



Council of Graduate Schools

Advocacy, Research, and Innovation

The Role and Status of the Master's Degree in STEM

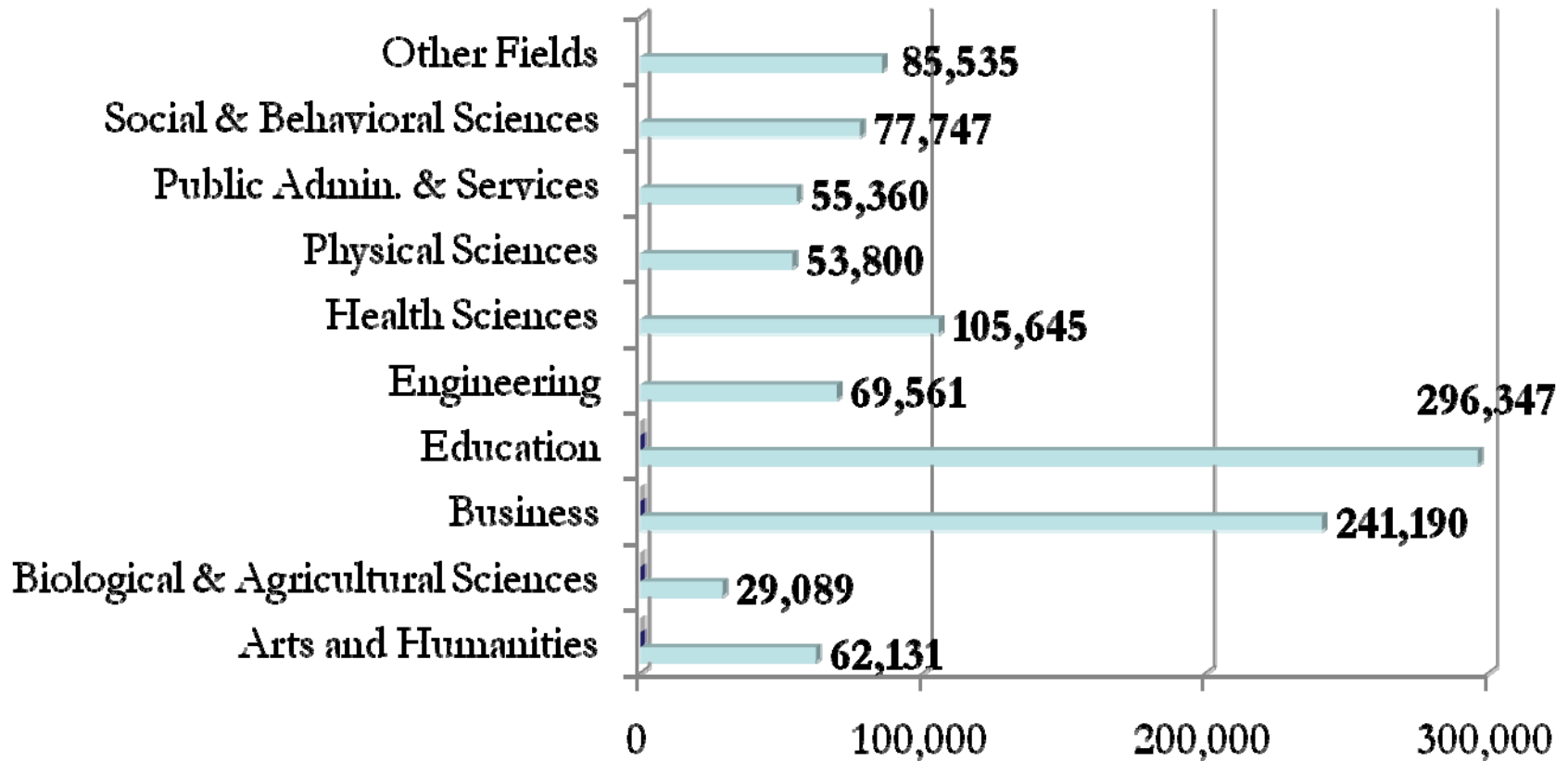
Eleanor L. Babco
CGS-NSF Workshop
Arlington, Va.
May 18, 2010

Types of Master's Degrees in STEM

- Terminal Master's – In some fields, such as engineering and geology, the master's is the preferred advanced degree necessary for employment.
- Step Toward the Doctorate – In other fields, the master's is awarded as students advance to the doctoral level.
- Consolation Prize – In certain fields, the master's is awarded when students fail to advance to the doctoral level.
- Professional Science Master's – more about that later.



