



INSPIRE - ENGAGE - EDUCATE - EMPLOY

The Next Generation of Explorers



NASA OFFICE OF STEM ENGAGEMENT

MIKE KINCAID, ASSOCIATE ADMINISTRATOR,
OFFICE OF STEM ENGAGEMENT

TORRY JOHNSON, MANAGER, MINORITY UNIVERSITY
RESEARCH AND EDUCATION PROJECT (MUREP)

NASA'S MINORITY UNIVERSITY RESEARCH AND EDUCATION PROJECT (MUREP)

FOCUS AREAS



Create **unique opportunities** for students 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 **understanding of STEM** by enabling **powerful connections** to NASA's mission and work.



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PURPOSE

AGENCY RESPONSE TO FEDERAL EXECUTIVE ORDERS FOR MINORITY SERVING INSTITUTIONS (MSIs)

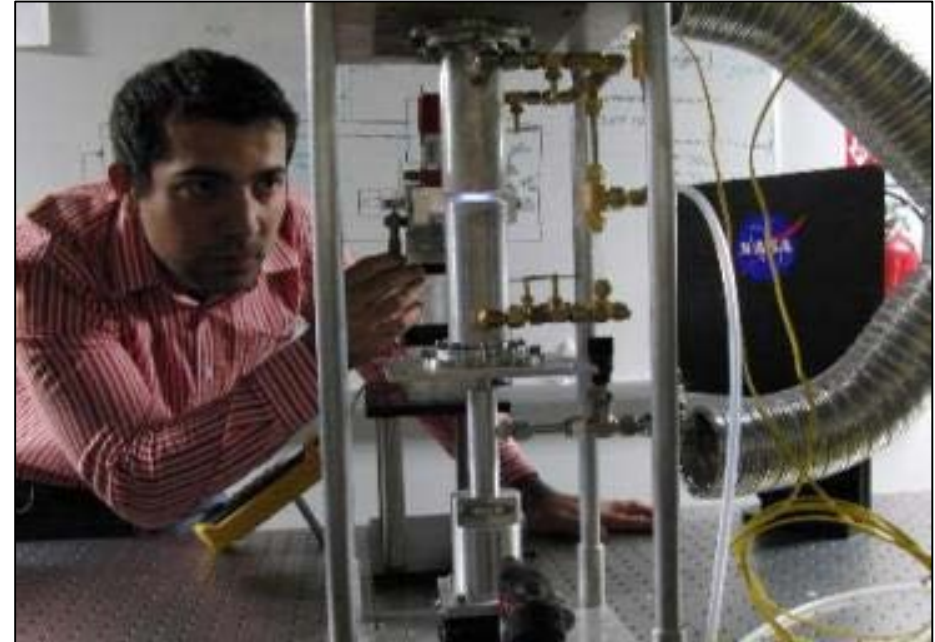
MUREP is established to **increase NASA's responsiveness to federal mandates** related to MSIs and underrepresented and underserved communities, including women, girls, persons with disabilities and veterans.

- ❑ **EO 13779:** Historically Black Colleges and Universities (HBCUs)
- ❑ **EO 13592:** Tribal Colleges and Universities (TCUs)
- ❑ **EO 13555:** Hispanic Serving Institutions (HSIs)
- ❑ **EO 13515:** Asian American and Native American Pacific Islander – Serving Institutions (AANAPISIs)
- ❑ **EO 13621:** Predominantly Black Institutions (PBIs)



VISION

To enhance the research, academic and technological capabilities at MSIs by providing authentic student learning experiences related to NASA missions that contribute to a **Diverse Future STEM Workforce.**

