Remarks before the Computing Research Association

The Adequacy of the U.S. S&E Workforce: A QUANTITATIVE PERSPECTIVE

John Sargent
Senior Policy Analyst
U.S. Department of Commerce

Unemployment Rates

Average Annual Unemployment
Engineers, IT Workers, Professional Specialties
1983-2002

Unemployment Rates

NOTE: The labor force and unemployed reported above include only the experienced unemployed, classified by the occupation of their last job. Computer system analysts and scientists includes computer analyst, computer scientist, computer-systems planning, computer-systems analyst, data processing consultant, information scientist, software specialist, and other occupations. Computer system analysts and scientists are classified within professional specialty occupations and computer programmers in technicians and related support occupations. Data for 2000-2002 have been revised to incorporate population controls from Census 2000.

Recent Occupational Growth

Growth in Numbers

-100 0 100 200 300 400 500 600 700 800

Computer Systems Analysts & Scientists
Electrical/Electronic Engineers
Computer Programmers
Civil Engineers
Medical Scientists
Chemists
Biological/Life Scientists
Aerospace Engineers
Engineers, n.e.c.
Atmospheric/Space Industrial Engineers
Geologists/Geodesists
Forestry/Conservation Scientists
Mathematical Scientists, n.e.c.
Agricultural Engineers
Nuclear Engineers
Agricultural/Food Scientists
Metallurgical/Materials Engineers
Petroleum Engineers
Mining Engineers
Physical Scientists, n.e.c.
Physicists/Astronomers
Marine Engineers
Mechanical Engineers
Chemical Engineers

Employment Growth in S&E Occupations
1996-2001, In Thousands

Occupational Distribution of Projected S&E Job Openings
(new jobs plus net replacements)
2002-2012

70%

Information Technology

Engineers
Life Scientists
Physical Scientists
Natural Science Managers

IT, Science and Engineering Occupational Projections, 2002-2012

Employment, Numbers

2003
2012

Professional IT Occupations
Engineers
Life Scientists
Physical Scientists
Natural Science Managers

IT, Science and Engineering Occupational Projections, 2002-2012

Employment Growth: Numbers

0 200,000 400,000 600,000 800,000 1,000,000 1,200,000 1,400,000

Professional IT Occupations
Engineers
Life Scientists
Physical Scientists
Natural Science Managers

IT, Science and Engineering Occupational Projections, 2002-2012
The Market Perspective
Degree Production vs. Projected Job Openings

Engineering
Degrees & Projected Job Openings

Physical Sciences
Degrees & Projected Job Openings

Mathematics and Computer Science
Degrees & Projected Job Openings

Biological and Agricultural Sciences
Degrees & Projected Job Openings

SOURCES: Tabulated by National Science Foundation/Division of Science Resources Statistics; degree data from Department of Education/National Center for Education Statistics: Integrated Postsecondary Education Data System Completions Survey; and NSF/SRS: Survey of Earned Doctorates; Projected Annual Average Job Openings derived from Department of Commerce (Office of Technology Policy) analysis of Bureau of Labor Statistics 2002-2012 projections.