



# NATIONAL SCIENCE BOARD



## ALL HANDS-ON DECK: A VISION FOR AMERICA'S S&E ENTERPRISE

# AIP

American Institute  
of Physics

*March 25, 2021*

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Vice Chair - National Science Board  
Vice President for Research and Graduate  
Programs and Professor of Chemistry,  
University of the District of Columbia

# KEY QUESTIONS

How can America keep its lead in fundamental research?

How can American discoveries continue to empower U.S. businesses and entrepreneurs to succeed globally?

How can the U.S. increase STEM skills and opportunities for all Americans?



# FOCUS ON THE FUTURE: NSB ROADMAP



**FOSTER A GLOBAL S&E  
COMMUNITY**

**EXPAND THE GEOGRAPHY  
OF INNOVATION**

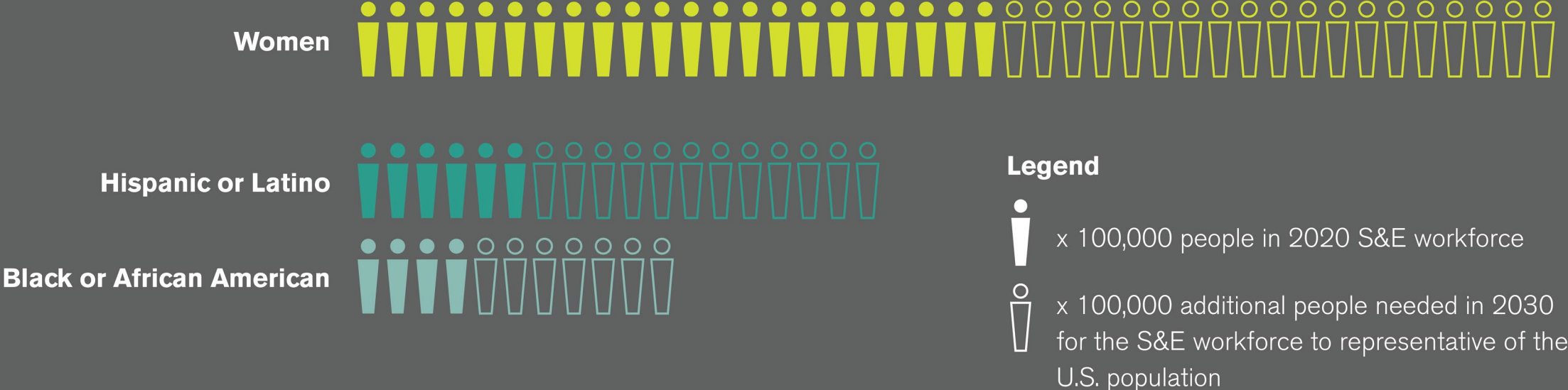
**DELIVER BENEFITS  
FROM RESEARCH**

**DEVELOP STEM TALENT FOR  
AMERICA**

# Develop STEM Talent For America

- **NSB Action:** Ensure that NSF improves the attractiveness, equity, and inclusivity of research careers, including attracting and retaining women and other underrepresented groups; and ensuring that these groups are achieving leadership roles in the S&E ecosystem through appropriate policies, funding, programs, and outreach.

# 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.



# CHEMISTRY FACULTY FROM UNDERREPRESENTED RACIAL AND ETHNIC GROUPS AT TOP 50 US SCHOOLS, 2017–18 (CHEMICAL & ENGINEERING NEWS, 11/9/2020)

Show  entries Search:

Institution	ASSISTANT PROFESSOR			ASSOCIATE PROFESSOR			FULL PROFESSOR			ALL FACULTY		
	Total	URPOC	% URPOC	Total	URPOC	% URPOC	Total	URPOC	% URPOC	Total	URPOC	% URPOC
California Inst. of Tech.	7	0	0%	0	0	0%	34	1	3%	41	1	2.4%
Columbia Univ.	1	0	0%	4	1	25%	15	1	7%	20	2	10.0%
Cornell Univ., Ithaca	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Emory Univ.	3	0	0%	6	0	0%	13	0	0%	22	0	0.0%
Florida State Univ., Tallahassee	6	1	17%	4	0	0%	19	0	0%	29	1	3.4%
Georgia Inst. of Tech., Atlanta	7	1	14%	7	2	29%	18	3	17%	32	6	18.8%
Harvard Univ.	3	0	0%	1	0	0%	18	2	11%	22	2	9.1%
Indiana Univ., Bloomington	5	0	0%	8	0	0%	23	0	0%	36	0	0.0%
Johns Hopkins Univ. <sup>a</sup>	5	0	0%	2	0	0%	14	1	7%	21	1	4.8%
Massachusetts Inst. of Tech.	7	0	0%	6	0	0%	19	0	0%	32	0	0.0%
<b>Total</b>	<b>301</b>	<b>27</b>	<b>9.0%</b>	<b>245</b>	<b>16</b>	<b>6.5%</b>	<b>1,053</b>	<b>40</b>	<b>3.8%</b>	<b>1,599</b>	<b>83</b>	<b>5.2%</b>