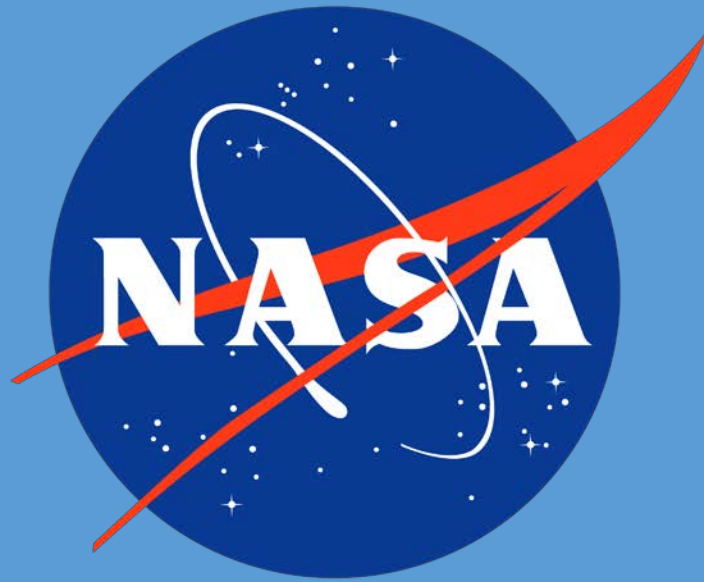


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CURRENT AREAS OF INVESTMENT



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K-12 ENGAGEMENT & TEACHER PREPARATION

MUREP AEROSPACE ACADEMY (MAA)

Designed to increase participation and retention of historically underserved and underrepresented K-12 youth in STEM.

- Authentic STEM Experiences
- Technology Rich Environments
- Family Involvement



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MUREP EDUCATOR PROFESSIONAL DEVELOPMENT (EPDC)

Face-to-face and online professional development opportunities & NASA resources for educators in K-12, university and community settings.

Partnerships

15 MSI TEN Partners
117 Emerging Stars Partners

Digital Badging System

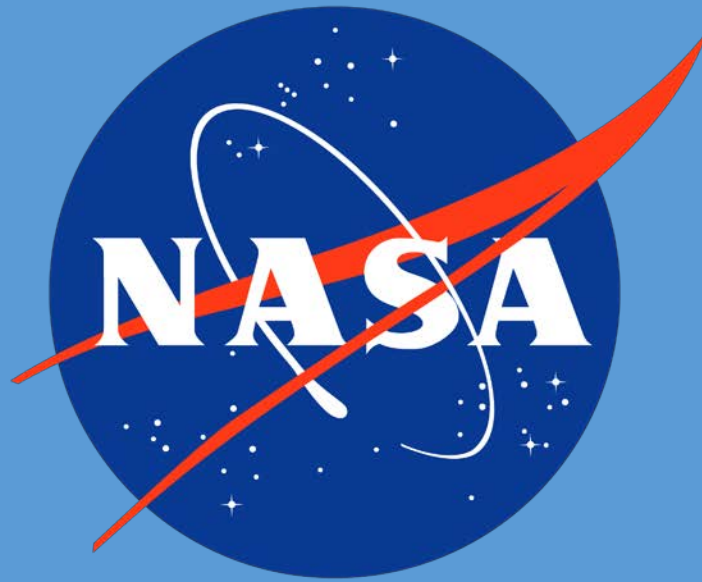
464 Badges earned this year; 4009 Professional Development Hours earned

Events

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



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STUDENT EXPERIENTIAL LEARNING

MUREP INNOVATION & TECH TRANSFER IDEA COMPETITION (MITTIC)

Higher education spinoff challenge established to develop new ideas for commercialization by seeking concept papers/business plans from multidisciplinary student teams at MSIs.

