MUREP Overview
Torry Johnson, MUREP Manager
NASA HQ Office of STEM Engagement
Washington, DC
NASA Office of STEM Engagement

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

FOCUS AREAS
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.
MUREP at a Glance

At A Glance:
- Limited to Minority-Serving Institutions
- Responsive to Presidential Executive Orders
- Diverse Portfolio

Elements of Approach:
- Student Engagement Opportunities
- MSI Partnerships and Sustainability
- Mission Directorate Collaborations
- K-12 Engagement

Impact:
- Contribute to solving Mission Directorate problems
- Increased STEM Awareness
- Increase retention of Underserved and Underrepresented groups in STEM
- Enhance MSI infrastructure and sustainability
MUREP Vision

To enhance the research, academic and technology capabilities of Minority Serving Institutions (MSIs) to provide authentic learning experiences to students related to NASA missions to contribute to a diverse future STEM workforce.
MUREP at a Glance

FY 2019 MUREP Engagement

U.S. States and Territories with active MUREP Awards

Alaska
Guam
Hawaii
Puerto Rico
Virgin Islands
MUREP K-12 Engagement
MUREP Aerospace Academy (MAA)

MAA 2015 – 2018 Awards

• Nine Cooperative Agreements with MSIs
• Student Reach: 18,562
• Educator Reach: 2,291

MAA 2.0 FY 2018 Awards

• Albany State University
• California State University, Fresno
• Elizabeth City State University
• Navajo Technical College
• Tennessee State University
• Texas State University, San Marcos
• University of Texas at El Paso

MAA 2.0 FY 2019 Awards

• Florida Atlantic University
• Hartnell Community College
• Morgan State University
• San Jacinto Community College
• University of California, Riverside
• CUNY/ York College

POC: Priscilla Mobley, NASA Glenn Research Center
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At a Glance

MUREP Educator Professional Development Collaborative (EPDC)

Partnerships
- 15 MSI TEN Partners
- 117 Emerging Stars Partners

Digital Badging System
- 464 Badges earned this year;
- 4009 Professional Development Hours earned

Events
- 483 Events, including Webinars, Face to Face (on-site/off-site)

POC: Gina Blystone, NASA Langley Research Center
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Community College & Tribal College Engagement
At a Glance

**MAIANSE**
*MUREP for American Indian and Alaska Native STEM Engagement*

- **Student Engagement**
  - 237 Students from American Indian Serving Schools
  - Participated in NASA Internships and Fellowships from 2011-2018

- **Capacity Building**
  - 11 Cooperative Agreements
  - With Tribal Colleges and Universities across the US since 2014

- **Building Relationships**
  - 21 of 38 TCUs
  - Visited by MAIANSE staff

POC: Alicia Joseph, NASA Goddard Space Flight Center
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MUREP Innovations in Space Technology Curriculum (MISTC)

MISTC awards prepare, train and develop NASA’s future workforce through innovations in community college curriculum and experiential learning opportunities that are aligned with the priorities of NASA’s Space Technology Mission Directorate (STMD).

NEW COHORTS

Group 1: Bronx Community College, College of the Desert, Los Angeles Pierce College, Passaic County Community College, Prince George’s Community College

Group 2: Delgado Community College, Queensborough Community College

KEY OUTCOMES

- New and revised courses focused on areas of priority for NASA STMD
- Student internships at NASA Centers
- Increased research, teaching and learning capability in NASA related fields for community college MSIs

NASA PARTNERS

NASA Goddard Space Flight Center
NASA Jet Propulsion Laboratory
NASA Marshall Space Flight Center

POC: Roslyn Soto, NASA Jet Propulsion Laboratory
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Competitions
At a Glance

NASA on Campus
Evidence based engagement model developed at NASA to transform community college students’ STEM experience.

Becoming a Partner
Funding awarded to 2-year MSI institutions who partner with NCAS to provide the NASA on Campus experience through their state Space Grant.

