NASA Mission Directorates

Science Mission Directorate
Dr. Thomas Zurbuchen, Associate Administrator

Space Technology Mission Directorate
Steve Jurcyzk, Associate Administrator

Human Exploration and Operations
William Gerstenmaier, Associate Administrator

Aeronautics Research Mission Directorate
Dr. Jaiwon Shin, Associate Administrator
ARMD is responsible for NASA’s aeronautical research, which benefits the commercial, military, and general aviation sectors. ARMD is involved in the creation of the Next Generation Air Transportation System (NextGen)

https://www.nasa.gov/aeroresearch
Human Exploration and Operations
William Gerstenmaier, Associate Administrator

HEO provides the Agency with leadership and management of NASA space operations related to human exploration in and beyond low-Earth orbit.

https://www.nasa.gov/directorates/heo/
Science Mission Directorate
Dr. Thomas Zurbuchen, Associate Administrator

SMD engages the United States’ science community, sponsors scientific research, and develops and deploys satellites and probes in collaboration with NASA’s partners around the world to answer fundamental questions requiring the view from and into space.

https://science.nasa.gov
Space Technology Mission Directorate
Steve Jurcyzk, Associate Administrator

STMD is responsible for developing the crosscutting, pioneering, new technologies and capabilities needed by the agency to achieve its current and future missions.

https://www.nasa.gov/directorates/spacetech/home
NASA Office of Education Budget Structure

NASA’s Office of Education consist of two programs and four projects:

<table>
<thead>
<tr>
<th>Aerospace Research and Career Development (ARCD) Program</th>
<th>HQ Manager</th>
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<tbody>
<tr>
<td>National Space Grant College and Fellowship Program (Space Grant)</td>
<td>Joeletta Patrick</td>
</tr>
<tr>
<td>Experimental Program to Stimulate Competitive Research (EPSCoR)</td>
<td>Joeletta Patrick/ Jeppie Compton</td>
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<table>
<thead>
<tr>
<th>STEM Education and Accountability (SEA) Program</th>
<th>HQ Manager</th>
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<tbody>
<tr>
<td>STEM Education and Accountability Project (SEAP)</td>
<td>Diane DeTroye</td>
</tr>
<tr>
<td>Minority University Research and Education Project (MUREP)</td>
<td>Joeletta Patrick</td>
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Our Mission

To enhance the research, academic and technology capabilities of Minority Serving Institutions by providing authentic learning experiences related to NASA missions to contribute to a diverse future STEM workforce.
Underrepresentation of Minorities in STEM Careers in the U.S.  
*(Science, Technology, Engineering, & Mathematics)*
Workers in science and engineering occupations

In 2015, women and some minority groups were represented less in science and engineering (S&E) occupations than they were in the U.S. general population.

**S&E Occupations**

- 49%
- 18%
- 14%
- 7%
- 3%
- 2%
- 2%

**U.S. Population**

- 31%
- 31%
- 3%
- 3%
- 6%
- 7%
- 9%
- 8%
- 3%

MUREP is established to increase NASA’s responsiveness to federal mandates related to Minority Serving Institutions (MSIs) and underrepresented and underserved communities, including women, girls, persons with disabilities and veterans.

