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Agenda

- Additional NASA HQ Staff Updates
- Additional Info on Space Grant Review Team
- NASA Education Outcomes, Objectives and Measures
- Distinction between Public Outreach and Informal Education
- Space Grant Funding (FY06 and FY07)
- Programmatic Emphasis for FY07 Budget Packages
- Longitudinal Tracking
- Workforce Development Highlights
- National Success Stories
- Diversity
Space Grant Review Team

- NASA team charted by the Education Coordinating Committee (ECC)
  - Membership: 3 co-chairs plus 5 representatives from Mission Directorates and Centers
- Purpose: Develop a Policy and Guidance document
  - 2007-2011
  - Workforce, Alignment, Leverage, Diversity
- Began the dialogue with you after the March meeting
  - Have engaged with ~1/2 of the directors
- Final document due November 30, 2006
Outcome 1: Contribute to development of the STEM workforce

Outcome 2: Attract and retain students in STEM disciplines

Outcome 3: Build strategic partnerships and linkages between STEM formal and informal education providers

Cultivate Diversity of Workforce Disciplines and Practitioners

Educate

Engage

Inspire

Employ

Higher Education

Elementary/Secondary Education

Informal Education
NASA Education Objectives and Measures

Outcome 1
• 1.1 Faculty and Research Support
• 1.2 Student Support
• 1.3 Student Involvement Higher Education
• 1.4 Course Development
• 1.5 Targeted Institution Research and Academic Infrastructure

Outcome 2
• 2.1 Educator Professional Development—Short Duration
• 2.2 Educator Professional Development—Long Duration
• 2.3 Curricular Support Resources
• 2.4 Student Involvement K-12

Outcome 2
• 3.1 Resources
• 3.2 Professional Development for Informal Ed Providers
• 3.3 Informal Education Provider Involvement Opportunities
Public Outreach

The intent is to raise awareness of, or interest in, NASA, its goals, missions and/or programs, and to develop an appreciation for and exposure to science, technology, research and exploration.

Informal Education

The intent is to increase learning, to educate students, educators and the general public on specific science, technology, engineering, or math (STEM) content areas, and to expand the nation’s future STEM workforce.

In addition to intent, an Informal Education project must also include at least two of the following components:

- Supplemental Materials/Handouts
- Staffing
- Content
Outstanding FY2006 Congressionally Directed Funds

FY2006 Consortium Development Competition
- 17 Non-Designated Consortia Eligible
- 1-Year Augmentation
  - Up to $177,000
  - $45,000 Fellowship/Scholarship
  - $132,000 Minimum Match
- Anticipate up to 5 Awards

Purpose – To focus on the Employ and Educate aspects of the Framework
Focus – Higher Education component of STEM pipeline
Targeted Outcomes:
- Faculty and Research Support
- Student Support
- Student Involvement
- Course Development
- Targeted Institution Research and Academic Infrastructure
FY2007 Budget Packages

FY2006 Progress Report
– Report on SMART Goals (metrics and targets)
– Contribution to NASA Education Outcomes
– Results of Longitudinal Tracking
  (Fellowships, Scholarships, Higher Education, and Research Infrastructure significant awards)

FY2007 Proposal
– SMART Goals (metrics, targets, timeline)
– Demonstrate Alignment with NASA Education Outcomes
– Strategy for Diversity throughout all aspects
– Guidance from Space Grant Review Team

The 20th Year Evaluation includes FY 2003 – FY 2007
**Longitudinal Tracking**

*Significant* Student Awards should be tracked through first employment (or next step beyond Space Grant support).

*Significant* can be defined as $\geq 5K$ or an amount that is of significance to the achievement of the student’s educational goals under the circumstances.

(e.g. an amount < $5K may be significant for a community college student)

Student Awards should be tracked for the Fellowship and Scholarship, Higher Education and Research Infrastructure Programs.