Enrollment in Master's* Programs by Field, Fall 2008

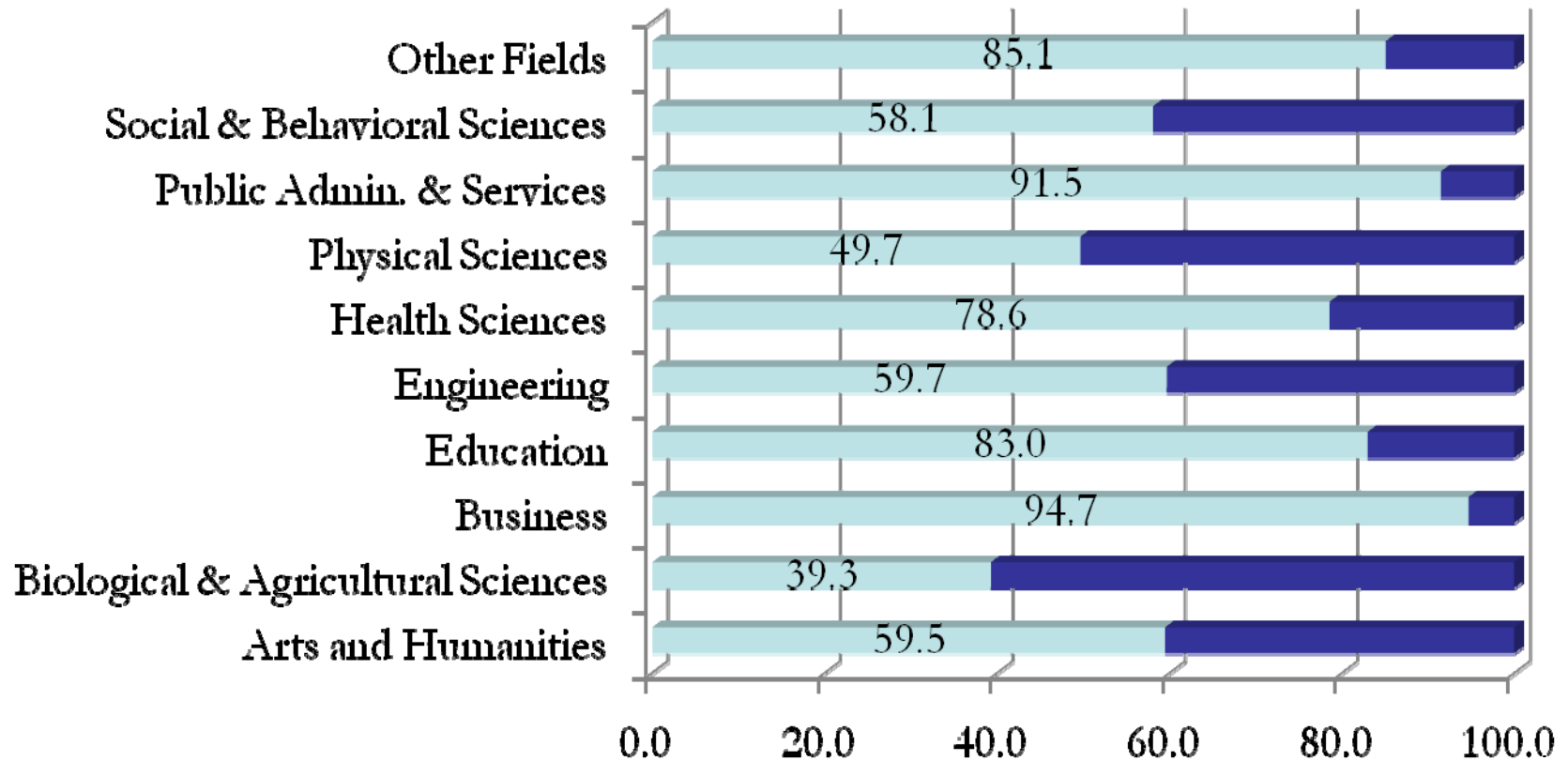


† Also includes graduate-level certificate and education specialist programs.