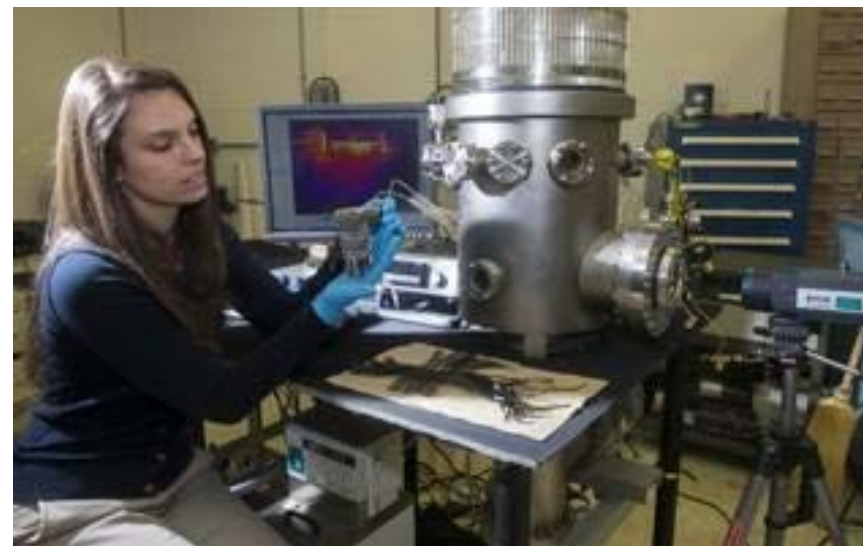
- MSI teams partner with NASA Small Business Companies.
- Space Tank Competition ‘Lightning Pitch’ of business concept to a panel of judges.
- Winning team awarded travel funds to present business concept at Ames Research Center and various companies in Silicon Valley.



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NASA FELLOWSHIP ACTIVITY

- **Student-authored** and independently conceived graduate research proposals
- Designed to provide academic institutions the ability to **enhance graduate-level learning and development.**
- Funds support graduate students at a level that **allows the students to fully concentrate on academic and research proficiency** without the need to seek employment.

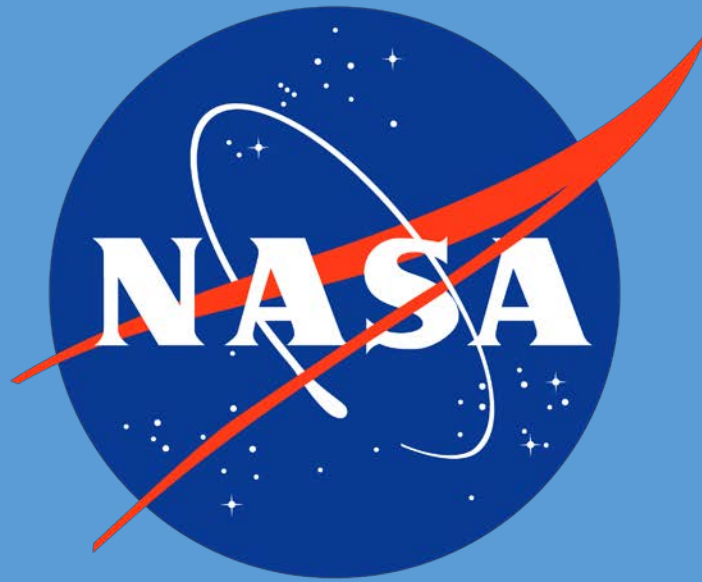


Pre-Proposal Teleconference
February 2021
(see NSPIRES for details)

Proposals due **February 2021** at
<https://nspires.nasaprs.com>



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COMMUNITY COLLEGE & TRIBAL COLLEGE ENGAGEMENT

MUREP INNOVATIONS IN SPACE TECHNOLOGY CURRICULUM (MISTC)

Designed to prepare, train and develop NASA's future workforce through innovations in Community College curriculum and experiential learning opportunities.

New and revised courses focused on areas of priority for NASA's Space Technology Mission Directorate (**STMD**)

Student internships at NASA Centers

Increased research, teaching and learning capability in NASA related fields for community college MSIs



MUREP FOR AMERICAN INDIAN & ALASKA NATIVE STEM ENGAGEMENT (MAIANSE)

Designed to increase American Indian and Alaska Native engagement in STEM through authentic and unique NASA experiences.



