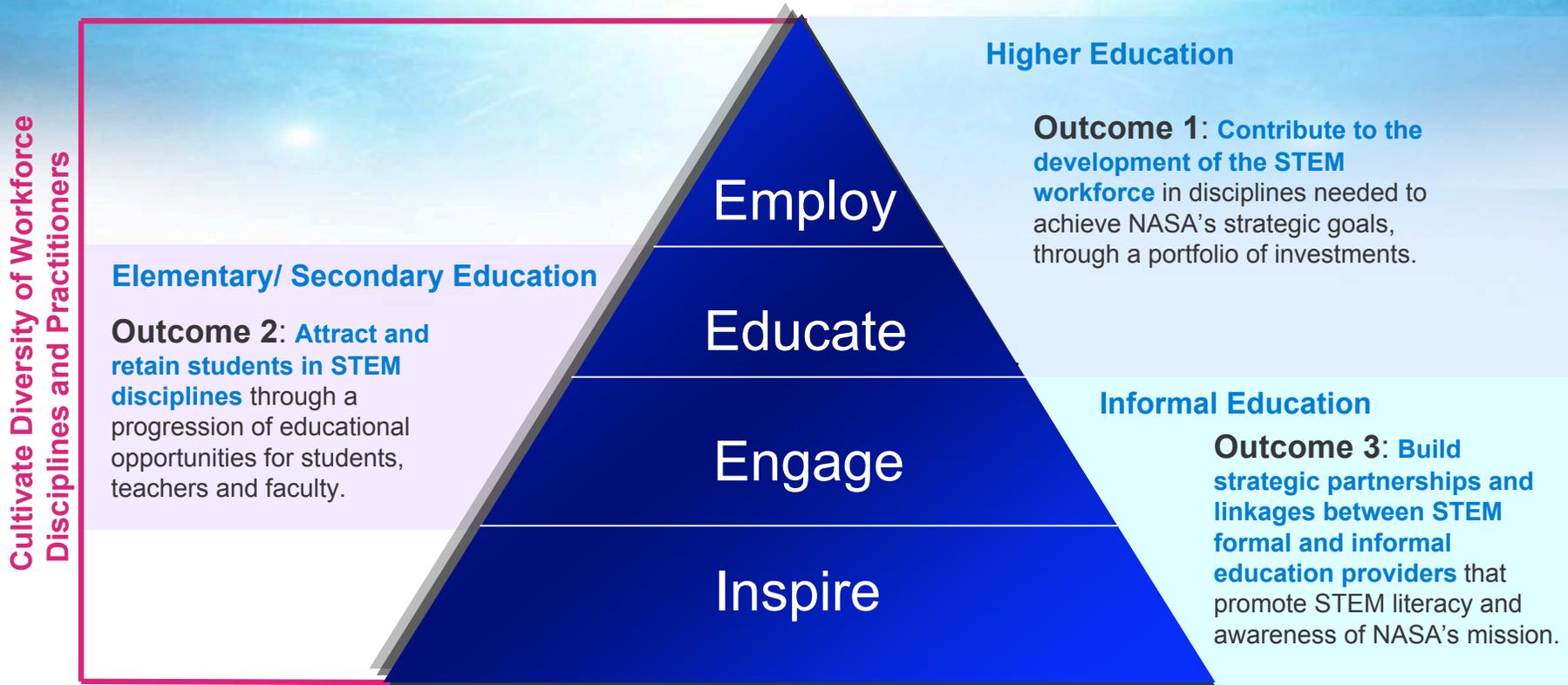
Improving Minority Institution Collaborations at NASA Workshop  
Ames Research Center  
Moffett Field, CA

October 24, 2009

[www.nasa.gov](http://www.nasa.gov)

Dr. Carl S. Person, Manager  
Minority University Research and Education Program/NASA HQ

# The Education Portfolio Strategic Framework



\* Science, Technology, Engineering and Mathematics (STEM)

# Minority University Research and Education Program (MUREP)

## MUREP Overview

### Objectives

- Facilitate research and development activities at MSIs that contribute substantially to NASA's mission;
- Create systemic and sustainable change at MSIs through partnerships and projects designed to strengthen their research and academic infrastructure;
- Prepare faculty and students at MSIs to successfully participate in the competitive research and educational processes of NASA; and
- Partner with MSIs to increase the number of underrepresented and underserved students who successfully pursue and complete undergraduate and graduate degrees in NASA-related STEM fields.

