

# Minority women still most underrepresented in science despite progress

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Thirty-five years after a landmark report documented minority women as the most underrepresented individuals in science, engineering, medicine and dentistry, dramatic improvements have occurred for women of color, but serious obstacles remain. That was the message from a report here at the 243<sup>rd</sup> National Meeting & Exposition of the American Chemical Society (ACS), the world's largest scientific society.

The presentation was part of an ACS symposium titled, "The Double Bind: Minority Women in Science and Update Thirty Five Years Later." It marked the anniversary of the first recorded meeting of minority women in a wide range of scientific fields to discuss "the double oppression of sex and race or ethnicity, plus the third oppression in the chosen career, science." The meeting, at Airlie House in Warrenton, Va., resulted in a report, [\*The Double Bind: The Price of Being a Minority Woman in Science\*](#).

Yolanda S. George, who made one of the presentations at the ACS symposium, described how being both a woman and a minority can result in situations that thwart or stall a career in the so-called STEM fields of science, technology, engineering and mathematics for women of color — African-Americans, Hispanics, Asians and Native Americans. Overall, the percentage of women of color holding doctorates in science and engineering remains small, according to a National Science Foundation (NSF) study, she said.

"Certainly, there has been progress," said George, Deputy Director of

Education and Human Resources Programs at the American Association for the Advancement of Science (AAAS). She cited NSF data, for instance, indicating that the percentage of women of color with doctorates in STEM fields has risen hundreds of fold since the 1970s. But the increase has been from one small number to another — from 0.12 percent to 2.4 percent. NSF data show that the number of Asian women with doctorates in science rose from 837 in 1973 to 25,610 in 2006; the number of Hispanic women with doctorates rose from 34 to 6,970; African-Americans from 249 to 7,760; and Native Americans from 3 to 440.

"We need more minority women in faculty positions, especially at research-oriented universities, where they can not only make contributions to research, but serve as mentors and role models for the next generation of double-binders," she said. "We also need a comprehensive update of the situation today for minority women in science. The data are very sparse and, over the years, has been reported in different ways by NSF, and we don't have a clear picture now."

George cited indications that parents have been discouraging minority women from seeking jobs in science and engineering, suggesting that careers in business, law and other fields are more lucrative financially, with payoffs requiring less time than science, technology, engineering and mathematics fields.

"There needs to be more parental education about careers in science and engineering," George said. "People don't realize that you can make a good living in science and engineering. Another problem is that many minority women are still in poor-quality schools and are not getting a quality math and science education."

She referred to a 2010 Bayer Corporation study reporting that 77 percent of those polled say "significant numbers of women and underrepresented

minorities are missing from the U.S. STEM workforce today because they were not identified, encouraged or nurtured to pursue STEM studies early on."

George said that the Committee on Equal Opportunities in Science and Engineering (CEOSE), in a 2009-2010 report to Congress, included recommendations from a 2009 CEOSE mini-symposium. That meeting highlighted the "invisibility" of women of color in STEM and specific challenges faced by girls and women of color in STEM education and employment.

What advice does George have for [minority women](#) interested in STEM majors or careers?

- Focus on building science-writing skills and a strong record of involvement in research at the high-school and undergraduate levels.
- Participate in regional, national and international [science](#) fairs and STEM competitions and make oral and poster presentations — even during your years in middle school.
- Remember that internship programs, especially internships in labs or other research settings are worth their weight in gold.
- Graduate students, postdocs, faculty and professionals should focus on writing papers and grants and applying for patents early and often.

Provided by American Chemical Society

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