Source: CGS/GRE Survey of Graduate Enrollment and Degrees



Master's* Proportion of Total Graduate Enrollment by Field, Fall 2008

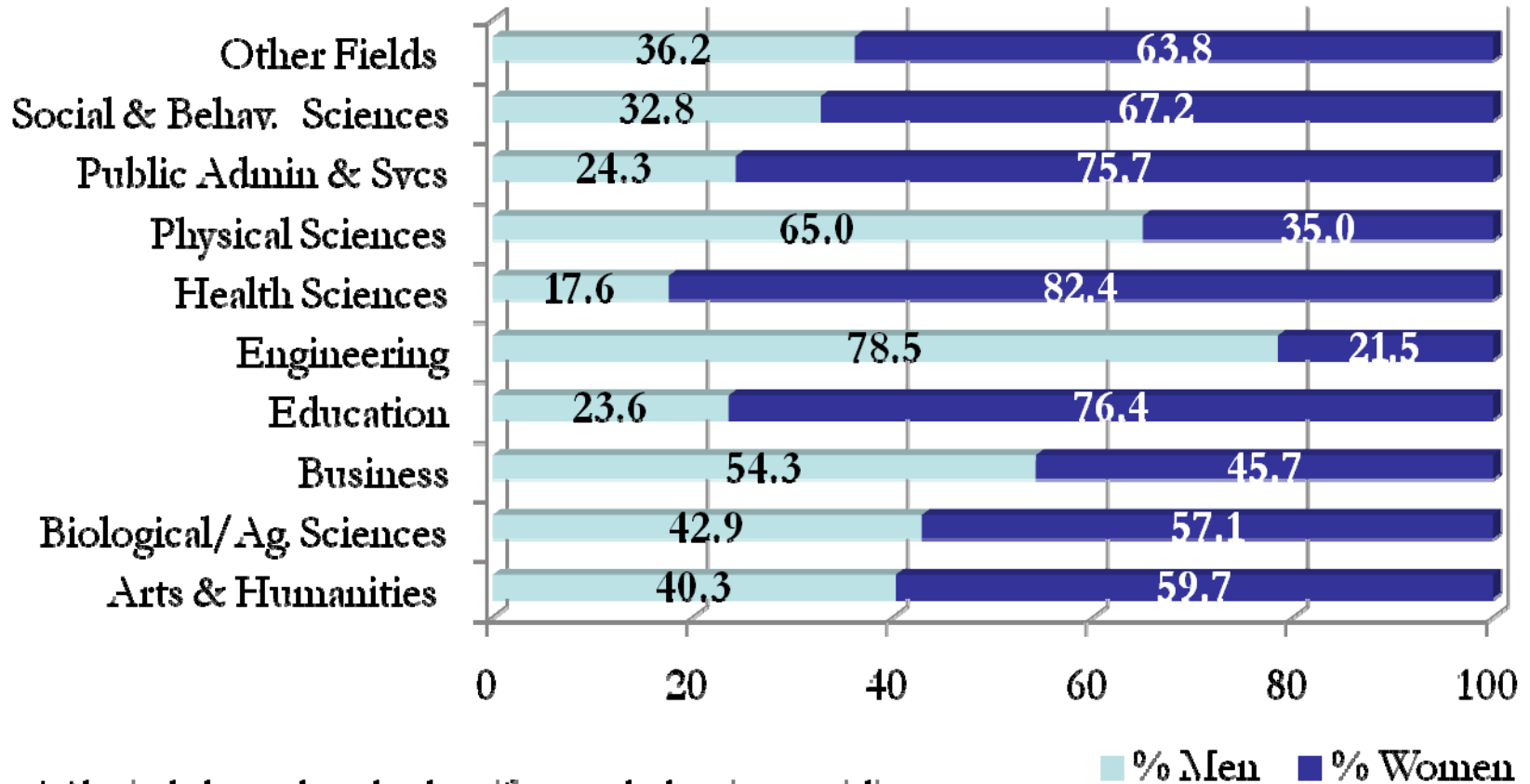


* Also Includes graduate-level certificate and education specialist programs.