Capacity building at Tribal Colleges and Universities

Strategic Partnerships

- AIHEC
- AISES
- NOAA
- NSF
- Bureau of Indian Affairs

Student Engagement

- Internships
- National Conferences



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NASA COMMUNITY COLLEGE AEROSPACE SCHOLARS (NCAS)

Designed to engage community college students in NASA's mission and encourage students to pursue a two-year degree or transfer to a four-year university to pursue a STEM field or career.



DIVERSITY

- NCAS creates powerful connections to NASA's mission, people, and facilities through authentic learning experiences.

WORKFORCE

- NCAS inspires underrepresented students to pursue their academic and professional goals and identify as future leaders and STEM professionals.

PIPELINE

- Over 150 NASA internships have been awarded to NCAS alumni since 2014.

KEY COLLABORATIONS

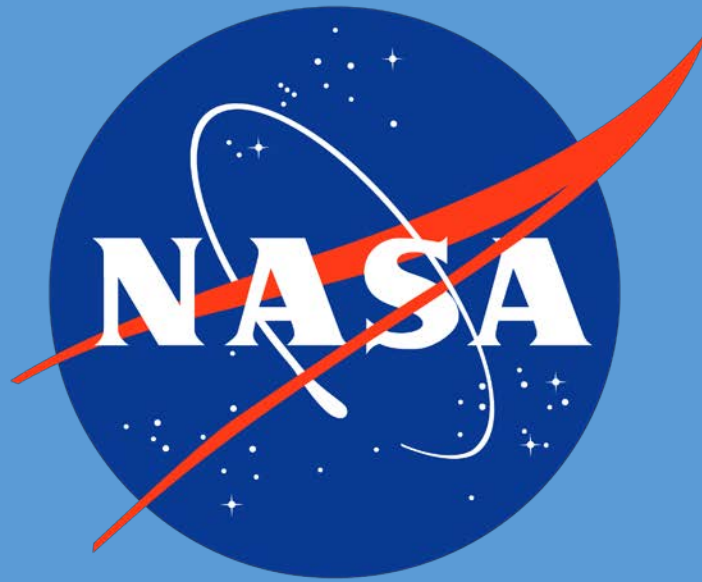
- Minority Serving Space Grant Institutions
- NASA Internships for NCAS Alumni

GROWTH

- Seeking new MSI Space Grant Affiliates interested in bringing NCAS to their community college campus.



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RESEARCH INFRASTRUCTURE & CAPACITY BUILDING

MUREP INSTITUTIONAL RESEARCH OPPORTUNITY (MIRO)

Established to strengthen and develop the research capacity and infrastructure of MSIs

- **Expand Aerospace R&D**
- **Promote MSI Research Capacity**
- **Strengthen Skills in NASA Priority Areas**



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MUREP AEROSPACE HIGH VOLUME MANUFACTURING & SUPPLY CHAIN COOPERATIVE

