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The Next Generation of Explorers

National Council of Space Grant Directors’ Spring Meeting

Michael Kincaid
Associate Administrator for Education

March 2, 2018

Use the following to ask your questions:
https://jsc.cnf.io/
Eclipse Day Sites
Vision
We immerse the public in NASA’s work, enhance STEM literacy, and inspire the next generation to explore.

Mission
We engage the nation in NASA’s mission.

• Create unique opportunities for students and the public to contribute to NASA’s work in exploration and discovery.

• Build a diverse future STEM workforce by engaging students in authentic learning experiences with NASA’s people, content and facilities.

• Strengthen public understanding by enabling powerful connections to NASA’s mission and work.
Mission-Driven • Strategic Engagement

Engage the nation in NASA's mission

Work of the Agency
We heard you…
Use the following to ask your questions:

https://jsc.cnf.io/
Outline

**Space Grant Overview**
Joeletta, Erica, Q&A

**NASA Technology and Innovation**
Douglas Terrier, NASA Chief Technologist (Acting)

**Programmatic Update**
Erica, Frank, Mike C., Sonya, Q&A

**Flip Session Preview**
Rick, Diane

**Partnerships with MUREP**
Alicia
Aerospace Research & Career Development Staff

Space Grant:
Ms. Joeletta Patrick – Program Manager (Acting)
Dr. Erica J. Alston – Programmatic Support (Acting)
Mr. Michael Cherry – Program Analyst
Dr. Sonya L. Greene – Sr. Program Analyst
Dr. Frank McDonald – Sr. Program Analyst

Experimental Program to Stimulate Competitive Research (EPSCoR):
Mr. Jeppie Compton – Program Manager (KSC)
Ms. Crystal Bassett – Program Coordinator (KSC)

ARCD Budget Analyst:
Ms. Kim Butler
In Attendance:
Alicia Baturoni Cortez - JSC
Clarence Bostic – LaRC
Mark D. Kankam – GRC
Mitchell Krell – SSC
Raquel Marshall – GSFC
Theresa Martinez – KSC
Misti Moore – JSC
Marc Reagan – JSC
Willie Williams – JSC
Who is Joeletta Patrick?
BSA Implementation Update

• BSA recommendations include making the entire Office of Education portfolio more responsive to Mission Directorates
• BSA also recommends that more tactical work be sent to the Centers that will allow HQ to focus upon strategic planning and initiatives
• Further implementation will occur for the remainder of FY18 and FY19
Our Objectives

**NASA Priorities**
- NASA Office of Education
- NASA Centers
- NASA Mission Directorates
  - Aeronautics Research
  - Human Exploration and Operations
- Science
- Space Technology

**State Priorities**
- NASA Office of Education
- NASA Centers
- NASA Mission Directorates
  - Aeronautics Research
  - Human Exploration and Operations
- Science
- Space Technology

**Space Grant Program**
- Education
- Outreach
- Research
- Public Engagement
New Solicitation Update

- Proposed Programmatic Changes - TBD
- Multi-year vs. single year?
- Will Guam and Virgin Islands be eligible to propose?
- Will Consortia be allowed to propose to change their designation status?
- Things to consider...
Communication

• Planning monthly outreach webinars to keep people abreast of HQ happenings
  – The Space Grant IPA will help drive topics of discussion and create strategy to disseminate communications
• Continue to use focus groups to help answer critical questions
• We are excited to announce the Space Grant IPAs

Susie Johnson  
Idaho Space Grant

Colleen Fava  
Louisiana Space Grant

Pending negotiations with respective institutions
Space Grant Evaluation Update

• Contractor has been selected
• Working with procurement to get contract task in place by mid-March
• Will be reaching out to a subset of Space Grant as a part of the program evaluation
• Will be using outputs of evaluation to help drive changes in the next solicitation
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Programmatic Update

Erica J. Alston, Sonya L. Greene, Mike Cherry and Frank McDonald
March 2, 2018
4th Year Extension

- No draw down balance restriction to receive 4th-Year funding
- Update: Over 80% of grants are deemed compliant and ready for funding
- Funding process: Multiple factors influence timing of awards including: available funding (constraints due to CR funding), compliance of 4th year proposals and period of performance
- 34% of April awards have been pushed to the NSSC
- Looking to fund the remaining awards by end of March
• If an appropriated budget is passed, then all awards should be made on time

