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Statistical Data (110)

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*College Science; Doctoral Degrees; Employment Patterns; Financial Support; Global Approach; Graduate Students; Higher Education; *Human Resources; *International Trade; Minority Groups; *Research and Development; *Science and Society; Statistics; Tables (Data); *Technology

Designed to provide easy access to information pertaining to science and technology, this data book provides indicators on: (1) funding for research and development; (2) human resources utilization and supply; and (3) international science and technology indicators. Graphs and charts are used to note research and development efforts from a nationwide perspective with expenditures from federal, industrial and academic sources illustrated. Comparative graphs on human resources provide data on employed scientists and engineers, employed doctorates, women in science and technology, racial minorities, and school retention rates. In addition, assessments of the supply of professionals in science and technology are presented by type and number of degrees awarded, and full-time graduate students currently enrolled. Several international science and technology indicators are outlined, such as ratios of research and development to gross national product (by country), U.S. patents granted to U.S. and foreign inventors, data on U.S. trade balances in high technology, and U.S. scientific and technical publications as compared to world publications. Three pages list other science resources. (MVL)
Telephonic Device for the Deaf

The National Science Foundation has Telephonic Device for the Deaf (TDD) capability which enables individuals with hearing impairment to communicate with the Division of Personnel and Management for information relating to NSF programs, employment, or general information. The TDD number is (202) 357-7492.

Suggested Citation of This Publication

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**Figure 1. The national R&D effort**

Expenditures for research and development = 130.8 billion, 1989 (est.)

**By source**
- 1.4% Other nonprofit institutions
- 2.9% Universities and colleges
- 4.7% Federal Government
- 28% Industry

**By performer**
- 10.8% FFRDCs
- 3.6% Universities and colleges
- 28% (FFRDCs) FFRDCs

**By character of work**
- Development
- Applied
- Basic

**By sector**
- 3.7% Other nonprofit institutions
- 4.9% Universities and colleges
- 7.8% Industry
- 19.8% Federal Government

SOURCE: National Science Foundation

Emploved R&D scientists/engineers = 801,400, 1987 (est.)

Additional data may be obtained from John R. Currano, NBS Tel (202) 534 4625
Figure 2. National R&D funding by source

(Dollars in millions)

Average annual rate of change

(Constant (1982) dollars)
### Figure 3. National R&D funding by performer

(Dollars in millions)

<table>
<thead>
<tr>
<th>Current dollars</th>
<th>Constant (1982) dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Government</td>
</tr>
<tr>
<td>1960-68</td>
<td>11.0</td>
</tr>
<tr>
<td>1967-68</td>
<td>11.3</td>
</tr>
<tr>
<td>1968-75</td>
<td>11.1</td>
</tr>
<tr>
<td>1975-82</td>
<td>11.4</td>
</tr>
<tr>
<td>1982-88</td>
<td>11.4</td>
</tr>
<tr>
<td>1988-89</td>
<td>11.3</td>
</tr>
</tbody>
</table>

**Average annual rate of change**

Constant (1982) dollars

[Graph showing average annual rate of change]
Figure 4. National R&D spending by character of work
Figure 5. Federal R&D obligations by character of work

[Dollars in millions]

[Billions of dollars]

Basic research

Applied research

Development

Total R&D

1979
1984
1988 (est.)
1989 (est.)

1979
1984
1988 (est.)
1989 (est.)

1979
1984
1988 (est.)
1989 (est.)

1979
1984
1988 (est.)
1989 (est.)

Current dollars
Constant (1982) dollars

Based on GNP implicit price deflator
SOURCE: National Science Foundation
Additional data may be obtained from Margaret R. Grucz. SRS, Tel. (202) 634 4533
Figure 6. Federal R&D obligations by major agency
Figure 7. Federal R&D obligations by major performer

(Billions of dollars)

Current dollars

Constant (1982) dollars

1979

1989 (est.)

SOURCE National Science Foundation

Additional data may be obtained from Margaret R. Grucza, NAS, Tel. (202) 634 4636
Figure 8. Federal obligations for basic research by major field of science/engineering
Figure 9. Federal obligations for basic research by major agency

Billions of dollars

<table>
<thead>
<tr>
<th>Year</th>
<th>Obligations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1979</td>
<td>1.5</td>
</tr>
<tr>
<td>1984</td>
<td>2.5</td>
</tr>
<tr>
<td>1988 (est.)</td>
<td>4.0</td>
</tr>
<tr>
<td>1989 (est.)</td>
<td>4.5</td>
</tr>
</tbody>
</table>

SOURCE: National Science Foundation

Additional data may be obtained from Margaret R. Grucza, SRS, Phone (202) 334-4636
Figure 10. Federal obligations for basic research by major performer

[Billions of dollars]

Current dollars

1979

1989 (est.)

