New Survey Data Show U.S. Graduate School Enrollments in Biomedical Sciences Continue to Rise; Academic Job Growth Greatest in Non-Tenure Track Positions

The National Science Foundation recently released new data from two national surveys. Together, these surveys provide an updated perspective on changes in training and employment in science, engineering, and mathematics.

The Survey of Graduate Students and Postdocs (GSS) is based on information collected from administrators at degree granting institutions and updated annually. Analysis of the most recent GSS data conducted by Federation of American Societies for Experimental Biology (FASEB) staff shows that first-time, full-time biological and medical science graduate school enrollments in doctorate granting departments rose from 17,612 in 2010 to 18,020 in 2011. The growth in enrollment was evenly divided between U.S. and foreign students. For U.S. citizens and permanent residents, growth in enrollment was slower than in previous years, while the increase for temporary residents was the largest since 2008 (Figure 1).

At the postdoctoral level, growth was muted. The GSS revealed that the number of biological and medical science postdocs at U.S. degree granting institutions remained constant between 2010 and 2011 (Figure 2). A slight increase in the number of U.S. citizens and permanent residents (approximately 450) was balanced by a commensurate loss of postdocs with temporary visas. This pattern, a slight increase in domestic participation and reduced foreign participation, was similar to that found in graduate school enrollments.

The Survey of Doctorate Recipients (SDR), a panel study of individuals earning doctorates from U.S. institutions, provides information on employment patterns of scientists and engineers. Data on individual scientists from the 2010 SDR, which was conducted at the height of the American Recovery and Reinvestment Act of 2009 stimulus spending, show an increase in the number of U.S. citizens and permanent residents employed in academia. While there was increased employment in most categories of academic employment, the greatest growth, in both absolute number and percentage, was in non-tenure track (“other academic”) academic positions (Figure 3).

Additional tables from the GSS, SDR, and other national surveys of scientific employment and training are available on the FASEB website.
Figure 1

First Time, Full Time Biological and Medical Sciences Graduate Students in Doctorate Granting Departments by Citizenship/Visa Status

Figure 2

Biological and Medical Sciences Postdocs by Citizenship/Visa Status
Figure 3

[Image of a chart showing the number of academically employed biomedical PhDs by tenure status from 1990 to 2008.]