

The solution to America's competitiveness problem is to activate the hidden workforce of young men and women who have traditionally been underrepresented in STEM careers—African Americans, American Indians, and Latinos. John Brooks Slaughter

Engineers are critical in fueling innovation. Recent observers of international trends in engineering have paid attention to the rapid increase in the production of new engineers in large nations like China and India. But engineers' training provides them with access to career paths that may lead away from a technical career and instead towards a managerial or leadership role. Large corporations have long recognized engineering as a critical entry-point into key industries. The long-term implications of the dearth of minority engineers were important during NACME's founding years in the early 1970's, as reflected in the remarks of J. Stanford Smith, Vice President of General Electric in 1972 and Senator Hubert H. Humphrey in May 1973 (see boxes).

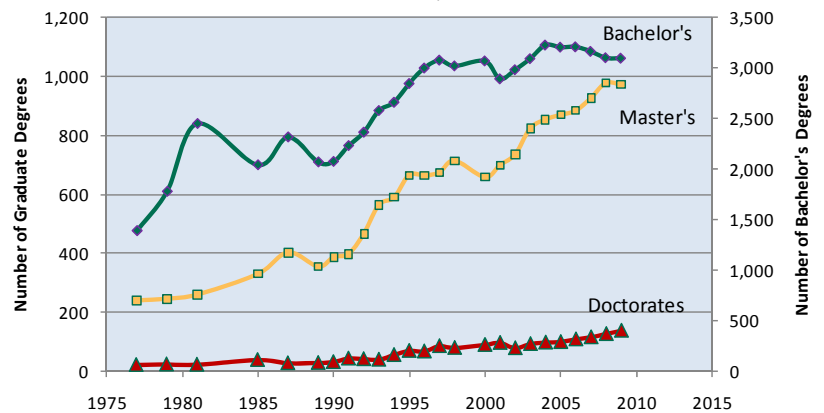
[I]t takes fifteen to twenty-five years for people to rise to top leadership positions in industry. So if industry is getting one percent minority engineers in 1972, that means that in 1990, that's about the proportion that will emerge from the top leadership positions in industry....(J. Stanford Smith, Vice President, General Electric, Engineering Education Conference, June 25, 1972)

U.S. engineering schools produced just 579 African American engineers in 1972 with another 657 in 1973 according to Engineering Manpower Commission data (which may underestimate the actual number of degrees because not all institutions reported to the EMC). According to the Integrated Postsecondary Education Data System (IPEDS) data, which are available starting in 1977, 1,385 African Americans earned engineering bachelor's degrees in that year. In 2009, the most recent IPEDS year, 3,096 African Americans earned engineering bachelor's degrees, representing 4.7% of all engineering bachelor's degrees. African American representation among engineering bachelor's degree recipients peaked at 5.6% in 2000 after a quarter-century climb from just 3% in 1977.

- African Americans earned just under 5% of engineering bachelor's degrees in 2009.
- African Americans earned just under 1,000 master's degrees and less than 200 doctoral degrees in engineering in 2009.
- The number and percent of engineering bachelor's degrees earned by African Americans has declined since 2005.
- African American women's share of engineering degrees has declined at the bachelor's and masters' levels since 2002.
- African American's inroads into doctoral degrees has been modest since the 1970s.

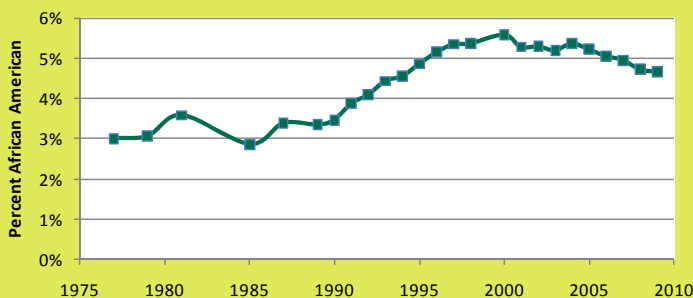
Number of Degrees Earned by African Americans by Degree Level, 1977-2009

(Source: NACME Research and Evaluation analysis of IPEDS data via NSF WebCASPAP)



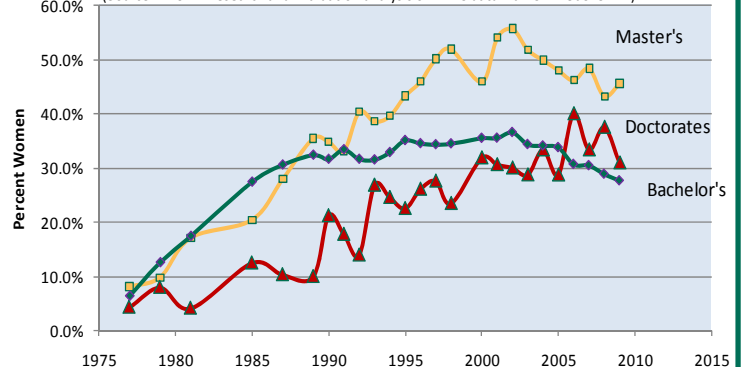
Percent of U.S. Citizen and Permanent Resident Bachelor's Degrees in Engineering Earned by African Americans, 1977-2009, Selected Years

(Source: NACME Research, Evaluation and Policy analysis of IPEDS data accessed via NSF WebCASPAP data system.)



