

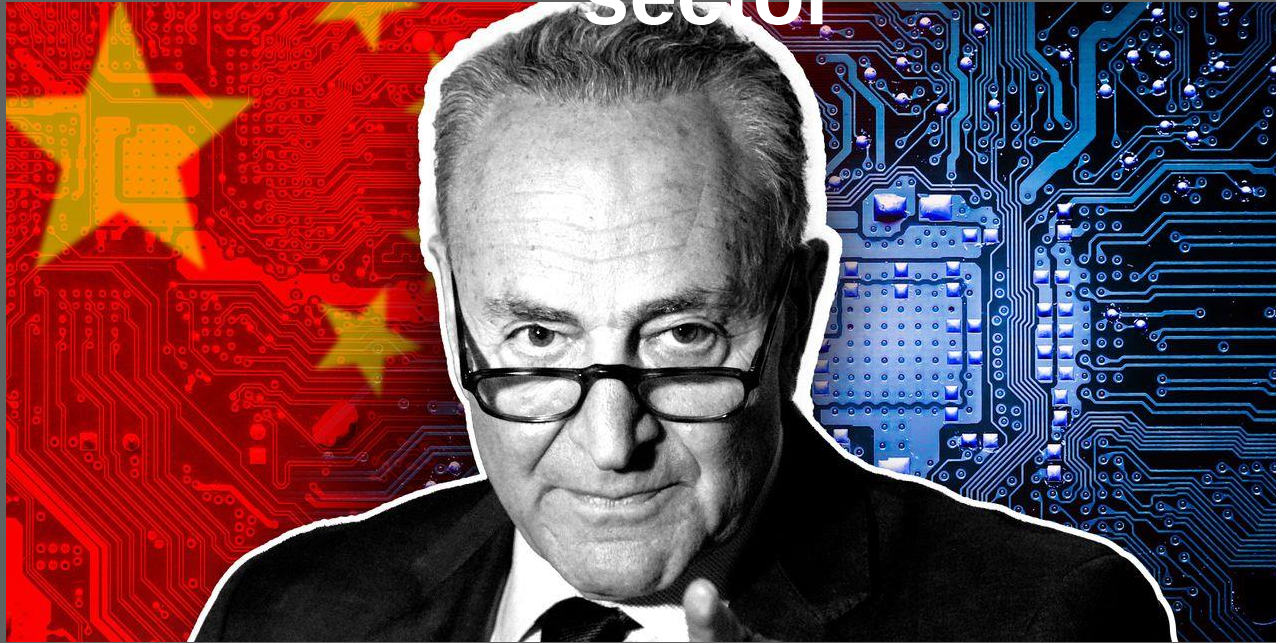
HBCU-UARC Partnerships: ***Opening New Avenues of Innovation for DoD***

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UNIVERSITY ^{OF THE}
DISTRICT OF
COLUMBIA
— 1851

A CALL TO ACTION!

US Senate passes bill aimed at countering China's tech sector



Provisions of the Bill – Opportunities for HBCUs

- Establishes University Technology Centers for Industries of Tomorrow
- Increased funding for Community Colleges
- Establishes a Technology Directorate in NSF
- Targets 'emerging research' HBCUs to increase research capacity

UDC at Glance – DC's only Public HBCU

University Identity

- HBCU/1862 Land Grant
- 3 Urban Campuses
- ABET Engineering program
- Emerging Research Institution “R2 by 2024”
- ***‘DC Government’s Research Laboratory’***

Research Strengths/Assets

- Advanced Manufacturing
- Biomedical Engineering
- STEM Education
- Urban Farming/Aquaponics
- 143 Acre Farm
- Aviation Maintenance @DCA
- Water Resource Research Lab
- Machine Learning/Cyber

Current DoD-UARC Activities

ARL-PSU

- MOU signed 2019
- Student resume class @ UDC
- Remote instrumentation access



PennState
Applied Research Laboratory

ARLIS-UMD

- Equal member of Research Consortium
- Awarded funding for ML & chatbox
- On-site meetings & strategy sessions