Source: CGS/GRE Survey of Graduate Enrollment and Degrees



Enrollment in Master's* Programs by Sex, Fall 2008

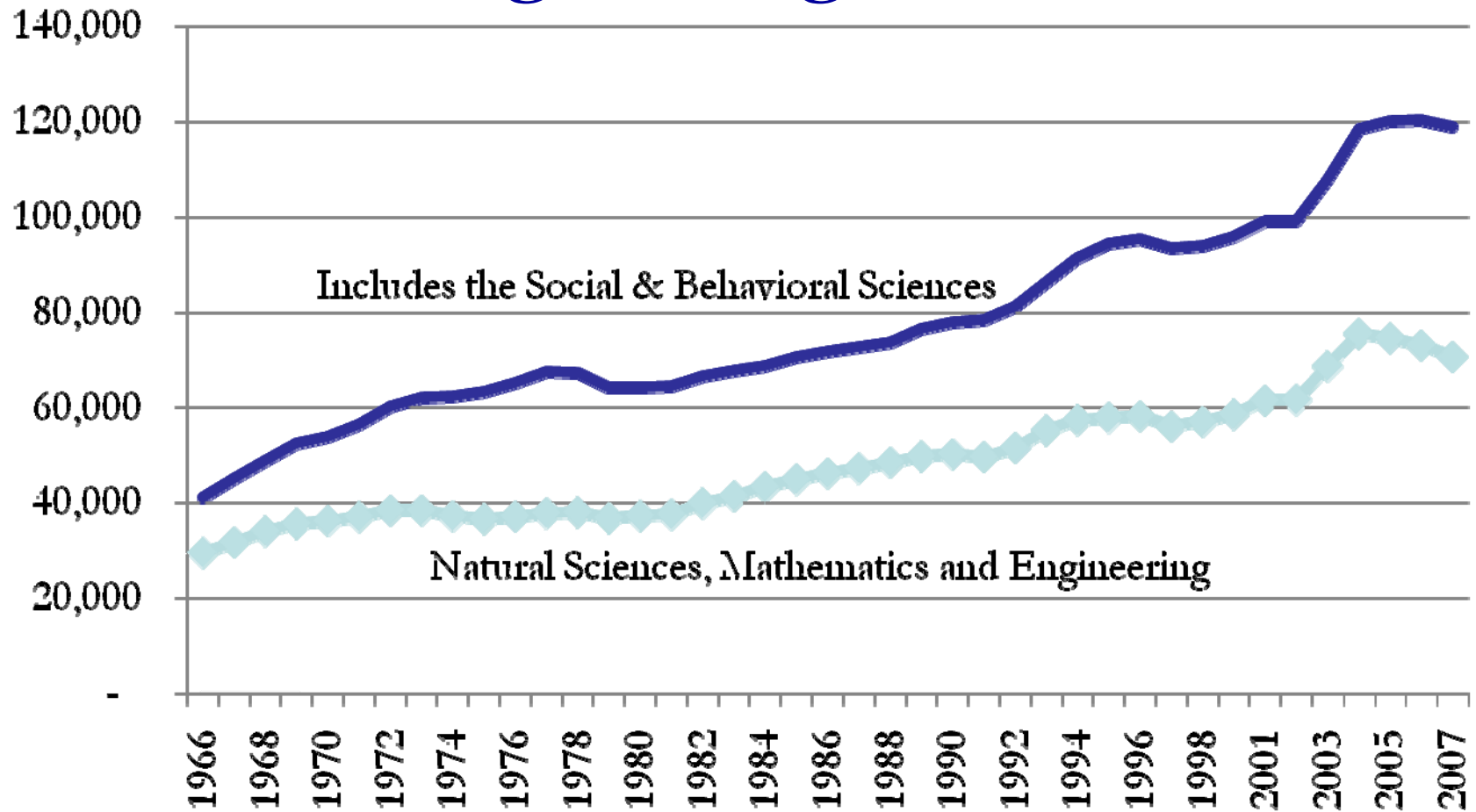


* Also includes graduate-level certificate and education specialist programs

Source: CGS/GRE Survey of Graduate Enrollment and Degrees