• There remain a number of states that will need to address additional concerns before recommendation to the Space Grant Program Manager for funding

• We will contact those Consortia early next week with additional information on next steps to ensure timely award of funding
4th Year Extension

• NCE guidance
  – Information gathering stages to determine overall impact
  – More guidance forthcoming
  – NCEs can only be requested NET 30 days from the end of your current period of performance (POP).
• https://www.nssc.nasa.gov/nocostextension
NIF Process

• Sent communication to the community on 2/8/18 that briefly outlined the process for NIF placements within OSSl
• Held webinar on 2/14/18 & 2/15/18 which was led by Darla Kimbro where she walked through the process of:
  – Requesting OSSl access
  – Identification of funding options (No, Maybe, Yes)
  – Reporting capabilities
• Sent list of NIF POCs at every Center to the community – to ensure that the community has the right contacts at each Center

• Provided a copy of the presentation used during the webinars
  – Currently being shared via Google Drive
  – If interested in obtaining the presentation, please see me during the meeting, or request access via Google Drive
• The process identified on the previous charts works across NASA – though we recognize that many of you have developed relationships with specific Centers over the years

• Students who have funding associated with them have a higher change of being selected by a mentor
Feedback on updated NIF system

• New system is in works and being tested
• Additional information about the system will be given later by Lynnette Madison
• Developers want to get Space Grant community feedback
  – The webinars from February provided some great recommendations
  – Look for details next week about a focus group to provide requirements for the new system
# Approximate Schedule

## Summer 2018 Session

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complete applications due</td>
<td>3/16/18</td>
</tr>
<tr>
<td>Student offers made</td>
<td>3/30/18</td>
</tr>
<tr>
<td>Summer session dates</td>
<td>6/4/18 – 8/10/18</td>
</tr>
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</table>

## Fall 2018 Session

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall session open for applicants</td>
<td>3/17/18</td>
</tr>
<tr>
<td>Complete applications due</td>
<td>5/31/18</td>
</tr>
<tr>
<td>Student offers made</td>
<td>6/29/18</td>
</tr>
<tr>
<td>Fall session dates</td>
<td>8/27/18 – 12/14/18</td>
</tr>
</tbody>
</table>
Undergraduate Student Instrument Project (USIP)

Undergraduate student teams are engaged in hands-on experiences in developing and flying science or technology experiments that are aligned to every NASA Mission Directorates.

- **39 Space Grant projects include the following platforms:**
  - 2 Unmanned Air Systems (UAS)
  - 5 Hosted Balloon Instruments
  - 4 Hand-launched Balloon Instruments
  - 20 CubeSats
  - 4 small Reusable Launch Vehicles (sRLV)
  - 4 Sounding Rockets

- **Annual Performance Document**
Sounding Rocket

- 4 teams during integration and testing at Wallops for March 22\textsuperscript{nd}
  - “Arc-Ignition Green Thruster”, Stephen Whitmore, UT
  - “Retractable Boom” Scott Tarry, NE
  - “KRUPS,” Suzanne Smith, KY
  - Florida Institute of Technology “Polyamide Wire Repair” (SMD-funded)
USIP Update

COTEL, Balloons
Greg Guzik, LA

Video
USIP Update

TATER TOTS, Balloons
Joseph Law, ID
Improve Solder Joints Formed in Microgravity
Majid Jaridi, WV

Video Credit: Zero Gravity Corporation
OEPM/Reporting

- FY2017 February Reporting
  - Results are being analyzed
  - Responses from 51/52 consortia
  - 18/51 Data sets were submitted without errors

Space Grant Direct Awardees

<table>
<thead>
<tr>
<th></th>
<th>FY2016</th>
<th>FY2017</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>6380</td>
<td>157497</td>
</tr>
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</table>

FY2016 Office of Education Direct Student Awards

- Space Grant 73%
- Other NASA Projects 27%
OEPM/Reporting

• New Reporting Timeline
  - FY2017 OEPM data tentatively due June 30, 2018
  - FY2018 OEPM data tentatively due January 31, 2019

• 4th Year APD/Closeout Report
  - Year-4 APD will serve as Closeout Report for the 2015-2018 Training Grant/Fourth Year Extension. Will be due 90 days after period of performance.
NASA Express Membership Campaign

- February 26th – March 16th

nasa.gov/education/express
NASA Express Membership Campaign

• February 26th – March 16th

nasa.gov/education/express
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Use the following to ask your questions:

https://jsc.cnf.io/
Goal:
• To get Space Grant Consortia input and recommendations on performance measures defining success at the state-level and program-level for Fiscal Year 2019 and beyond

Key Questions:
• What performance measures do you believe would demonstrate success at the state-level (i.e., what are the success criteria/metrics)?
• What performance measures do you believe would demonstrate success at the national program-level (i.e., what are the success criteria/metrics)?