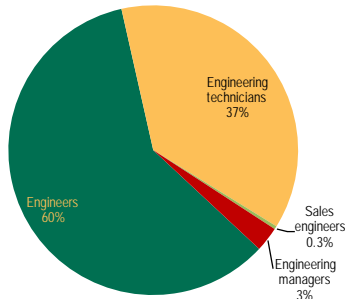
Women as a Percent of Engineering degrees Earned by African Americans by Degree Level, 1977-2009

(Source: NACME Research and Evaluation analysis of IPEDS data via NSF WebCASPAP)

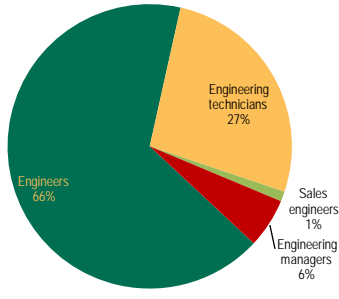


I think that when we look at the poor national performance in promoting minorities to top professional leadership positions, we must look to a totally inadequate minority participation in engineering as an important part of the problem. (Senator Hubert H. Humphrey, 1973, Congressional Record, 93rd Congress, Vol. 119, No. 80).

African Americans (n = 128,042)



All U.S. Engineers (n = 2,552,896)

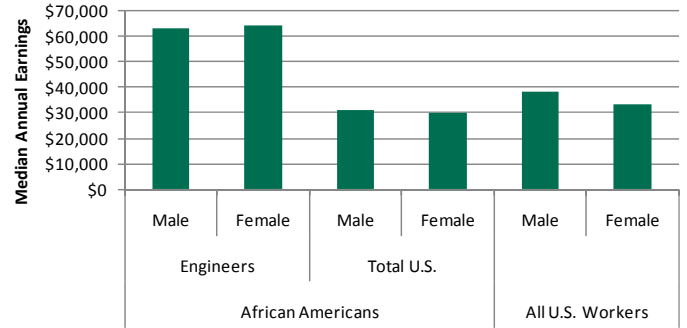


- There were 128,042 African Americans in four types of engineering jobs in 2009.
- African Americans represent 5% of the U.S. engineering workforce ... but account for 12% of the overall U.S. workforce.
- African Americans in the U.S. engineering workforce are more likely to be technicians and less likely to be managers.
- Salaries of African American engineers, regardless of sex, are far higher than those for African American workers, in general.
- The average African American male engineer aged 25-34 earned \$63,000 annually.
- The average African American female engineer aged 25-34 earned \$64,000 annually.
- 2.5% of the nation's 24,369 tenured/tenure track engineering faculty were African American in 2009 (ASEE 2010).

Median Annual Earnings, 25-34 Year Old African Americans and U.S. Workers, 2009

(Full-time, year-round workers only)

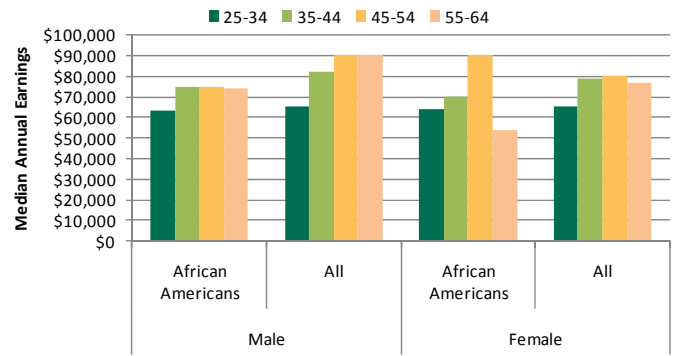
Source: NACME Research, Evaluation and Policy analysis of American Community Survey Public Use Microdata, 2010.



Median Annual Earnings, Engineers by Age-Group, 2009

(Full-time, year-round workers only)

Source: NACME Research, Evaluation and Policy analysis of American Community Survey Public Use Microdata, 2010.



NACME's goal:

An engineering workforce that looks like America.

About the National Action Council for Minorities in Engineering, Inc. (NACME)

Since its founding 37 years ago, NACME has stayed true to its mission: To insure American resilience in a flat world by leading the national effort to expand U.S. capability via better engagement of African American, American Indian and Latino women and men in science, technology, engineering and mathematics (STEM) education and careers. NACME alumni hold leadership positions in industry, medicine, law, education and government. With funding from corporate and individual donors, NACME has supported over 22,000 students with more than \$124 million in scholarships and other support. Currently, NACME provides scholarship support to more than 1,300 college engineering students through a national network of 50 partner universities. NACME has also been engaged in a middle school through community college strategy to increase the number of underrepresented minority students in STEM disciplines. engineering. <http://www.nacme.org>.

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