## MUREP Overview - Continued

### Eight (8) MUREP Projects

- Motivating Undergraduates in Science and Technology (MUST)
- Harriett Jenkins Predoctoral Fellowship Project (JFPF)
- Curriculum Improvement Partnership Award for the Integration of Research into the Undergraduate Curriculum (CIPAIR)
- NASA Science and Technology Institute for Minority Institutions (NSTI-MI)
- MUREP Small Projects (MSP)
- NASA Administrator's Fellowship Project (NAFP)
- Tribal College and University Project (TCUP)
- University Research Centers (URCs)

# NASA Education **Motivating Undergraduates in Science and Technology (MUST)**

## MUST - Overview

- **Managed via a cooperative agreement with the MUST Consortium (the Hispanic College Fund (HCF), the United Negro College Fund Special Programs (UNCFSP) and the Society for Hispanic Professional Engineers (SHPE).**
- **The MUST Program supports 100 undergraduate students pursuing degrees in STEM with a one-year competitive scholarship of up to one-half of tuition, not to exceed \$10,000 and a \$6,000 stipend to participate in a summer research experience at a NASA facility; May be renewed up to 3 years.**
- **Eligibility: U.S. Citizens - Freshman, Sophomore or Junior – GPA = 3.0 Focus on underrepresented and underserved students.**
- **Application Available: November 1, 2009 - On-line application: <http://scholarships.hispanicfund.org/applications/>**
- **Enriches scholar education through the MUST Professional Academic Support System (MUST PASS), an academic enrichment, mentoring, and career development system.**

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## Harriett G. Jenkins Pre-doctoral Fellowship Project (JPFP)

- Competitive fellowships that successfully navigate students who are underrepresented in STEM disciplines through graduate school to enable their entry into the STEM workforce.
- 20 fellowships awarded annually that provide support for up to 3 years.
- JPFP Eligibility:
  - U.S. Citizenship Required
  - Underrepresented persons in STEM
  - Grad Student within first 3 years of program
  - Minimum 3.0 G.P.A.

Applications Available Fall 2009





## JFPF Highlights

- **Fellow Funding** for stipends & tuitions for up to 3 years.
  - Stipend: \$24,000/yr (Ph.D.) & \$18,000/yr (M.S.)
  - Tuition Offset: \$8,500/yr
- **Competitive Mini Research Award** Program provides fellows with the opportunity to participate in a 6 week “hands-on” NASA research experience.
  - Stipend: \$6,000/6 wks
  - Housing: \$700/6 wks
  - Travel: \$700/6 wks

JFPF website: [www.uncfsp.org/jpfp](http://www.uncfsp.org/jpfp)



**NASA Education**

# **Curriculum Improvement Partnership Award for the Integration of Research (CIPAIR) into the STEM Undergraduate Curriculum**

## **Overview**

- **Facilitates integration of cutting-edge NASA-related research into the undergraduate educational experience**
- **Enhances undergraduate faculty teaching and the student's education across STEM courses and curricula specifically related to NASA missions and human resource requirements**

## **Objectives**

**(a) establishment or strengthening of relationships of MI faculty with NASA Centers; (b) integration of NASA-related content and research opportunities into the MI curriculum; (c) involvement of students in program development and improvement; and (d) commitment of the MI administration to long-term sustainability.**



# CIPAIR - continued

## Program Facts

- CIPAIR award - Three-year training grant - \$150,000 per year
- Eligible Institutions – Two-Year and Four-Year Minority Institutions
- Awardees enter into partnerships with a NASA Center
- CIPAIR funding offers a mechanism for institutionalization of the undergraduate research experience at minority institutions
- A new CIPAIR solicitation will be available Fall 2009
- Administered by UNCFSP – [www.uncfsp.org](http://www.uncfsp.org)

# NASA Tribal College & University Project Mission, Purpose & Goals

- **Mission:**

To address national challenges of attracting and retaining underrepresented, underserved and minority students and faculty in STEM as they relate to NASA's need to maintain its technical workforce



- **Goals:**

- **Identify and remove barriers to TCU participation in NASA research & education programs by providing NASA research experiences for TCU faculty and students at each NASA center**
- **Expand outreach activities to improve relationships between TCUs and NASA, emphasis on increasing TCU familiarity with NASA**
- **Enhance TCU STEM infrastructure,**
  - e.g., through creation of pre-engineering or engineering courses to establish an Engineering degree granting program to enable TCUs to expand research for Science & Exploration Systems

**Program Responds to Executive Order # 13270:**

“...ensuring that the Nation's TCUs ...have full access to federal programs benefiting other higher education institutions....”