NOTE: We plan to conduct a follow-up Focus Group Discussion with Space Grant Consortium representatives regarding performance measures input and recommendations collected during the flip meeting
## NASA External and Internal Performance Measures Development Process

### STEP ONE

**Review Past Performance**

- A brief history of NASA’s Office of Education performance measures, data collection processes and tools, and performance results
- FY 2014 – FY 2017 Performance Goals, Annual Performance Indicators, Results
- Strategic Object Annual Reviews (SOAR)
- OMB and BSA guidance and recommendations: Concerns, need for change/reformed measures, processes, and tools

### STEP TWO

**Benchmark Other Federal Agencies, Literature Review, & Stakeholder Discussions**

- Summary of guidance from literature and practice (BSA priorities, literature review, benchmarking, internal and external stakeholder discussions)
- BSA priorities
- Literature review findings
- Benchmarking findings
- **Internal stakeholder discussions**
- **Space Grant Consortia Focus Groups/Flip Meeting**
- Expert Review Panel - External stakeholder discussions

### STEP THREE

**Finalized Candidate Performance Measures**

- **Recommended External and Internal Performance Measures, Data Collection Sources, Processes, and Tools to Capture and Report Performance Data**
- Recommended external and internal performance measures
- Data collection sources
- Data collection processes
- Data collection tools
- Assessing and analyzing performance data (including ERP procedure and scorecards)
- Reporting performance data
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National Council of Space Grant Directors’ Spring Meeting
Flip Session – “All Things Big”

Diane D. DeTroye

March 2, 2018
Mission-Driven • Strategic Engagement

Engage the nation in NASA's mission

Work of the Agency
<table>
<thead>
<tr>
<th>Campaign</th>
<th>Activity</th>
<th>Date(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Earth</td>
<td>60 Years of America in Space</td>
<td>January 2018</td>
</tr>
<tr>
<td>ISS</td>
<td>Commercial Crew Test Launches - SpaceX DM1 (2/18), Boeing OFT (6/18), SpaceX DM2 (6/18), Boeing CFT (8/18)</td>
<td>February – August 2018</td>
</tr>
<tr>
<td>ISS</td>
<td>Commercial Crew launch</td>
<td>November 2018</td>
</tr>
<tr>
<td>ISS</td>
<td>Commercial Crew launch</td>
<td>December 2018</td>
</tr>
<tr>
<td>Mars</td>
<td>InSight Landing on Mars</td>
<td>November 26, 2018</td>
</tr>
<tr>
<td>Mars</td>
<td>Green Run Engine test at Stennis Space Center</td>
<td>March 2019</td>
</tr>
<tr>
<td>SSAB</td>
<td>James Webb Space Telescope Launch</td>
<td>Spring 2019</td>
</tr>
<tr>
<td>SSAB</td>
<td>New Horizons KBO Flyby</td>
<td>January 1, 2019</td>
</tr>
<tr>
<td>Tech</td>
<td>NextSTEP habitat prototypes delivery to NASA</td>
<td>October 2018</td>
</tr>
<tr>
<td>Anniversary</td>
<td>NASA 60th anniversary</td>
<td>October 1, 2018</td>
</tr>
<tr>
<td>Anniversary</td>
<td>Apollo 11 50th anniversary</td>
<td>July 20, 2019</td>
</tr>
</tbody>
</table>
Apollo 50th Anniversary

• **Bookends**
  – Oct. 11, 2018, Apollo 7 launch anniversary
  – Dec. 19, 2022, Apollo 17 splashdown anniversary

• **Agency-level emphasis**
  – December 2018, Apollo 8 anniversary
  – July 20, 2019, Apollo 11 landing anniversary