APPLIED RESEARCH LABORATORY FOR
**INTELLIGENCE
AND SECURITY**

APL-JHU

- Summer interns & full-time hires
- APL staff on UDC advisory boards
- Joint proposal submission (NIH)



JOHNS HOPKINS
APPLIED PHYSICS LABORATORY

Current DoD/IC Activities

Navy

- NSWC – Carderock EPA: Materials
- NSWC – Dahlgren EPA: Programming
- ONR – Additive Manufacturing/ML



NSA

- 2-year grant to develop COE in Cybersecurity for MS degree in Cyber



Army

- ARO: COE for Acoustic & Seismic Sensing
- WRNMMC – EPA: Biomechanics



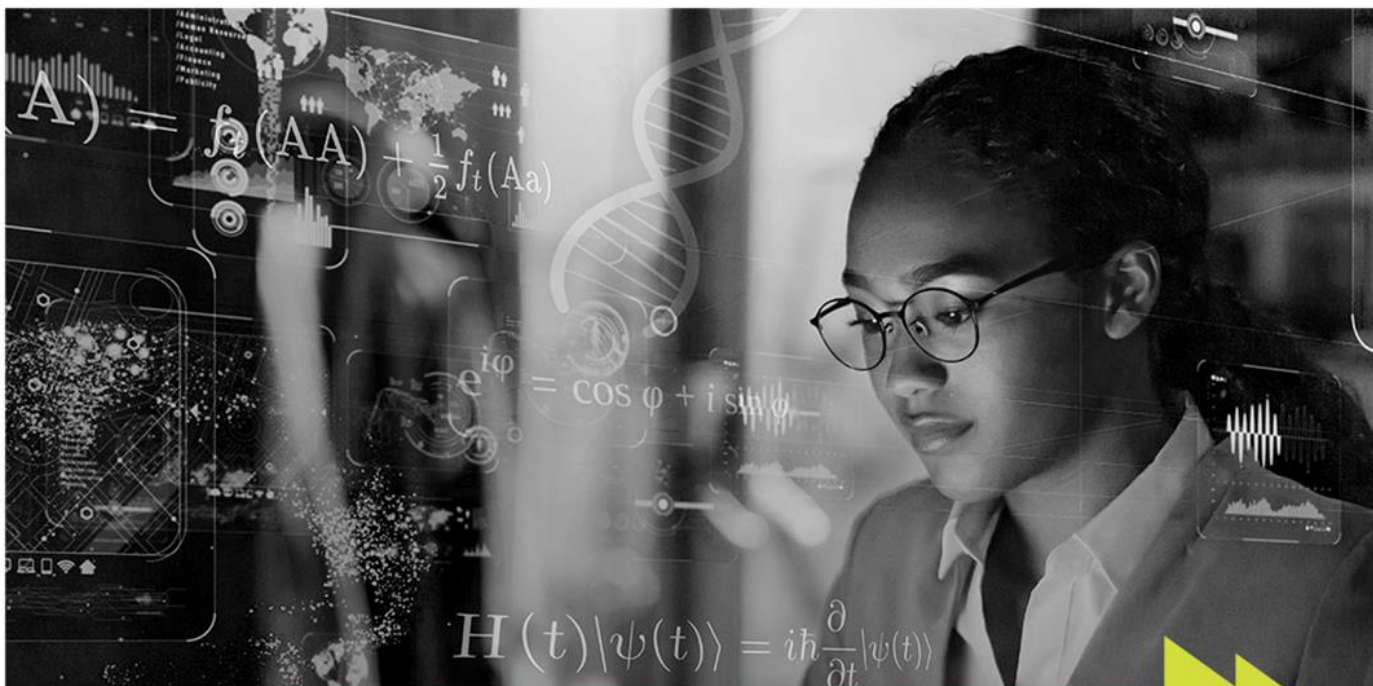


UDC signs Education Partnership Agreement (EPA) with NSWC Carderock July 20, 2020

