



## Underrepresented/Underserved Populations

### Laboratory/Field

- 1) **Committee on Science, Engineering & Public Policy (2007) *Rising Above the Gathering Storm: Energizing and Employing America for a Brighter Economic Future.* Washington, D. C.: National Academies Press.**  
[http://www.nap.edu/catalog.php?record\\_id=11463](http://www.nap.edu/catalog.php?record_id=11463)

This Congressionally requested report, available online in whole, puts out the call to policy makers and academia to make the United States the most attractive setting in which to study and perform research so that we can develop, recruit, and retain the best and brightest students, scientists, and engineers from within the United States and throughout the world. Written by a 20-member committee that included university presidents, CEOs, Nobel Prize winners, and former presidential appointees, it poses the issue that although the unmatched vitality of the United States' economy and science and technology enterprise has made the U.S. a world leader for decades, allowing Americans to benefit from a high standard of living and national security, U.S. advantages in the marketplace and in science and technology are eroding in a world where advanced knowledge is widespread and low-cost labor is readily available. Only a comprehensive and coordinated federal effort can bolster U.S. competitiveness. The report states that undergraduates "who opt out of S&E programs are among the most highly qualified college entrants," yet are also "disproportionately women and nonwhite students, indicating that many potential entrants are discouraged before they can join the S&E workforce." The report examines the inherent disincentives that push students away from S&E programs and careers, and the actions that can be taken to reverse this process and broaden participation.

- 2) **Committee on Science, Engineering & Public Policy (2011) *Expanding Underrepresented Minority Participation: America's Science and Technology Talent at the Crossroads.* Washington, D. C.: National Academies Press.**  
[http://www.nap.edu/openbook.php?record\\_id=12984&page=R1](http://www.nap.edu/openbook.php?record_id=12984&page=R1)

This report, available online in whole, explores the role of diversity in the science, technology, engineering and mathematics (STEM) workforce and its value in keeping the U.S. innovative and competitive. The report states that the U.S. labor market is projected to grow faster in science and engineering than in any other sector in the coming years, making minority participation in STEM education at all levels a national priority. The report also identifies best practices and offers a comprehensive road map for increasing involvement of underrepresented minorities and improving the quality of their education, including recommendations that focus on academic and social support, institutional roles, teacher preparation, affordability and program development.

- 3) **National Center for Science and Engineering Statistics. (2011) *Women, Minorities, and Persons with Disabilities in Science and Engineering.* Arlington, VA: National Science Foundation.** <http://nsf.gov/statistics/wmpd/>

This website provides statistical information about the participation of women, minorities, and persons with disabilities in science and engineering education and employment. Its primary purpose is to serve as an information source. It offers no endorsement of or recommendations about policies or programs. New for 2011, it highlights key statistics drawn from a wide variety of

data sources. It organizes data and figures into six topical areas—enrollment, field of degree, employment status, occupation, academic employment, and persons with disabilities.

- 4) **Clewell, B. C., de Cohen, C. C., Tsui, L., & Deterdening N. (2006) *Revitalizing the Nation's Talent Pool in STEM: Science, Technology, Engineering, and Mathematics*. Washington, DC: Urban Institute.**

The Urban Institute's evaluation of the NSF's Louis Stokes Alliances for Minority Participation (LSAMP) Program included both process and summative components, seeking to understand both the program's implementation and its success in meeting stated goals. The information learned about the LSAMP program through the process and summative evaluations resulted in three main conclusions and five recommendations, with the overall recommendation to replicate and expand the LSAMP program. The LSAMP model, unlike most intervention efforts for increasing URM participation in STEM, encourages and supports the synergistic efforts of institutional partners, laying the foundation for systemic institutional change. Given LSAMP's demonstrated success, it is important that efforts to replicate and disseminate the model be increased.

- 5) **Hoffer, T.B., M. Hess, V. Welch, Jr., and K. Williams. (2007) *Doctorate Recipients from United States Universities: Summary Report 2006*. Chicago: National Opinion Research Center. <http://www.nsf.gov/statistics/doctorates/pdf/sed2006.pdf>**

This report presents data on the 45,596 recipients of research doctorates awarded by 417 U.S. universities from July 1, 2005, through June 30, 2006. This information is taken from the 2006 Survey of Earned Doctorates (SED), an annual census of new research doctorate recipients conducted for six federal agencies, NSF, NIH, USED, NEH, USDA, and NASA.

- 6) **Committee on Maximizing the Potential of Women in Academic Science and Engineering. (2007) *Beyond Bias and Barriers: Fulfilling the Potential of Women in Academic Science and Engineering*. Washington, D.C.: National Academies Press. [http://www.nap.edu/catalog.php?record\\_id=11741](http://www.nap.edu/catalog.php?record_id=11741)**

The United States economy relies on the productivity, entrepreneurship, and creativity of its people. To maintain its scientific and engineering leadership amid increasing economic and educational globalization, the United States must aggressively pursue the innovative capacity of all its people—women and men. However, women face barriers to success in every field of science and engineering; obstacles that deprive the country of an important source of talent. Without a transformation of academic institutions to tackle such barriers, the future vitality of the U.S. research base and economy are in jeopardy. *Beyond Bias and Barriers* explains that eliminating gender bias in academia requires immediate overarching reform, including decisive action by university administrators, professional societies, federal funding agencies and foundations, government agencies, and Congress. If implemented and coordinated across public, private, and government sectors, the recommended actions will help to improve workplace environments for all employees while strengthening the foundations of America's competitiveness.

- 7) **Institute for Broadening Participation. For a more comprehensive annotated bibliography, organized by subject, to use when dealing with underrepresented and underserved populations go to <http://www.pathwaystoscience.org/resources.asp>.**