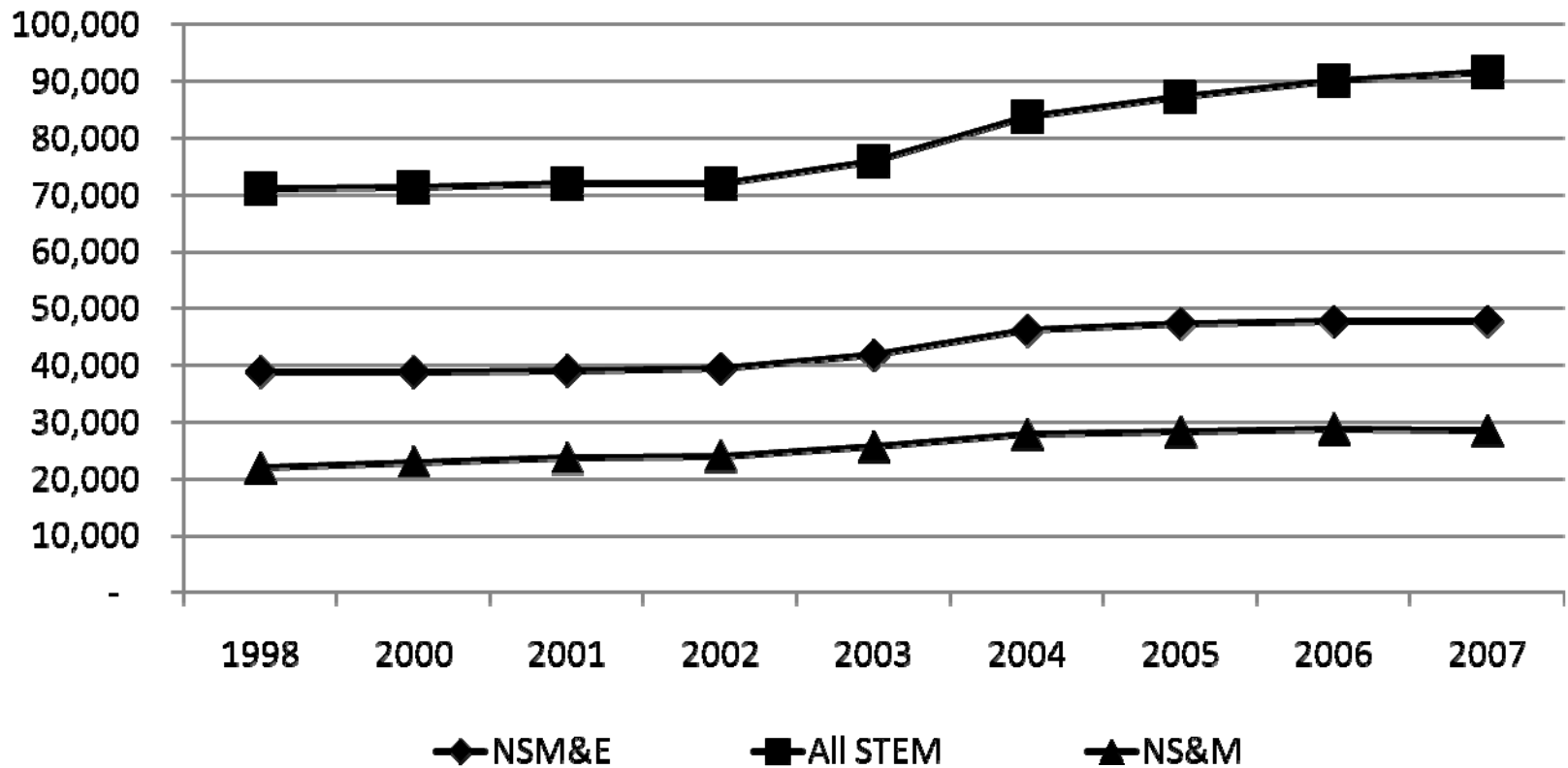
Growth in Master's Degrees in Science and Engineering, 1966-2007



Source: National Science Foundation, WebCASPAR Database, Accessed May 3, 2010.



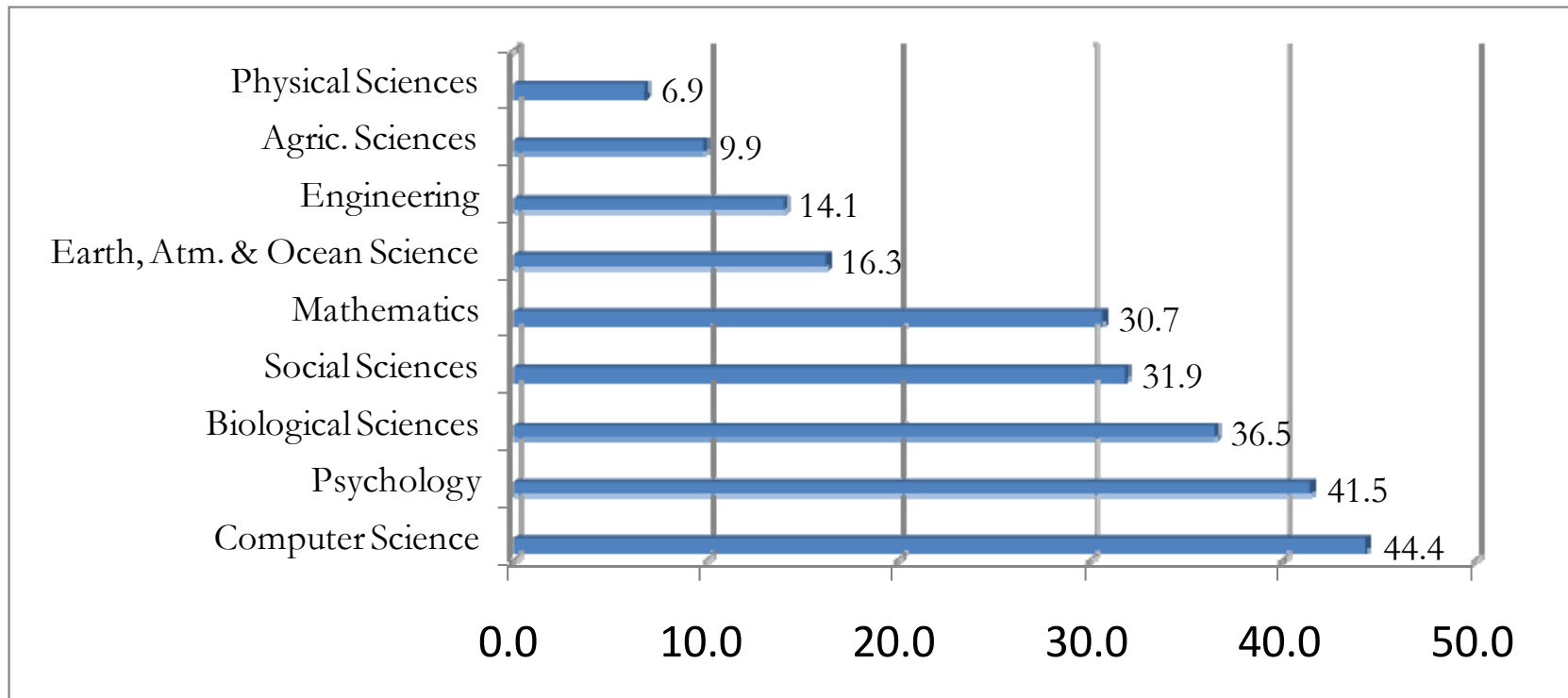
Growth in S&E Master's Degrees to U.S. Citizens and Perm. Residents, 1998-2007