Constant (1982) dollars

Based on GNP implicit price deflator

SOURCE National Science Foundation

Additional data may be obtained from Margaret R. Grucza, SRS, Tel (202) 634 4636
Figure 11. Industrial R&D expenditures by source of funds
Figure 12. Industrial R&D expenditures by character of work
Figure 13. Company R&D expenditures and R&D/sales ratio of six leading industries

Billions of dollars

- Electrical equipment
- Machinery
- Chemicals & allied products
- Motor vehicles
- Instruments
- Aircraft & missiles
- Other

Source: National Science Foundation
Figure 14. Academic R&D expenditures by source

Other nonprofit institutions (6%)
Non-Federal (40%)
1988

NOTE: The portion of academic R&D has ranged between 60 percent and 69 percent during the 1970-88 period.

SOURCE: National Science Foundation

May be obtained from James B. Hoehn, SRS Tel (202) 634-4573
**Figure 15. Academic R&D expenditures by character of work**

<table>
<thead>
<tr>
<th>Year</th>
<th>Basic research</th>
<th>Applied research and development</th>
<th>Basic research</th>
<th>Applied research and development</th>
</tr>
</thead>
<tbody>
<tr>
<td>1968</td>
<td>5.6%</td>
<td>10.4%</td>
<td>-0.8%</td>
<td>3.7%</td>
</tr>
<tr>
<td>1975</td>
<td>10.3%</td>
<td>11.2%</td>
<td>4.3%</td>
<td>5.1%</td>
</tr>
</tbody>
</table>

**Average annual rate of change**

- **Current dollars**
  - Basic research: 5.6%
  - Applied research and development: 10.4%
- **Constant (1982) dollars**
  - Basic research: -0.8%
  - Applied research and development: 3.7%

**Billions of dollars**

<table>
<thead>
<tr>
<th>Current dollars</th>
<th>Constant (1982)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1968</td>
<td>77%</td>
</tr>
<tr>
<td>1975</td>
<td>71%</td>
</tr>
<tr>
<td>1989 (est)</td>
<td>68%</td>
</tr>
<tr>
<td>1968</td>
<td>23%</td>
</tr>
<tr>
<td>1975</td>
<td>29%</td>
</tr>
<tr>
<td>1989 (est)</td>
<td>32%</td>
</tr>
</tbody>
</table>
Figure 16. Academic R&D expenditures by field: FY 1987

Total: $12.0 billion

NOTE

Academic R&D expenditures by field: FYs 1982-87

(Dollars in billions)

NOTE. Because of rounding, components may not add to totals

SOURCE. National Science Foundation
Figure 17. Federal obligations to universities and colleges by type of activity

[Dollars in millions]

1Detail may not add to total because of rounding.
2Total obligations for the years 1981 through 1983 have been estimated by NSF based on revised data on student aid provided by the Department of Education.
3Academic research and development is estimated at $7.8 billion for 1988 and $8.2 billion for 1989. Separate data for the other components of academic science, engineering and non science/engineering are not available.
4Separate data were unavailable for this component before 1966. Its total was imbedded within the total for all other S & E activities for the years 1963 through 1965.
5Based on GNP implicit price deflator.

SOURCE: National Science Foundation.

Additional data may be obtained from Margaret A Grucza, SRS Tel: (202) 634-4536.
Figure 18. Employed scientists/engineers by field: 1988 (est.)

Scientists/engineers total = 5.5 million

- Aeronautical/astronautical (2%)
- Chemical (3%)
- Civil (6%)
- Computer (13%)
- Physical (4%)
- Life (8%)
- Scientists = 2.6 million (48%)
- Engineers = 2.9 million (52%)
- Mathematical (3%)

SOURCE National Science Foundation

Employed scientists and engineers by field
Figure 19. Scientists and engineers by field and citizenship: 1986
Figure 20. Employed scientists and engineers by sector: 1988 (est.)

Scientists/engineers, total = 5.5 million

- Federal Government (8%)
- Other (10%)
- Academia (14%)

Scientists = 2.6 million

- Federal Government (8%)
- Other (13%)
- Academia (24%)
- Industry (55%)

Engineers = 2.9 million

- Federal Government (8%)
- Other (8%)
- Academia (4%)

SOURCE Newel Science Foundation

Additional data may be obtained from Michael F. Crowley, SRS, Tel. (202) 634-4664
Figure 21. Employed scientists and engineers by primary work activity: 1988 (est.)