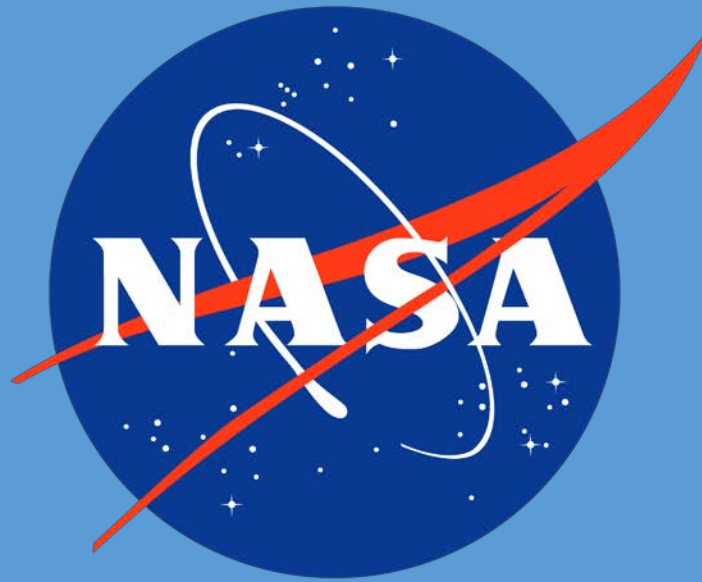


Established to address the need for a high-volume manufacturing and supply chain ecosystem in aerospace and future needs of manufacturing ecosystems

- Addresses NASA's Aeronautics Mission Directorate (ARMD) framework needs by introducing new high volume, aerospace manufacturing networks.
- Aligned with NASA and Industry high-volume manufacturing and supply chain ecosystem needs for national competitiveness.
- Supports the development of entrepreneurship and commercialization by guiding students to become leaders and entrepreneurs.



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PARTNERSHIPS & SUSTAINABILITY

MUREP FOR SUSTAINABILITY & INNOVATION COLLABORATIVE (MUSIC)

Designed to provide workshops and training materials that establish sustainable training and support for MSIs that desire to develop capacity through competition for federal funds.



74 MSIs

57 HBCUs, 12 HSI, 3 AANAPISIs, 2 TCUs participated in MUSIC activities.

Institutional Capacity

Increasing capacity of MSIs to compete for federal funds.

Access & Exposure

MUSIC interacted with 259 participants in FY2019 through webinars and workshops.

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



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WHERE TO FIND STUDENT FUNDING OPPORTUNITIES

<https://intern.nasa.gov>

NASA STEM Engagement

National Aeronautics and
Space Administration



Fall 2020 Application Deadline: July 6

Apply For An Internship Today!

Summer 2020 Application Deadline: March 8

INTERN

Being an astronaut isn't the only cool thing about space. Interns use their creativity and innovation to work on projects impacting NASA's mission, such as returning to the Moon by 2024. As a NASA intern, you will be part of an amazing team that is dedicated to space exploration. You will work with leading experts and gain valuable experience as you participate in research and mission projects. Come dream with us and change the future.

CLICK HERE TO APPLY TODAY!



Connect with NASA Internships

Attention Puerto Rican applicants:

Please contact: [NASA-Intern-Inquiries Help Desk](#).



EXPLORE NASA INTERNSHIPS

- > Opportunities / Projects
- > Meet Our Interns
- > Virtual Career Fair

"EVERY DAY YOU ARE A PART OF A BIGGER MISSION, A BIGGER PLAN, SOMETHING THAT YOU NEVER THOUGHT YOU WOULD BE CAPABLE OF ACHIEVING." – ISABELLA (INTERN), AMES RESEARCH CENTER



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WHERE TO FIND MUREP FUNDING OPPORTUNITIES

ENGAGEMENT OPPORTUNITIES IN NASA STEM (EONS)

<https://nspires.nasaprs>

**Welcome to
NASA Solicitation and Proposal Integrated Review and Evaluation System**

NASA Research Opportunities | Registration Information

Supporting research in science and technology is an important part of NASA's overall mission. NASA solicits this research through the release of various research announcements in a wide range of science and technology disciplines. NASA uses a peer review process to evaluate and select research proposals submitted in response to these research announcements. Researchers can help NASA achieve national research objectives by submitting research proposals and conducting awarded research.

Solicitations

Member Login

Username

Password

Login

Forgot Password?

CONTACT MUREP AT HQ

Torry Johnson
MUREP Manager
NASA Headquarters
Washington, DC
202.358.5217
torry.johnson@nasa.gov

For general inquiries, contact:
hq-murep@mail.nasa.gov

Daesha Roberts
MUREP Specialist
NASA Headquarters
Washington, DC
202.358.2778
daesha.d.roberts@nasa.gov



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THANK YOU!