

# Building America's Scientific Workforce – Increasing Engagement With HBCUs

Jim Olthoff, ADLP, Performing Duties of the NIST  
Director

Morgan State University Town Hall: Supporting STEM  
at MSU and Other HBCUs

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# NIST Working to Ensure U.S. Technological Leadership in the Industries of the Future



In addition to maintaining all U.S. measurement standards, NIST performs fundamental research with direct connections to U.S. industry



## Quantum Science

New quantum networking grand challenge will build on NIST world-leading science, while NIST expands industry partnerships in the Quantum Economic Development Consortium



## Artificial Intelligence

Leading efforts to prioritize and address key AI standards needs while developing training and testing tools for research domains from materials science to robotics



## Advanced Communications/5G

AI-enabled measurement systems to support wide deployment of 5G wireless technologies, Participating and leading in 5G standards development



## Advanced Manufacturing

Providing technical support and key infrastructure to the nation's manufacturing industries as they strive to out-innovate global competitors



## Engineering Biology

Living Systems Foundry for safe, predictable design and control of biological systems



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“America’s diversity is a great strength. Leveraging that strength by broadening participation in the U.S. science and engineering enterprise will be crucial to fostering individual opportunity and a thriving economy.”

*-National Science Board Vision 2030*

NIST is seeking to expand engagement with HBCUs, their students, and alumni to help solve America’s most pressing scientific and technological challenges

Grow the  
pipeline

Build  
inclusivity  
and equity

Be more  
strategic

# NIST engagements with HBCUs

- Employee Resource Group:
  - NIST Association for Black Staff events
    - STEM at HBCUs, 2020
    - NABS Research Showcase, 2021
- Career Fair Exhibition
  - Tennessee State University, Howard University, Bowie State University, Savannah State University, Fayetteville State University, North Carolina A&T, University of District of Columbia, Morgan State University
- Speaking Engagement
  - Tuskegee University, Hampton University, Howard University, Tennessee State University, Alabama A&M University, University of Maryland Eastern Shore, Prairie View University, Texas Southern University, Dillard University
- Recruitment at Professional Conferences:
  - NOBCChE, NSBP, ERN, NSBE, HBCU Week at the White House, BEYA



# Professional Research Experience Program (PREP)



\$1.6 million at HBCUs



17 Researchers



10 Graduate level



4 Undergraduates



2 Research Faculty



Collaborative research relationship between NIST and U.S. institutions of higher education in a variety of STEM disciplines. Applicants must be affiliated with a participating university.



Stipend and other benefits depending on researcher category: undergraduates, post-bachelor's degree, graduate students, master's degree holders, postdocs, research faculty.



For more information:

<https://www.nist.gov/iaao/academic-affairs-office/nist-professional-research-experience-program-prep>



# Other Academic Programs to Engage with HBCU Students

# Summer Undergraduate Research Fellowship Program (SURF)



## SURF benefits:

- \$6000 stipend for an 11-week fellowship
- Housing and travel subsidy; local commuting subsidy
- Invaluable connections and experience for graduate school or a career in STEM
- Seminars from world-class researchers, lab tours, Capitol Hill visits, and other one-of-a-kind opportunities throughout the summer



Connect with other STEM students from across the country in 11 weeks of hands-on research and mentoring in NIST laboratories. Originally established for engagement with MSIs.



Eligibility: US citizen, STEM undergraduate, good academic standing, considering graduate school or career in STEM. Apply through USAJOBS.gov, typically in early December.



For more information:

<https://www.nist.gov/summer-undergraduate-research-fellowship-surf>

# Graduate Student Measurement Science and Engineering (GMSE) Fellowship Program



## GMSE benefits:

- \$20,000 annual stipend, tuition coverage, and summer salary at NIST
- Over 100 participating universities
- Invaluable connections and experience, links between university research groups and NIST



Graduate level internship with flexible timeframes, ranging from a single summer to an entire graduate research program. Partnership with the Graduate Fellowships for STEM Diversity (GFSD).