Scientists/engineers total = 5.5 million

- Teaching: 8%
- Management: 27%
- Teaching: 14%
- Management: 25%
- Teaching: 2%
- Management: 30%

Scientists = 2.6 million
Engineers = 2.9 million

SOURCE National Science Foundation
Additional data may be obtained from Michael F. Crowley, SRS, Tel. (202) 534 4564
Figure 22. Employed scientists and engineers by highest degree: 1986

Scientists/engineers total = 4.6 million

- Other (6%)
- Doctorate (13%)
- Master's (24%)
- Bachelor's (57%)

Scientists = 2.2 million

- Bachelor's (52%)
- Doctorate (4%)
- Other (13%)
- Master's (24%)

Engineers = 2.4 million

- Bachelor's (60%)
- Doctorate (4%)
- Other (13%)
- Master's (23%)

NOTE Because of rounding, components may not add to totals. For additional data, contact Alchaet F. Gooney, SRS, tel. (202) 634-4664.
Figure 23. Doctoral scientists and engineers by field and citizenship: 1985

"Too few cases to estimate"

Source: National Science Foundation

Additional information may be obtained from Michael F. Crowley, SRS Tel. (202) 634 4664
Scientists = 334,500

- Computer specialists (4%)
- Mathematical (5%)

Engineers = 65,900

- Aeronautical/astronautical (6%)
- Civil (10%)
- Mechanical (10%)

Scientists/engineers total = 400,400

Figure 24. Employed doctorates in science and engineering by field: 1985

SOURCE: National Science Foundation

Additional data may be obtained from Michael F. Crowley, SRS, Tel. (202) 634 4564
Figure 25. Women and racial minorities as a proportion of all employed scientists, engineers, and professional workers

NOTE: NA not available
SOURCES National Science Foundation, SRS, and Department of Labor
Additional data may be obtained from Michael F. Crowley, SRS, Tel (202) 634-4664
Figure 26. Retention rates for U.S. citizens, fifth grade through receipt of science/engineering (S/E) doctorate: 1966-87

Of the 4,000,000 U.S. 5th-grade pupils:
- 77% graduated from high school
- 46% entered college
- 7% received S/E bachelor's degrees
- 2% entered S/E graduate schools
- 0.4% received S/E doctorates

NOTE: Calculations are based on comparisons of enrollment and degree awards to U.S. citizens only.

SOURCES: Center for Education Statistics and National Science Foundation SRS
Additional data may be obtained from Mary A. Gowaney, SRS, Tel. (202) 634-4787
Figure 27. Bachelor's degrees awarded in major science/engineering fields

<table>
<thead>
<tr>
<th>Field</th>
<th>1976</th>
<th>1981</th>
<th>1986</th>
</tr>
</thead>
<tbody>
<tr>
<td>Science/engineering, total</td>
<td>292,174</td>
<td>294,867</td>
<td>323,950</td>
</tr>
<tr>
<td>Engineering, total</td>
<td>39,114</td>
<td>64,068</td>
<td>77,061</td>
</tr>
<tr>
<td>Sciences, total</td>
<td>253,060</td>
<td>230,799</td>
<td>246,889</td>
</tr>
<tr>
<td>Life sciences</td>
<td>77,301</td>
<td>68,086</td>
<td>56,465</td>
</tr>
<tr>
<td>Mathematical/computer sciences</td>
<td>21,749</td>
<td>26,406</td>
<td>58,583</td>
</tr>
<tr>
<td>Physical sciences</td>
<td>21,559</td>
<td>24,175</td>
<td>21,862</td>
</tr>
<tr>
<td>Social sciences</td>
<td>132,451</td>
<td>112,132</td>
<td>109,979</td>
</tr>
</tbody>
</table>

SOURCES: Center for Education Statistics and National Science Foundation, SRS. Additional data may be obtained from Mary A. Golladay, SRS, Tel. (202) 634-4767.
Figure 28. Master's degrees awarded in major science/engineering fields

<table>
<thead>
<tr>
<th>Field</th>
<th>1976</th>
<th>1981</th>
<th>1986</th>
</tr>
</thead>
<tbody>
<tr>
<td>Science/engineering, total</td>
<td>54,747</td>
<td>54,811</td>
<td>62,526</td>
</tr>
<tr>
<td>Engineering, total</td>
<td>16,170</td>
<td>17,373</td>
<td>21,314</td>
</tr>
<tr>
<td>Sciences, total</td>
<td>38,577</td>
<td>37,438</td>
<td>41,212</td>
</tr>
<tr>
<td>Life sciences</td>
<td>9,823</td>
<td>9,731</td>
<td>8,572</td>
</tr>
<tr>
<td>Mathematical/computer sciences</td>
<td>6,466</td>
<td>6,787</td>
<td>11,241</td>
</tr>
<tr>
<td>Physical sciences</td>
<td>5,485</td>
<td>5,300</td>
<td>5,910</td>
</tr>
<tr>
<td>Social sciences</td>
<td>16,803</td>
<td>15,620</td>
<td>15,489</td>
</tr>
</tbody>
</table>

