**Status of Diversity in Postsecondary Education – National Level**

The pool of US citizens/permanent residents who are science and engineering doctorate recipients with definite postgraduate plans is small (13,265 in 2010).[[1]](#endnote-1) The pool of underrepresented minorities is smaller: 541 Black, 737 Hispanic, and 51 American Indian/Native Alaskan science and engineering doctorate recipients had definite postgraduate plans in 2010. Furthermore, less than 50% of those with definite plans indicated an interest in postdoctoral study.[[2]](#endnote-2)

According to a recent report by the National Academy of Science, “In 2007, underrepresented minorities comprised 38.8% of K-12 public enrollment, 33.2% of the U.S college age population, 26.2% of undergraduate enrollment, and 17.7% of those earning science and engineering bachelor’s degrees. In graduate school, underrepresented minorities comprise 17.7% of overall enrollment but are awarded just 14.6% of S&E master’s degrees and a miniscule 5.4% of S&E doctorates.”[[3]](#endnote-3) There is an urgent need to address minority retention at all levels of the academic ladder, specifically in science and engineering fields.

The reasons for the disproportionate lack of diverse individuals in the STEM fields include a lack of encouragement, opportunities, resources and preparation for education as important factors[[4]](#endnote-4). Indeed, the most successful programs to remediate this problem are pipeline programs that provide a continuity of support and resources throughout the educational cultivation of the individual[[5]](#endnote-5). Importantly, data indicate that success requires more than strong academic preparation, but also a commitment on the part of the trainee to excellence; the creation of a family-like supportive environment; and opportunities to give back to the community of the trainee[[6]](#endnote-6). Interestingly, a critical determinant of obtaining the PhD in the Meyeroff Scholarship Program, a pipeline program in Baltimore that began in high school, was the amount of excitement regarding research at the time of entry into college[[7]](#endnote-7). Thus, programs must provide more than just traditional academic support, but need to instill and preserve a desire for excellence and excitement regarding research.

1. National Science Foundation, National Center for Science and Engineering Statistics, Survey of Graduate Students and Postdoctorates in Science and Engineering, 2010. Table 8-3. [↑](#endnote-ref-1)
2. Ibid. [↑](#endnote-ref-2)
3. National Research Council. *Expanding Underrepresented Minority Participation: America's Science and Technology Talent at the Crossroads*. Washington, DC: The National Academies Press, 2011 (p. 3). [↑](#endnote-ref-3)
4. Maton, K.I., Sto Domingo, M.R., Stolle-McAllister, K.E., Zimmerman, J.L., and Hrabowski, F.A., 3rd, Enhancing the number of african americans who pursue stem phds: Meyerhoff scholarship program outcomes, processes, and individual predictors. Journal of women and minorities in science and engineering, 2009. 15(1): p. 15-37. [↑](#endnote-ref-4)
5. Winkleby, M.A., The stanford medical youth science program: 18 years of a biomedical program for low-income high school students. Academic medicine : journal of the Association of American Medical Colleges, 2007. 82(2): p. 139-45. [↑](#endnote-ref-5)
6. Maton, K.I., Sto Domingo, M.R., Stolle-McAllister, K.E., Zimmerman, J.L., and Hrabowski, F.A., 3rd, Enhancing the number of african americans who pursue stem phds: Meyerhoff scholarship program outcomes, processes, and individual predictors. Journal of women and minorities in science and engineering, 2009. 15(1): p. 15-37. [↑](#endnote-ref-6)
7. Maton, K.I., Sto Domingo, M.R., Stolle-McAllister, K.E., Zimmerman, J.L., and Hrabowski, F.A., 3rd, Enhancing the number of african americans who pursue stem phds: Meyerhoff scholarship program outcomes, processes, and individual predictors. Journal of women and minorities in science and engineering, 2009. 15(1): p. 15-37. [↑](#endnote-ref-7)