- Student Internships
- Faculty Internships
- NSWC staff on-site at UDC



NATIONAL SCIENCE BOARD



VISION
2030

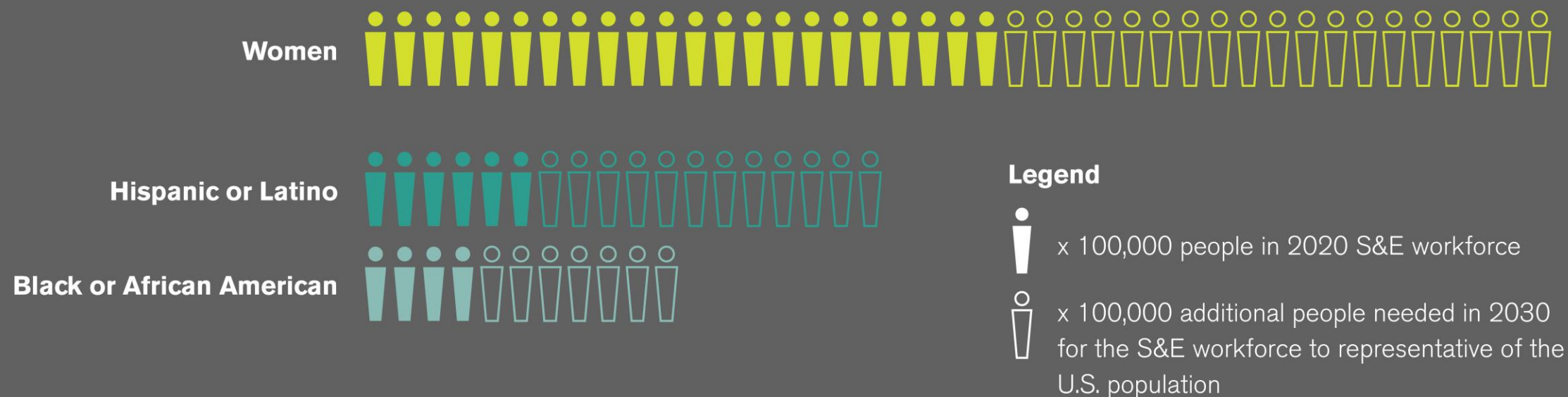
FOSTER A GLOBAL S&E
COMMUNITY

EXPAND THE GEOGRAPHY
OF INNOVATION

DELIVER BENEFITS
FROM RESEARCH

DEVELOP STEM TALENT FOR
AMERICA

MISSING MILLIONS: FASTER PROGRESS IN INCREASING DIVERSITY NEEDED TO REDUCE SIGNIFICANT TALENT GAP



While the number of people from under-represented groups in the S&E workforce has grown over the past decade, faster increases will be needed for the S&E workforce to be representative of the U.S. population in 2030. To achieve that goal, the NSB estimates that the number of women must nearly double, Black or African Americans must more than double, and Hispanic or Latinos must triple the number that are in the 2020 U.S. S&E workforce. These estimates are based on projections from the U.S. Census and Bureau of Labor Statistics, together with data from the National Center for Science and Engineering Statistics, and assume that participation of these groups in the S&E workforce increases at current rates.

LESSONS FROM THE SUCCESS OF MINORITY SERVING INSTITUTIONS

MAY 19TH, 11A-12P ET

Link: <https://youtu.be/9d9vYPNPnLE>



Thai-Huy Nguyen
Policy Researcher
RAND Corporation
Sr Research Assoc
Rutgers
Center for MSI



