

## NASA Advisory Council Recommendation

### Building Research Capabilities and Infrastructure at Minority Serving Institutions

2002-01-06

**Name of Committee:** STEM Engagement Committee

**Chair of Committee:** Mr. Daniel Dumbacher

**Date of Council Public Deliberation:** March 1, 2022

**Short Title of Recommendation:** Building Research Capabilities and Infrastructure at Minority Serving Institutions

#### **Recommendation:**

The Council recommends that the NASA Administrator and NASA Mission Directorates, along with the NASA Office of Procurement, should ensure that NASA assists building research capabilities and infrastructure at Minority Serving Institutions (MSIs).

#### **Major Reasons for the Recommendation:**

This will enable MSIs to be competitive and successful in contributing to NASA's work and help build a strong K-12 pipeline of interest and engagement.

#### **Consequences of No Action on the Recommendation:**

Lack of coordination impedes NASA's capability to build a diverse workforce for the future.

#### **NASA Response:**

NASA concurs with the recommendation to assist building research capabilities and infrastructure at MSIs. In FY 2021, the Office of STEM Engagement (OSTEM) provided 34 new awards to MSIs (in direct collaboration and alignment with the Mission Directorates) through awards such as: the Minority University Research and Education Program (MUREP) Institutional Research Opportunity; MUREP Innovation and Tech Transfer Idea Competition; MUREP Aerospace High Volume Manufacturing and Supply Chain; and MUREP Partnering to Advance Capacity and Technology. OSTEM also issued six new MUREP INCLUDES awards with a focus on broadening participation in engineering and awarded \$6.6M to ten MSIs in partnership with the Science Mission Directorate (SMD) through MUREP Ocean Biology and Biogeochemistry (OCEAN) awards to build capacity for MSIs to participate in NASA's SMD Earth Science research opportunities.

Additionally, the Aeronautics Research Mission Directorate's (ARMD) University Leadership Initiative (ULI) provides the opportunity for university teams to exercise

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technical and organizational leadership in proposing unique technical challenges, defining interdisciplinary solutions, and applying innovative teaming strategies that include teaming with MSIs to strengthen the research impact. In five rounds over the past few years, ULI has awarded \$157M to multiple university teams. Of the 66 universities, 23 of them are MSIs – nine of which are Historically Black Colleges and Universities. Nearly 35 percent of all participating universities in ULI are MSIs. Many of these MSIs are first-time awardees or sub-awardees from ARMD, thereby increasing the aeronautics research ecosystem in the United States. NASA ARMD also supports the University Students Research Challenge (USRC). USRC seeks to develop novel concepts with the potential to create new capabilities in aeronautics by stimulating aeronautics research in the United States student community. In four rounds, USRC has funded 19 student teams from various universities of whom five are MSI student teams, about 26 percent of the total.

As recommended by both the NASA Advisory Council (NAC) and a recent National Academies of Science, Engineering, and Medicine report, *Advancing Diversity, Equity, Inclusion and Accessibility in the Leadership of Competed Space Missions*, OSTEM will continue to coordinate efforts with NASA's SMD to enable MSIs to be competitive and successful in contributing to NASA's work. Furthermore, OSTEM has efforts to evaluate investments in university research capabilities and infrastructure, particularly as they support efforts to build a diverse future science, technology, engineering, and mathematics (STEM) workforce. OSTEM will provide a report to the NAC STEM Engagement Committee regarding the study's findings.