Source: National Science Foundation, WebCASPAR Database, Accessed May 3, 2010.



Master's Degrees Increased Most in Computer Sciences; Least in Physical Sciences, 1998-2007

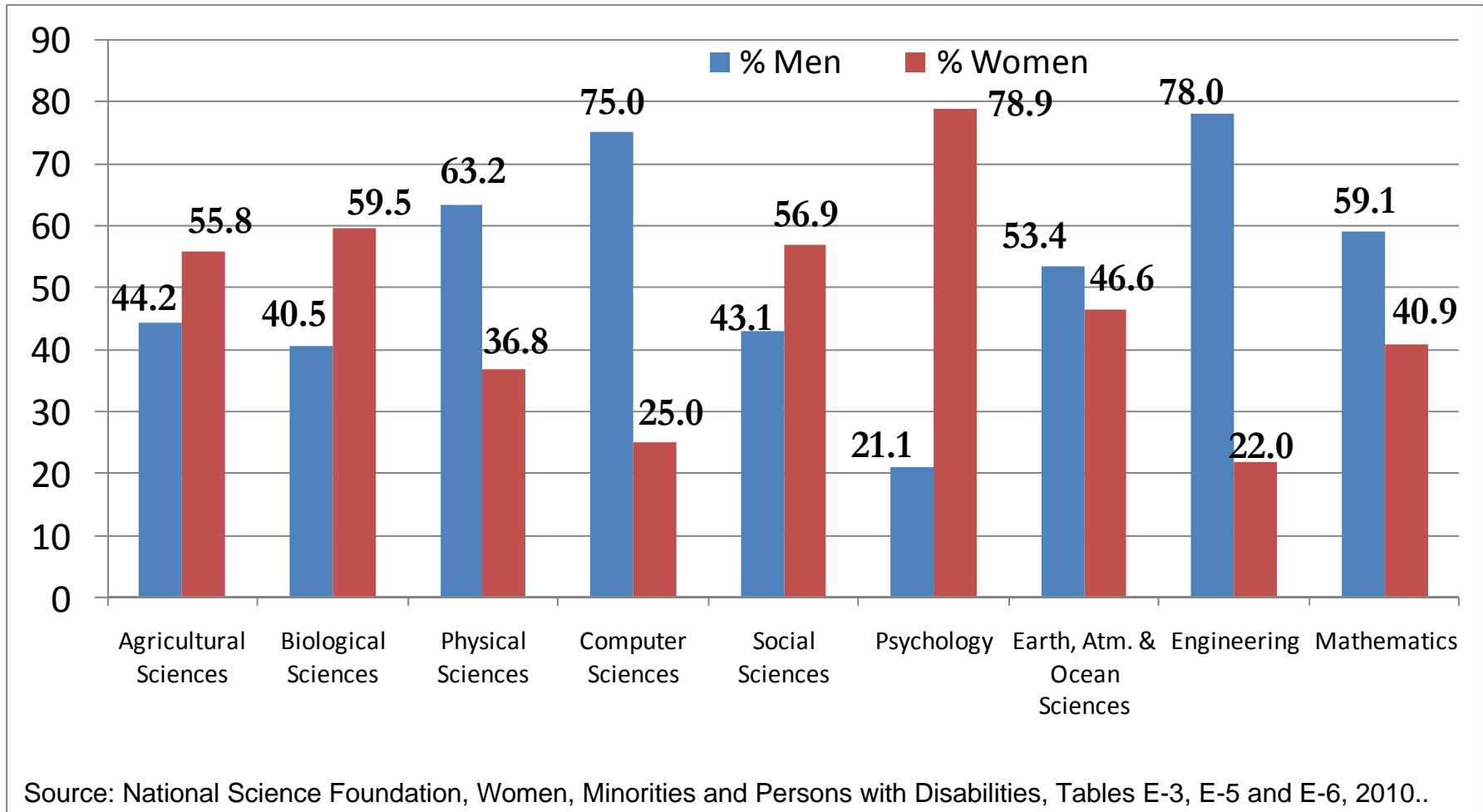


Percent

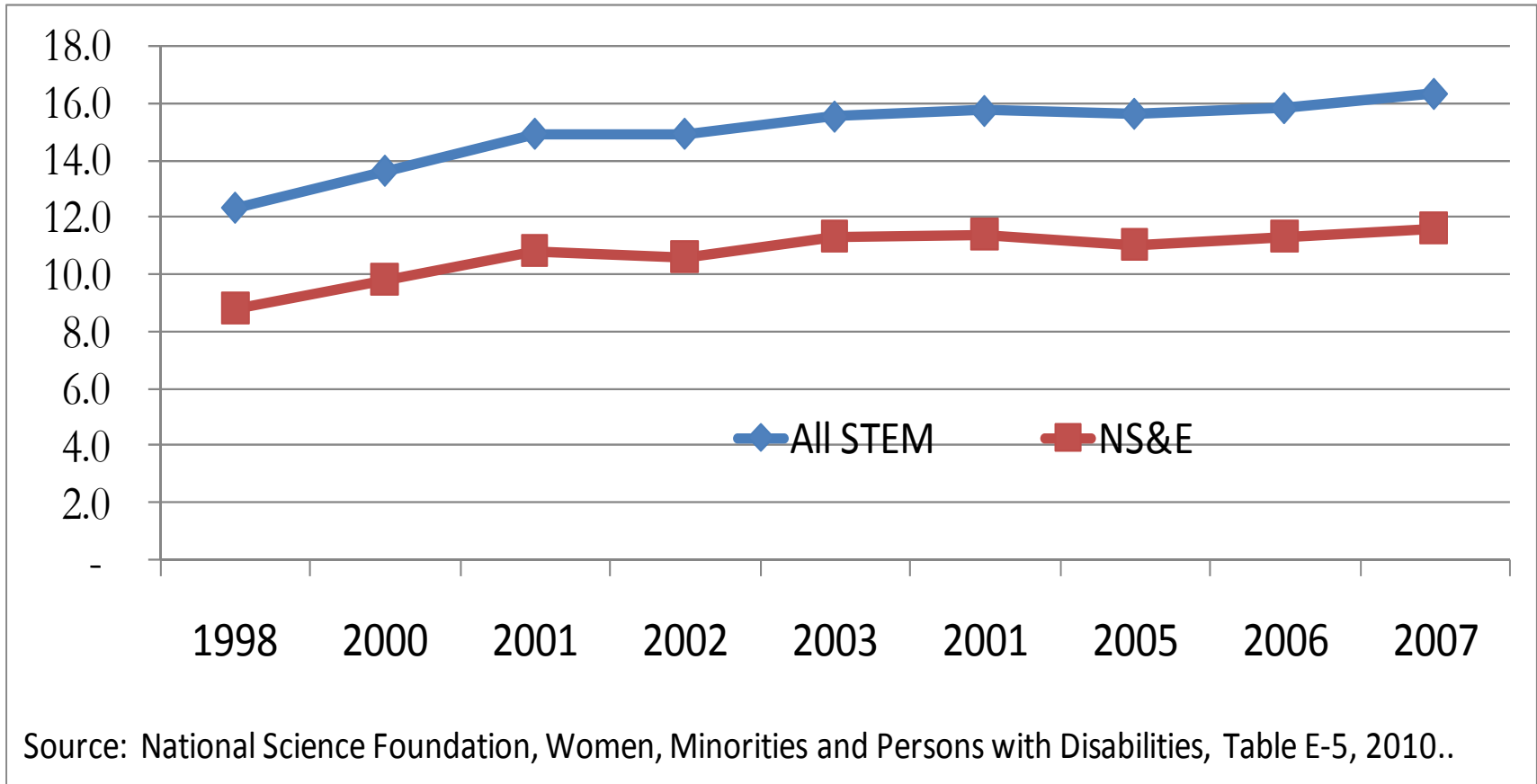
Source: National Science Foundation, WebCASPAR Database, May 3, 2010