Results from Longitudinal Tracking will be a component of the FY2006 Progress Report.
Office of Education

Results of FY2005 Longitudinal Tracking

Longitudinal Study Overall Results

- Enrolled: 51%
- Seeking: 5%
- Employed: 8%
- Continued Ed: 14%
- Unknown: 22%

Of the 417 Students Employed:
- 31 NASA
- 198 Industry
- 111 Academia
- 56 Other STEM
- 21 Other

N = 5,214 Student Awards*
* F/S, Research Infrastructure, and Higher Education

Where are the students now?

- Undergrad: 2067
- Grad: 605
- Seeking Emp: 240
- NASA: 31
- Industry: 198
- Academia: 111
- STEM: 56
- Other: 21
- Masters: 355
- PhD: 334
- Post Doc: 40
- Unknown: 1156
Anecdotes of Workforce Development Success

Individual
- Louisiana
- Wyoming
- Iowa
- New York
- Tennessee

Programmatic
- Colorado
- Kentucky
- Mississippi
- Rhode Island
- North Dakota
National “Success Stories”

- Starting Student Hardware (I, II, III, IV)
- CubeSats
- AERO Institute and EAP
- Starting Student Rocket Programs
- Collaboration with NASA Explorer Schools
- “Inspiration”
National Space Grant College and Fellowship Program

Progress and status of recruiting and training U.S. citizens
Especially women, underrepresented minorities and
Persons with disabilities.

Katie Pruzan, Education Programs Coordinator
National Space Grant College and Fellowship Program
October 27, 2006
Where do we stand? (04 CMIS Stats)

• Caveats
  – CMIS data provide a useful “gauge”.
  – The HSI data includes Puerto Rico and New Mexico – Designated Consortia.
  – The OMU data includes Hawaii – A Designated Consortium.

• Baseline Observations
  – Minority Serving Institutions represent 20% of the National Network
  – Minority Serving Institutions receive approximately 8% of the total funding (NASA, match and other federal funds).
  – The subset of 42 HBCU institutions receive the nearly same amount of funding as the subset of 24 Hispanic Serving Institutions ($1.4 Million Annually).
2004 Funds Distribution

Percentage of FY 2004 funds to Minority Serving Institutions (NASA + Match)

- Total Non-Minority Institutions: 92%
- HBCU: 23%
- OMU: 23%
- TRIBAL: 2%
- Total Minority Institution: 8%
- HSI: 24%
The Space Grant Program has been a catalyst and synergistic within my own institution and region.

The Space Grant Program has provided useful funding for student support and curriculum development and implementation. Our institutional budget is insufficient to provide these useful and necessary support programs.

The impact of the consortium is larger than the funds that my institution receives from it.

This program has been a huge success in providing interaction between two year college programs in engineering, science and technology with four year institutions.

Minority Serving Institutions represented nearly 15% of the responses.
Setting Targets for Fellowship/Scholarship Program

What level of classification should Consortia consider when establishing student award targets?

*Answer:* Enrollment percentage for the state per NCES Digest

http://nces.ed.gov/programs/digest/d05/tables/dt05_208.asp
Discussion Questions

• What quantitative “metrics” could Space Grant use in addition to the percentage of Fellowship and Scholarship awards to demonstrate progress toward meeting the diversity objective of the program?
  √ Percentage of other Student Awards (Higher Education and Research Infrastructure)
  √ Market Share of Minority Serving Institutions (MSIs)
    – Distribution of Funds to MSIs
    – Distribution of Student awards to MSIs
    – Outcomes of MSI Affiliates (Patents, Publications, Successful Proposals, Longitudinal Tracking Results, Minors, Majors, Courses)
    – Others?
Discussion Questions Continued

• How can we begin to qualitatively measure and/or assess the level of involvement of Minority Serving Institutions in the National Network?
• How can we identify a baseline for the nature of the partnerships and collaborations?
• How can we improve the overall contribution of Minority Serving Institutions to the achievement of the goals of the national program?
• Are there other questions we should be asking?
Other Questions

How can we change the discussion?

How can we change the equation?