# NASA TCUP Summer Externship Program

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## “Summer Research Experience” – 10 Weeks

### New Externship Model



Students learning GPS use at UTTC

### 2009 New Model –NASA to TCU

- TCU Faculty-Student Teams go to one of TCUs (not NASA Center)
- Intern only away from home 3 weeks & “nearby” home
- NASA/other scientists/experts go out to Indian Country (TCU)
- 1<sup>st</sup> 3 weeks: UTTC hosted 9 Faculty –Student teams
- Last 7 weeks – Students back to home TCU to finish project
  - Under supervision of Faculty Member
- Students Present their Research at Tribal College Forum and at AIHEC

Host = United Tribes Technical College, Bismarck, ND

# MUREP Small Projects (MSP)

## Overview

- MSP is an umbrella term for STEM education initiatives that are part of MUREP's portfolio
- The goal is to fund innovative STEM projects that address MUREP's priorities
- MSP is intended to provide seed funding
- MSP supports a variety of activities for students, teachers, faculty and researchers from underrepresented and underserved communities in NASA-related STEM fields
- Two projects are currently grandfathered: PreService Teacher Conference (PSTC) and Achieving Competence in Computing, Engineering, and Space Science (ACCESS)
- Eligibility: MSIs and Minority-Focused Organizations
- Funding: Up to \$150,000 per year for three years
- FY10 Plans: To release a solicitation in FY10 for FY11 funding and implementation

### **Examples of MSP Awards Funded in FY 2009**

Florida A & M University (FAMU): *Minority Innovation Challenges Institute*

Sistema Universitario Ana G. Mendez: *Engaging MSI STEM Students Through Space-Based Capstone Design*

Navajo Technical College (NTC): *Laser Scanning for Digital Manufacturing*

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## **NASA Science and Technology Institute for Minority Institutions (NSTI-MIs)**

- A project designed to strengthen the research capabilities of both faculty and students of MIs
- Managed at the NASA Ames Research Center
- Provides faculty and students opportunities to conduct NASA research through collaborations with NASA scientists and engineers
- Components: (1) Summer Scholars Program; (2) Institutional Research Clusters; and (3) Faculty Fellowships –
- Applications Available fall of 2009
- <http://www.uncfsp.org/nasa/>

# University Research Centers

- Multidisciplinary research units performing scientific and/or engineering research in support of NASA's Mission Directorates.
- Established at Minority Institutions (MIs) to expand the nation's base for aerospace research and development; increase participation by faculty and students in the research programs of NASA's Mission Directorates; and increase the number of underrepresented and underserved students at MIs who obtain advanced degrees in NASA-related fields.

## URC Participants

**Norfolk State University**

**Morgan State University**

**Texas Southern University**

**Southern University**

**UPR at Rio Piedras**

**CA State University at Los Angeles**

**Tennessee State University**

**UPR at Mayaguez**

**University of TX at El Paso**

**Fisk University**

**Florida A&M University**

**University of New Mexico**

**Clark Atlanta University**

**Tuskegee University**

**Hampton University**

**City University of New York**

**University of TX at Brownsville**

**Alabama A&M University**

**Prairie View A&M University**

**Morehouse School of Medicine**

**Howard University**

**North Carolina A&T State University**

**Florida International University**

## URCs - continued

- Awards are for 5 years, not to exceed \$1million per year
- Annually 25% of the funding or \$250,000 must be used as direct support to undergraduate and/or graduate students
- NASA recently awarded six new URCs

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## NASA Administrator's Fellowship Program (NAFP)

- Seeks to enhance professional development of NASA employees and STEM faculty at minority institutions, and
- Increase the ability of the minority institutions to respond to NASA's overall research, development and education mission
- Faculty spend 1 year at a NASA Center conducting research
- NASA employees spend 1 year at a MSI teaching, conducting research, etc.
- Visit the United Negro College Fund Special Programs' web site at <http://uncfsp.org/nasa/nafp>