Women's Proportion Among Master's Degrees in STEM Fields, 2007



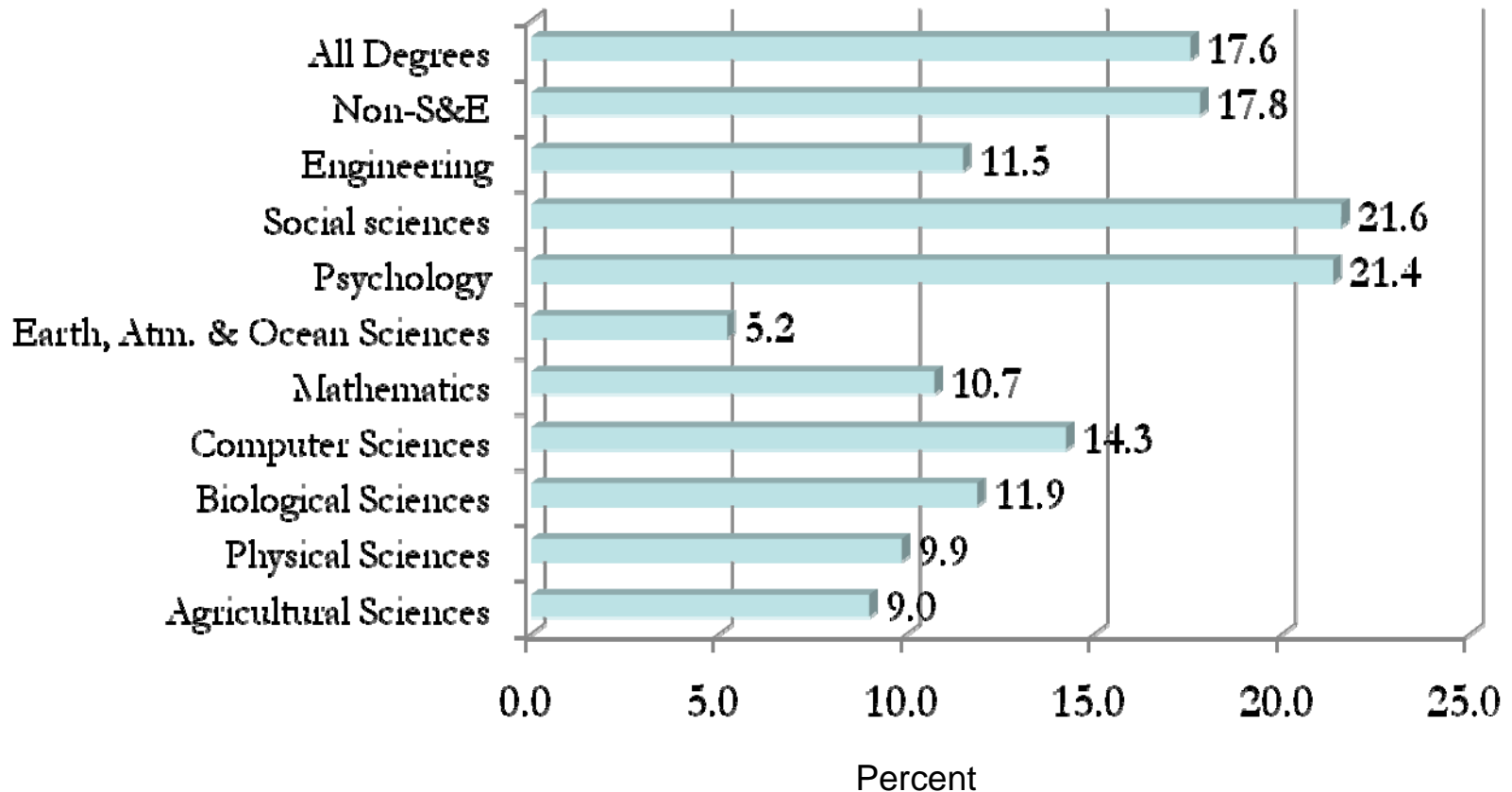
Growth of URM^{*} Earning Master's Degrees in S&E, 1998-2007



*Includes African Americans, Hispanics and American Indians/Alaska Natives.



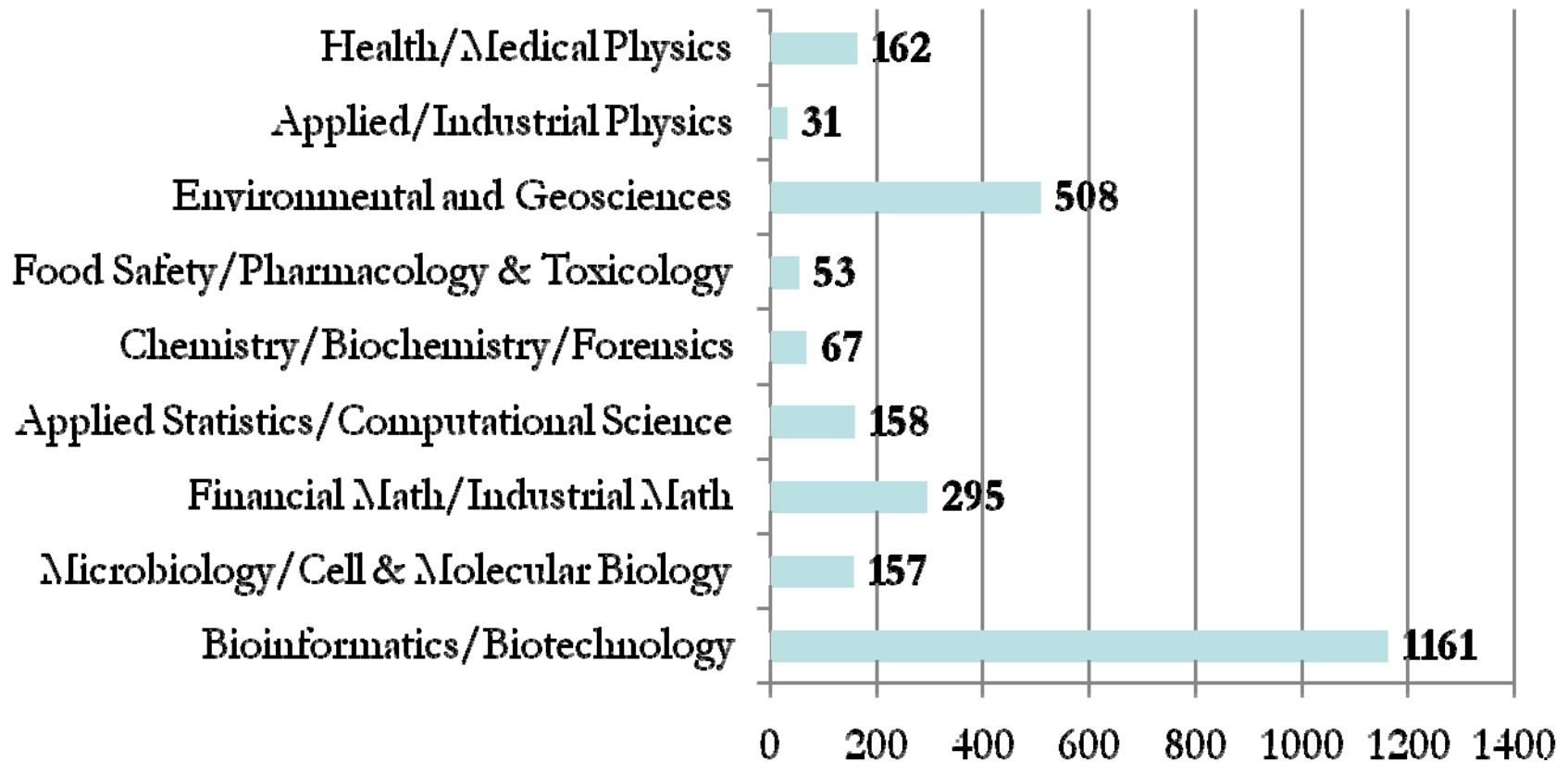
URMs Are Far from Parity in Master's Degree STEM Fields , 2007



Source: National Science Foundation, Women, Minorities and Persons with Disabilities, Table E-5, 2010.