• **Approach**
  – Emphasize forward-looking aspects of our work to return humans to the vicinity of the Moon to prepare for a journey to Mars
  – Leverage resources and capabilities of NASA’s friends to recount Apollo history
• **Human Exploration Beyond Low-Earth Orbit**
  – developing an innovative and sustainable program of space exploration with commercial and international partners that will enable human expansion across the Solar System
  – returning humans to the Moon for long-term exploration and utilization, to be followed by human missions to Mars and other destinations

• **Small Steps to Giant Leaps: Looking to the Future of NASA Innovation and Discovery**
  – Springboard from the upcoming anniversaries to focus ways that NASA is breaking ground for the future
  – NASA’s new Strategic Plan to expand human knowledge through new scientific discoveries and to develop revolutionary space technologies
## 2018-2022 NASA Strategic Plan Framework

<table>
<thead>
<tr>
<th>Theme</th>
<th>Strategic Goal</th>
<th>Strategic Objective</th>
</tr>
</thead>
</table>
| Discover    | Expand Human Knowledge Through New Scientific Discoveries                       | 1.1 Understand the Sun, Earth, Solar System, and Universe  
                                                      | 1.2 Understand Responses of Physical and Biological Systems to Spaceflight                                                                      |
| Explore     | Extend Continuous Human Presence Deeper into Space and to the Moon for          | 2.1 Lay the Foundation for America to Maintain a Constant Human Presence in Low-Earth Orbit Enabled by a Commercial Market                                  |
                                                      | Sustainable Long-Term Exploration and Utilization                                          | 2.2 Conduct Human Exploration in Deep Space, Including to the Surface of the Moon                                                                |
| Develop     | Address National Challenges and Catalyze Economic Growth                        | 3.1 Develop and Transfer Revolutionary Space Technologies to Enable Exploration Capabilities for NASA and the Nation                                      |
                                                      |                                                                                 | 3.2 Transform Aviation Through Revolutionary Technology Research, Development and Transfer                                                         |
                                                      |                                                                                 | **3.3 Inspire and Engage the Public in Aeronautics, Space, and Science**                                                                         |
| Enable      | Optimize Capabilities and Operations                                            | 4.1 Engage in Partnership Strategies                                                                                                               |
                                                      |                                                                                 | 4.2 Enable Space Access and Services                                                                                                              |
                                                      |                                                                                 | 4.3 Assure Safety and Mission Success                                                                                                             |
                                                      |                                                                                 | 4.4 Manage Human Capital                                                                                                                             |
                                                      |                                                                                 | 4.5 Ensure Enterprise Participation                                                                                                               |
                                                      |                                                                                 | 4.6 Sustain Infrastructure Capabilities and Operations                                                                                             |
Working Together – “All Things Big”

Building off of the successful example of the Eclipse Ballooning Project……

- **FINDING SYNERGIES:** Where could Space Grant investments and activities intersect with and contribute to the achievement of NASA’s priorities?
  - What collaborative efforts could be considered?
  - How could Space Grant contribute to a broader framework of NASA STEM Engagement?
  - *What steps should the Office of STEM Engagement take?*

- **LEVERGING Key Events**
  - What upcoming/future milestones/events/anniversaries are a “best fit” for Space Grant engagement/involvement/participation?
  - How do we ensure that we don’t miss an opportunity to plan and execute something great?

What would live at the intersection of your state needs/interests and NASA’s mission and direction?
NASA Community College Aerospace Scholars (NCAS) is an agency wide, MUREP-funded activity that engages community college students in NASA’s mission and encourages them to finish a 2-year degree or transfer to a 4-year university to pursue a STEM field or career.
Implementation

• Students learn about NASA missions and research in a 5-week non-credit online learning experience complete with quizzes, lectures, and a final project.

• The highest scoring students are invited to travel to one of ten NASA field centers for a four day engineering design workshop.

• Students experience NASA’s unique facilities, projects, and diverse workforce and learn what it is like to work as a STEM professional in the aerospace industry.
Upcoming Milestones

http://ncas.aerospacescholars.org

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<thead>
<tr>
<th>Fall 2018</th>
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<tbody>
<tr>
<td>Application Opens</td>
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<tr>
<td>Application Closes</td>
</tr>
<tr>
<td>Online Session</td>
</tr>
<tr>
<td>Onsite Student Selections</td>
</tr>
<tr>
<td>Onsite Workshops</td>
</tr>
</tbody>
</table>

Alicia Baturoni Cortez, Activity Manager
alicia.baturoni@nasa.gov
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To ask questions visit the address above