Showing 1 to 10 of 50 entries Previous **1** 2 3 4 5 Next

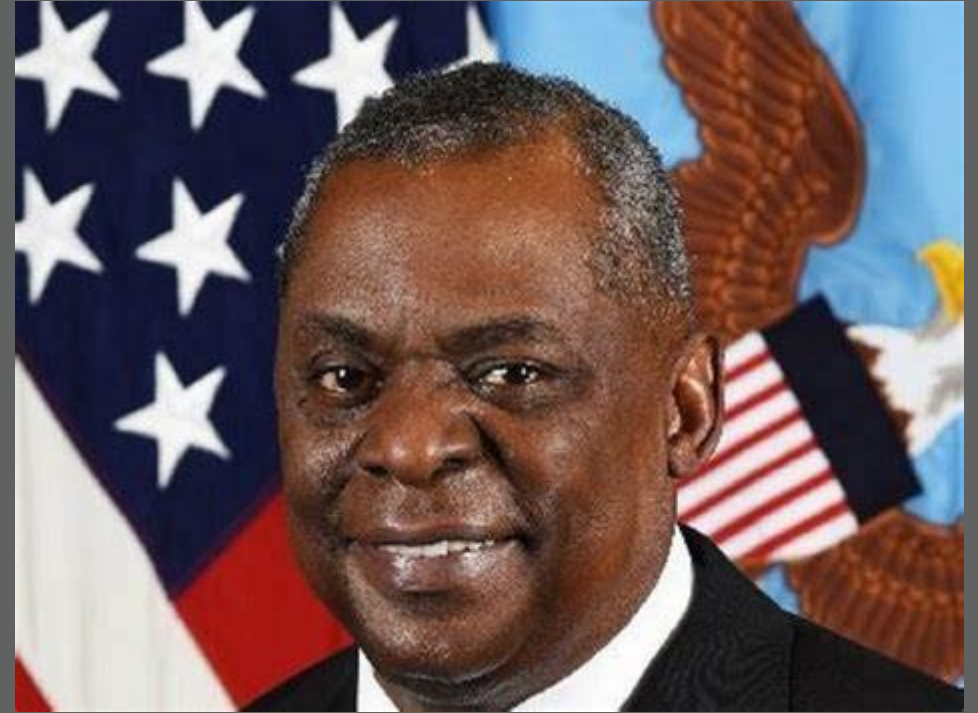
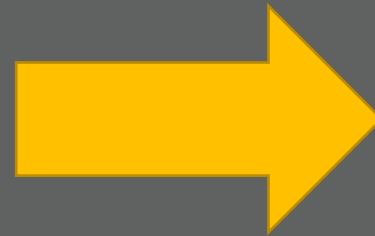
# Research Capacity & STEM Talent: America's HBCUs

Entity	Carnegie Designation 2020	Moody's Rating	Research Expenditures (2018)	NSF Expenditures (2018)	NSF Expenditures (2016)	Endowment (2016-2019)
Clark-Atlanta	R2	Ba2	\$8M	\$1.9M	\$1.5M	\$69M
Delaware State	R2	Aa3	\$21M	\$3.3M	\$5.4M	\$28.6M
FAMU	R2	Baa1	\$40M	\$3.0M	\$2.4M	\$98M
Hampton	R2	Aa2	\$14M	\$3.2M	\$3.8M	\$263.2M
Howard	R2	Ba1	\$46M	\$6.7M	\$7.8M	\$692.8M
Jackson State	R2	Aa2	\$19M	\$6.5M	\$6.0M	\$60M
North Carolina A&T	R2	A1	\$38M	\$8.6M	\$7.5M	\$57M
Morgan State	R2	A1	\$13M	\$1.0M	\$1.0M	\$32.9M
Tennessee State	R2	Aa1	\$18M	\$1.7M	\$1.6M	\$51M
Texas Southern	R2	Baa3	\$4M	\$0.5M	\$0.8M	\$54M
UDC	M2	Aaa	\$2.9M (FY19 = \$4.8M)	\$0.86M (FY19=\$1.014M)	\$0.86M	\$51M (FY19)
UMES	R2	Aa1	\$5M	\$0.0M	\$0.0M	\$26.2M

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



*ADM Mike Mullen  
Chairman of the Joint Chiefs of Staff  
2007 - 2001*



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

**NSB needs *you* to help us  
implement Vision 2030**