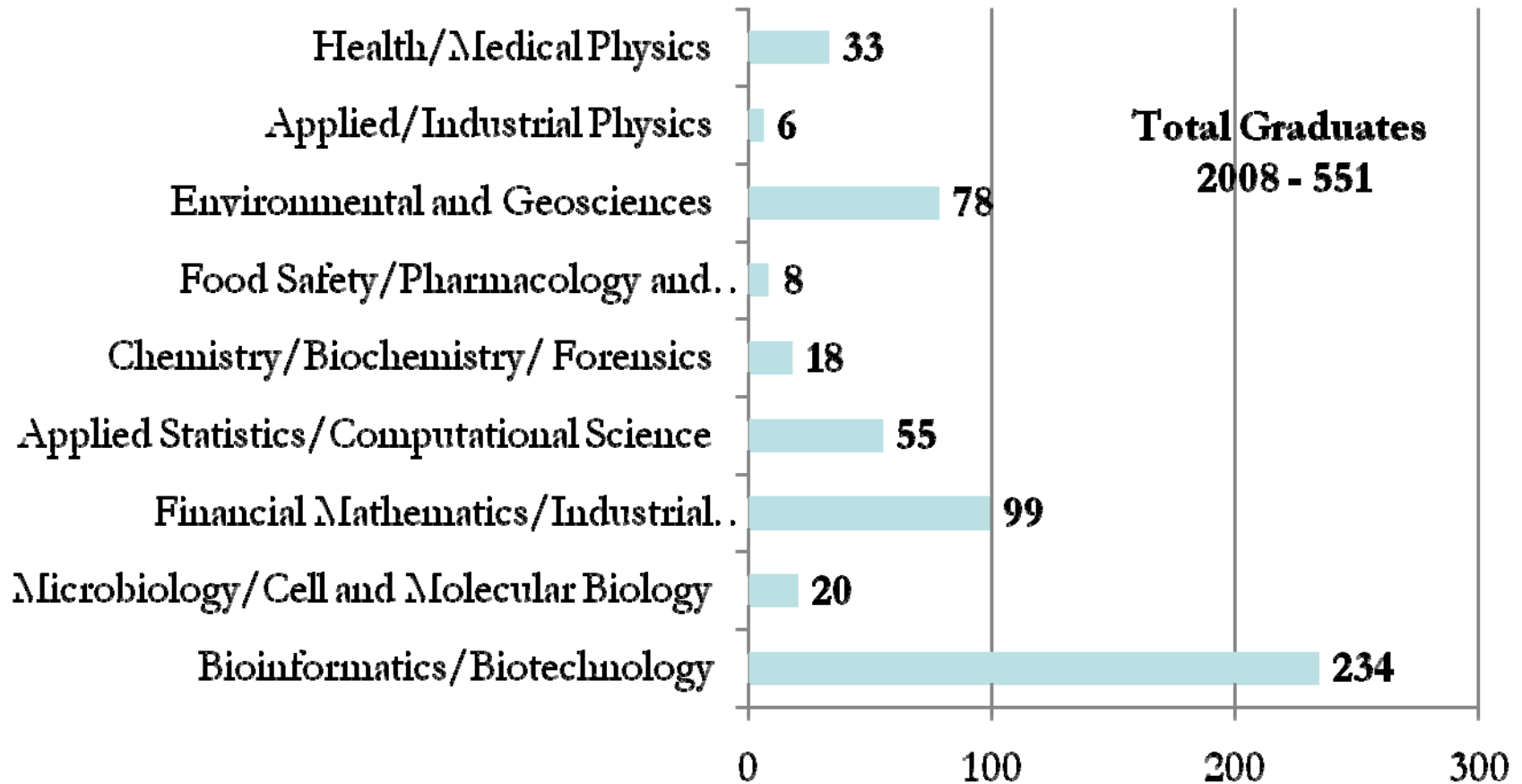
Enrollments in PSM Programs by Discipline, 2008



Source: NPSMA , *PSM Degree Program Enrollee and Graduate Report, 2009*



PSM Graduates by Discipline, 2008



Source: NPSMA , *PSM Degree Program Enrollee and Graduate Report, 2009*



Summary

- Master's programs represent about $\frac{3}{4}$'s of total graduate enrollment, with education and business comprising about 50% of total master's enrollment.
- Women represent more than 60% of total enrollment in master's programs, but their proportion varies greatly by discipline – highest in the health sciences and lowest in engineering.
- The growth in STEM master's degrees was led by computer science and psychology.
- U.S. citizens and permanent residents earn a majority of science and engineering master's degrees regardless of discipline – highest in psychology and social sciences; lowest in computer science and engineering.



Summary (continued)

- From 1998-2007, master's degrees increased the most in computer sciences; least in physical sciences.
- In STEM, women earn the most master's degrees in the social and behavioral sciences.
- While URMs represent over a third of 18-24-year olds in 2007, they earned 18% of all master's degrees, 16% of all STEM, but only 12% of NS&E degrees.
- Enrollments and Degrees in PSM programs are rising rapidly. NPSMA estimates September 2009 enrollment at 3,800 and 2009 Graduates at 750. Still a very small part of total STEM master's.
- Overall, women are about 46% of all PSM graduates, URMS 8%, and U.S. citizens and permanent residents about two-thirds.