Arthur Tinoco
Assoc Professor
Chemistry
University of
Puerto Rico -
Rio Piedras



Twyla Baker
President
Nueta Hidatsa
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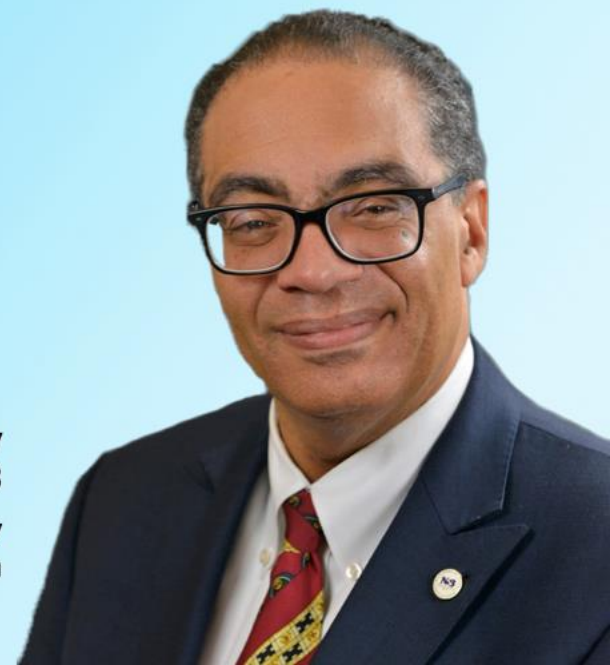


Evan Haze Nuñez
Graduate Student
Astrophysics
California Institute
of Technology



Vice President for Research and Graduate Programs and Professor of Chemistry
University of the District of Columbia

Moderated by Victor McCrary
Vice Chair, NSB



Carnegie
Research
Designated
HBCUs in
2022

Entity	Carnegie Designation 2022	All Research Expenditures (2020)	Federal Expenditures (2020)	NSF Expenditures (2020)	DoD Expenditures (2020)	USDA Expenditures (2020)
Clark-Atlanta	R2	\$8.4M	\$5.3M	\$1.7M	\$0.7M	\$0.041M
FAMU	R2	\$41.3M	\$33.1M	\$4.1M	\$0.7M	\$8.8M
Howard	R2	\$44.9M	\$29.2M	\$4.9M	\$2.5M	\$0.0M
Jackson State	R2	\$15M	\$13.7M	\$7.7M	\$0.65M	\$0.0M
North Carolina A&T	R2	\$36.1M	\$22.3M	\$8.7M	\$3.1M	\$4.6M
Morgan State	R2	\$17.1M	\$14.1M	\$2.4M	\$1.6M	\$0.052M
Prairie View A&M	R2	\$18.7M	\$9.2M	\$1.9M	\$1.4M	\$4.9M
Southern University A&M	R2	\$4.45M	\$3.0M	\$1.8M	\$0.4M	\$0.12M
Tennessee State	R2	\$15.3M	\$8.7M	\$1.1M	\$0.7M	\$5.7M
Texas Southern	R2	\$4.7M	\$2.9M	\$1.1M	\$0.0M	\$0.0M
UDC	M2	\$4.6M	\$2.6M	\$0.75M	\$0.6M	\$0.9M
UMES	R2	\$8.0M	\$8.0M	\$01.3M	\$0.0M	\$2.3M

ABET ACCREDITED ENGINEERING HBCUs

- Alabama A&M University (M1)
- Florida A&M University (R2)
- Hampton University (R2)
- Howard University (R2)
- Jackson State University (R2)
- North Carolina A&T State University (R2)
- Morgan State University (R2)
- Norfolk State University (M2)
- Prairie View A&M University (R2)
- Southern University & A&M College (R2)
- Tennessee State University (R2)
- Tuskegee University (M2)
- University of the District of Columbia (M2)
- University of Maryland – Eastern Shore (R2)
- Virginia State University (M2)

Future Opportunities & Considerations

- **IRAD investments to leverage HBCU specific capabilities**
- **UARC leadership visits to HBCUs to meet HBCU leadership**
- **Separate CDO & HR functions/let CDOs develop HBCU engagement strategy**
- **Invite HBCU VPRs to your UARC & UARC Directors Meetings**
- **Submit joint proposals to civilian funding agencies; e.g. NSF, NASA, NIH**
- **HBCU UARC?: Focus on 2-3 HBCUs with specific capabilities**
- **Goals & Metrics: Inputs, outputs, outcomes**

**It just takes making the commitment and perseverance
*If the US Military can do it – we can do it!!***



*ADM Mike Mullen
Chairman of the Joint Chiefs of Staff
2007 - 2011*



*General (ret.) Lloyd Austin
Secretary of Defense*

**America needs *you* to help us
be the leaders in S&E!!**