Eligibility: U.S. citizenship, accepted at a participating GFSD-member school, in a full-time program for a graduate degree in physical sciences or related engineering fields. Typically apply starting in August:

<https://stemfellowships.org/applicants/>



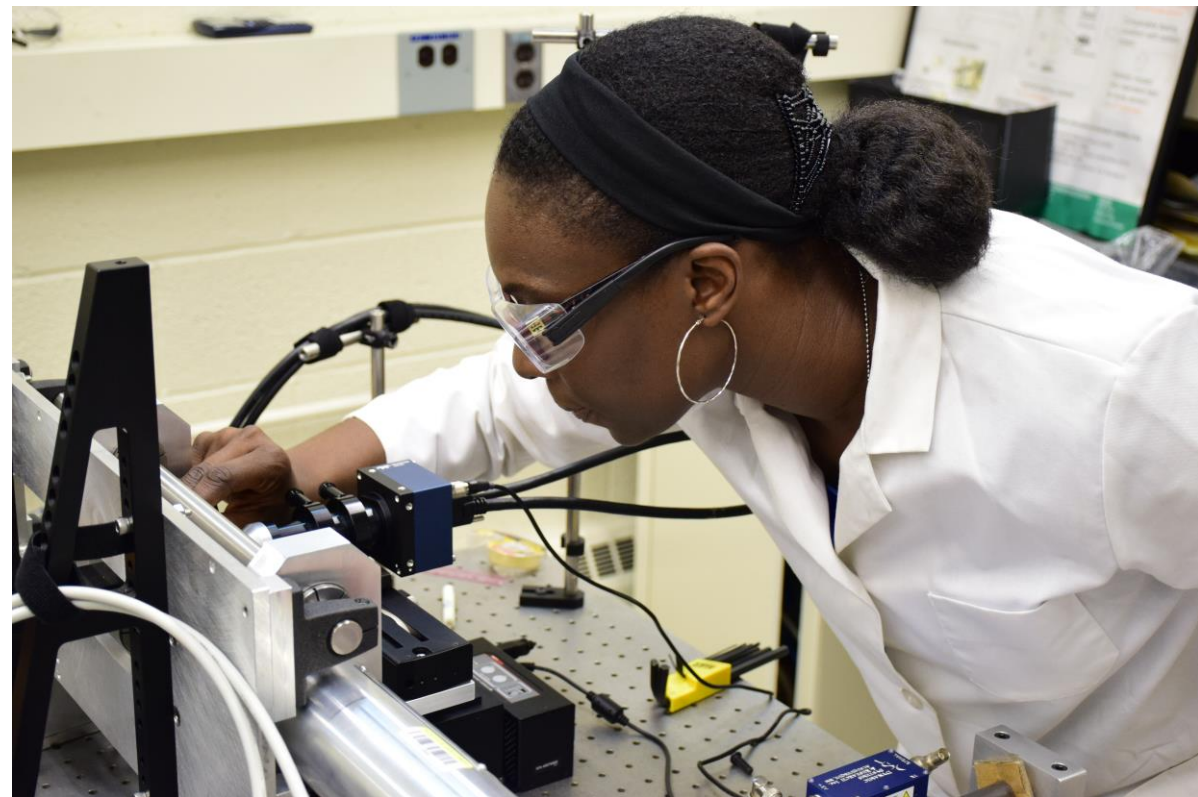
For more information:

<https://www.nist.gov/iaao/academic-affairs-office/nist-graduate-student-measurement-science-and-engineering-gmse>



# NRC Postdoctoral Research Associateship Program

NIST



Two-year temporary appointments for outstanding scientists and engineers. Awardees chosen through a national competition administered by the National Research Council of the National Academy of Sciences.



Annual Salary of ~\$72,750, plus \$3k travel. Bi-annual competitive program (February and August) with a limit of 120 slots per year. Awardees must be US citizens, and have held their Ph.D. less than five years at time of application. To apply:

<http://sites.nationalacademies.org/pga/rap/>



For more information:

<https://www.nist.gov/iaao/academic-affairs-office/nist-nrc-postdoctoral-research-associateships-program>

# NIST Grant Opportunities



- The NIST Measurement Science and Engineering Grant Programs provide grants for research in areas relevant to the NIST mission, including topics as diverse as cybersecurity, robotics, fire research, and chemical and physical sciences
- Details may be found by visiting <https://www.grants.gov/> and searching for NIST

# STAY IN TOUCH

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## CONTACT US

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