## Achieving Competence in Computing, Engineering and Space Science

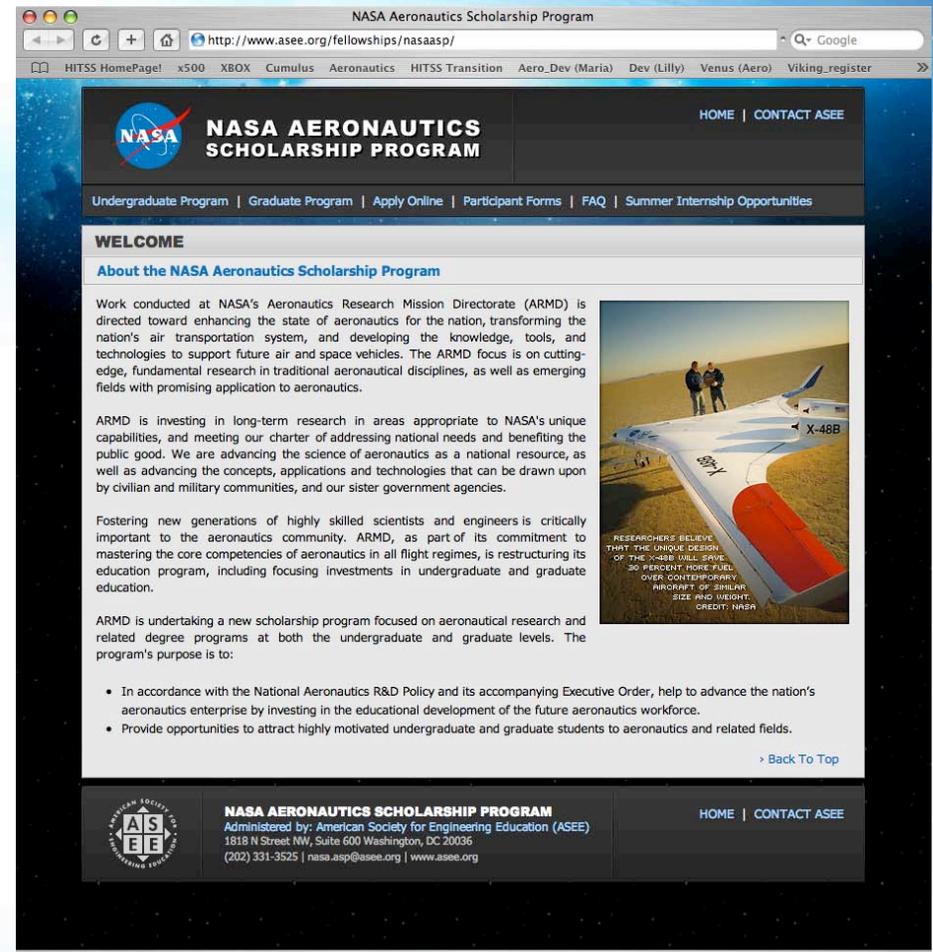
### Overview

- ACCESS is a 10-week paid internship program at NASA centers around the United States. It is designed for undergraduate and graduate students with disabilities who have strong backgrounds in science and a desire to pursue technical careers. Students work with scientists and engineers in areas compatible with their skills and interests.
- Competitive stipends; provision for assistive technology and other reasonable work site accommodations; and limited travel funds and recommendations for finding accessible housing and transportation are offered.
- Managed by the American Association for the Advancement of Science (AAAS)
- Exposure program and a gateway to co-ops and other NASA programs, leading to permanent positions
- Students major in NASA-relevant STEM disciplines

# NASA Aeronautics Scholarship

## Undergraduate and Graduate

- Applications available for Fall 2010
  - October 2009 – January 2010
- UNDERGRADUATE up to \$40k
  - Planning 20 students each year
  - \$15k per year for 2 years
  - Summer internship at NASA @ \$10k
- GRADUATE up to \$158K
  - Planning 5 students each year
  - \$35K stipend per year – 3 years
  - \$11K awarded for edu expenses
  - 2 NASA Internships @ \$10k each
- Information and apply at:  
<http://www.asee.org/nasaasp>  
Contact [nasa.asp@asee.org](mailto:nasa.asp@asee.org)



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# Federal Career Intern Program Notices

The Federal Career Intern Program (FCIP) Notices for NASA Education Program participants.

Students who have participated in NASA education programs (internships, scholarships, fellowships, competitions, flight projects, etc.) between 2007 and 2009 are eligible to apply for the following potential job openings.

Opened: 1/1/2009 Closes: 12/31/09

NA09N0008 – Professional Engineering Positions

<http://jobsearch.usajobs.gov/ftva.asp?opmcontrol=1428808>

NA09N0009 – Physical Sciences/Biological Sciences

<http://jobsearch.usajobs.gov/ftva.asp?opmcontrol=1428816>

NA09N0010 – Accounting & Budget/Business and Ind/Administration/HR

<http://jobsearch.usajobs.gov/ftva.asp?opmcontrol=1428820>

NA09N0011 – Computer Engineer/Computer Scientist

<http://jobsearch.usajobs.gov/ftva.asp?opmcontrol=1428831>

NASA Education

# NASA Resources

For more information about NASA and its programs:

For all NASA education opportunities

• <http://education.nasa.gov>

**NASA Research Opportunities**

<http://nspires.nasaprs.com/>

**NASA Guidebook for Proposers**

<http://www.hq.nasa.gov/office/procurement/nraguidebook/>

**NASA Science Plan**

<http://science.hq.nasa.gov/strategy/>