- **EO 13779:** Historically Black Colleges and Universities (HBCUs)
- **EO 13592:** Tribal Colleges and Universities (TCUs)/American Indian and Alaskan Native Serving Institutions (AIANSI)
- **EO 13555:** Hispanic Serving Institutions (HSIs)
- **EO 13515:** Asian American and Native American Pacific Islander – Serving Institutions (AANAPISIs)
- **EO 13621:** Predominantly Black Institutions (PBIs)
<table>
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<tr>
<th>Activity</th>
<th>Center</th>
<th>Lead</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Aeronautics Scholarship and Advanced STEM Training and Research Fellowships (AS &amp; ASTAR) [MUREP Funded]</td>
<td>ARC</td>
<td>Elizabeth Cartier</td>
</tr>
<tr>
<td>2. Earth System, Technology and Energy Education for MUREP (ESTEEM)</td>
<td>GSFC</td>
<td>Torry Johnson</td>
</tr>
<tr>
<td>3. Educator Professional Development Collaboration (EPDC) [for NASA Ed]</td>
<td>LaRC</td>
<td>Gina Blystone</td>
</tr>
<tr>
<td>4. Internships [MUREP Funded]</td>
<td>JSC</td>
<td>Veronica Seyl</td>
</tr>
<tr>
<td>5. MUREP Aerospace Academy (MAA)</td>
<td>GRC</td>
<td>Priscilla Mobley</td>
</tr>
<tr>
<td>6. MUREP Community College Curriculum Improvement (MC3I)</td>
<td>JPL</td>
<td>Roslyn Soto</td>
</tr>
<tr>
<td>7. MUREP Educator Institutes (MEI)</td>
<td>SSC</td>
<td>Kelly Martin-Rivers</td>
</tr>
<tr>
<td>8. MUREP for American Indian and Alaskan Native STEM Engagement (MAIANSE)</td>
<td>GSFC</td>
<td>Torry Johnson</td>
</tr>
<tr>
<td>9. MUREP Institutional Research Opportunity (MIRO)</td>
<td>AFRC</td>
<td>Dave Berger</td>
</tr>
<tr>
<td>10. MUREP Other Opportunities (MOO)</td>
<td>JSC</td>
<td>Misti Moore</td>
</tr>
<tr>
<td>11. MUREP STEM Engagement (MSE)</td>
<td>KSC</td>
<td>Theresa Martinez</td>
</tr>
<tr>
<td>12. NASA Community College Aerospace Scholars (NCAS) [MUREP Funded]</td>
<td>JSC</td>
<td>Alicia Baturoni Cortez</td>
</tr>
<tr>
<td>13. MSI Conference Support</td>
<td>Varied</td>
<td>Varied</td>
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Unfocused Grant Making

Old MUREP

Minority Serving Institutions

MUREP Education Opportunities in NASA STEM (EONS)

NASA’s Mission Directorates

Appreciation
Anticipation
Expectation
Entitlement
Dependency
Unsustainable

“Maybe it’s time to ditch the balanced portfolio and focus on outcomes” – Robert Lupton
New MUREP Engagement

NASA Mission Directorates

- Student Opportunities
- MSI Partnerships and Sustainability
- Mission Directorate Collaborations
- K-12 Engagement

- Contribute to solving Mission Directorate problems
- Increased STEM Awareness
- Increase retention of Underserved and Underrepresented groups in STEM
- Enhance MSI infrastructure
- Enable MSI sustainability
Best Practices - University Partnership

• MUREP Institutional Research Opportunity (MIRO)
  – Competitive Solicitation
  – Up to $1,000,000 a year for 5 years
  – strengthen institutional infrastructure
  – expand research and educational programming
  – position institutions for partnerships to acquire additional funds
• Multiple Funding Sources
  – Institutional funding
  – Contractor funding from industry, research institutes, and as a subcontractor for other higher education institutions
• Students, faculty, stakeholders, institutional leadership, and staff are fully engaged in planning and implementation
• Strong relationships with partners
  – Periodic meetings, collaborative decision making, collective work, shared responsibility, healthy communications, etc.
  – Research collaboration to support missions of industry, research institutes, and government agencies.
• Quality Communication Plan for the Center
  – website, social media, publications, etc.
• Sustainable Research Center
  – Business model and organizational structure
• Evaluation
  – Identifying strengths and weaknesses, check against standards, academic program accreditation, student assessment, program evaluation, etc.
• Program pipeline of K-12 and higher education students prepared for STEM degree attainment and workforce placement can be facilitated and supported
• Multiple Funding Sources

2009-2015

- NASA MIRO: 5 M
- DOE: 3 M
- DoEducation: 3 M
- Other NASA Sources: 2 M
- MDA: 521K
- DOD: 408K
- NSF: 569K
- Others: 806K

Inspire Engage, Educate, Employ.
How to get started

• Outline your Goals and Target Audience
  – Students, Faculty, Institutions
• Listening Session with the Stakeholders
• Create Win-Win Scenarios
• One size does not fit ALL
• Evidence-Based Practices
• It’s a Process/Investment
• Register in NSPIRES
• Search for EONS (see flyer)
Recommended Quick Wins

• Students
  – Internships (funded or unfunded)
• Student-Faculty teams
• 2-page White Papers
• Invite faculty to be reviewers
• Meet with the White House Initiative on HBCUs
• Connect with Space Grant Consortia in your state
Contact MUREP at HQ

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