Eligibility
- US Citizenship
- High school graduate or equivalent and at least 18 years of age
- Registered at a US community college during NCAS
- Completion of or enrollment in 9 or more semester hours or credits of STEM coursework

What’s Next for NCAS?
- First on-campus NCAS experience at the College of the Desert in one week.

Learn more at go.nasa.gov/ncas

POC: Alicia Baturoni Cortez, NASA Johnson Space Center
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At a Glance

MUREP Innovation & Tech Transfer Idea Competition (MITTIC)

Student Teams from MSIs:
- Selected a NASA Technology (IP) from a list of 20 options
- Developed a concept paper highlighting commercial viability
- Submitted the concept paper via NSPIRES for competitive review

After Competitive Review:
- 10 teams were down-selected to compete in a “Space Tank” & participate in private tours at JSC
- One winning team was selected by judges to participate in an immersion at ARC & in Silicon Valley.

Winner

El Camino College
Torrance, CA

10 Finalist Teams Visited JSC

POCS: Misti Moore, NASA Johnson Space Center
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Roderick Chappell, NASA Johnson Space Center
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https://microgravityuniversity.jsc.nasa.gov/nasamittic.cfm
Research Capacity and Infrastructure at MSIs
MUREP Institutional Research Opportunity (MIRO)

- **Promote** institutional research capacity at Minority Serving Institutions
- **Increase** workforce diversity
- **Expand** Aerospace Research
- **Strengthen** STEM skills

POC: Dave Berger, NASA Armstrong Flight Research Center
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At a Glance

MIRO Cooperative Agreements

- $3 million total per institution
- 3 year awards
- NASA Center Collaborator
- Academic Partner
- External Advisory Committee
- Technical and Education Subject Matter Experts
- MIRO Team

POC: Dave Berger, NASA Armstrong Flight Research Center
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At a Glance

MIRO Awardees

POC: Dave Berger, NASA Armstrong Flight Research Center
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Sustainability
At a Glance

MUREP for Sustainability and Innovation Collaborative (MUSIC)

74 MSIs
57 HBCUs, 12 HSIs, 3 ANAPISIs, 2 TCUs participated in MUSIC activities.

Institutional Capacity
MUSIC is collaborative. What's Exciting? Increasing MSI's capacity to compete for federal funds.

Access and Exposure
259 participants
MUSIC interacted with 259 participants through webinars and workshops.

MUSIC participant Alabama A&M University was selected for a 2019 NASA SBIR/STTR award.

POC: Clarence Bostic, NASA Langley Research Center
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MUREP Aerospace High Volume Manufacturing and Supply Chain Management Cooperative

Proposal deadline is August 23rd. Solicitation may be found [https://nspires.nasaprs.com](https://nspires.nasaprs.com)

ARMD Mission Work
Addresses mission framework needs by introducing new high volume, aerospace manufacturing networks.

50+
Proposals from MSI Led Teams in US States and Territories
MSIs should develop diverse teams of schools, industry and gov’t.

Up to $500k/award
3 Awards planned
Based on proposals of adequate merit.

POC: Clarence Bostic, NASA Langley Research Center
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At a Glance

MUREP Sustainability Initiative
Supports capacity building at MSIs by increasing awareness of NASA and non-NASA opportunities.

Internal / External Partnerships
Aligned to Mission Directorate Needs and NASA Offices

135
HBCUs, HSIs, TCU
AANAPISIS, PBIs, ANNHSI, NASNIs

26
Engagement Activities
U.S. and US Territories

POC: Rod Chappell, NASA Langley Research Center
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MUREP Sustainability Initiative
Supports capacity building at MSIs by increasing awareness of NASA and non-NASA opportunities.

700+ MSIs
All Minority Serving Institutions
HBCUs, HSIs, TCUs
AANAPISIs, PBIs,
ANNHSIs, NASNIs

100+
Capability Statements
University Research Centers and Expertise

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MUREP At Work
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