SOURCES: COMET (Center for Education Statistics and National Science Foundation, SRS). Additional data may be obtained from Mary A. Galikay, SRS Tel (202) 634-4787.
Figure 29. Doctor’s degrees awarded in major science/engineering fields

<table>
<thead>
<tr>
<th>Field</th>
<th>1977</th>
<th>1982</th>
<th>1987</th>
</tr>
</thead>
<tbody>
<tr>
<td>Science/engineering, total</td>
<td>17,416</td>
<td>17,629</td>
<td>19,222</td>
</tr>
<tr>
<td>Engineering, total</td>
<td>4,643</td>
<td>2,646</td>
<td>3,716</td>
</tr>
<tr>
<td>Sciences, total</td>
<td>14,773</td>
<td>14,982</td>
<td>15,506</td>
</tr>
<tr>
<td>Life sciences</td>
<td>4,266</td>
<td>4,844</td>
<td>4,800</td>
</tr>
<tr>
<td>Mathematical/computer sciences</td>
<td>964</td>
<td>940</td>
<td>1,190</td>
</tr>
<tr>
<td>Physical sciences</td>
<td>3,415</td>
<td>3,351</td>
<td>3,679</td>
</tr>
<tr>
<td>Social sciences</td>
<td>6,128</td>
<td>5,848</td>
<td>5,679</td>
</tr>
</tbody>
</table>
### Figure 30. Full-time science/engineering graduate students in doctorate-granting institutions by source of major support

<table>
<thead>
<tr>
<th>Source of major support</th>
<th>1975</th>
<th>1986</th>
<th>1987</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total, all sources</td>
<td>210,321</td>
<td>259,471</td>
<td>264,062</td>
</tr>
<tr>
<td>Federal Government</td>
<td>48,249</td>
<td>51,342</td>
<td>53,608</td>
</tr>
<tr>
<td>Institutional support</td>
<td>77,083</td>
<td>107,668</td>
<td>110,674</td>
</tr>
<tr>
<td>Other outside support</td>
<td>16,852</td>
<td>26,499</td>
<td>25,340</td>
</tr>
<tr>
<td>Self-support</td>
<td>68,137</td>
<td>73,962</td>
<td>75,240</td>
</tr>
</tbody>
</table>

**Note:** Additional data may be obtained from Mary A. Gobla, SRS, Tel. (202) 634-4787.
Figure 31. Full-time science/engineering graduate students in doctorate-granting institutions by type of major support

<table>
<thead>
<tr>
<th>Type of support</th>
<th>1975</th>
<th>1986</th>
<th>1987</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total, all types</td>
<td>210,321</td>
<td>259,471</td>
<td>264,862</td>
</tr>
<tr>
<td>Fellowship and traineeships</td>
<td>38,812</td>
<td>37,356</td>
<td>37,180</td>
</tr>
<tr>
<td>Research assistantships</td>
<td>40,136</td>
<td>65,550</td>
<td>69,848</td>
</tr>
<tr>
<td>Teaching assistantships</td>
<td>47,348</td>
<td>60,977</td>
<td>60,996</td>
</tr>
<tr>
<td>Other types of support</td>
<td>84,025</td>
<td>95,588</td>
<td>96,838</td>
</tr>
</tbody>
</table>
Figure 32. Full-time science/engineering graduate students in doctorate-granting institutions by field and citizenship

### Thousands

<table>
<thead>
<tr>
<th>Field</th>
<th>1975</th>
<th>1986</th>
<th>1987</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>158</td>
<td>281</td>
<td>288</td>
</tr>
<tr>
<td>Life sciences</td>
<td>109</td>
<td>181</td>
<td>193</td>
</tr>
<tr>
<td>Engineering</td>
<td>321</td>
<td>445</td>
<td>447</td>
</tr>
<tr>
<td>Social sciences</td>
<td>124</td>
<td>246</td>
<td>248</td>
</tr>
<tr>
<td>Physical sciences</td>
<td>206</td>
<td>342</td>
<td>349</td>
</tr>
<tr>
<td>Psychology</td>
<td>29</td>
<td>47</td>
<td>48</td>
</tr>
<tr>
<td>Computer sciences</td>
<td>231</td>
<td>407</td>
<td>414</td>
</tr>
<tr>
<td>Mathematical sciences</td>
<td>186</td>
<td>422</td>
<td>428</td>
</tr>
<tr>
<td>Environmental sciences</td>
<td>97</td>
<td>165</td>
<td>185</td>
</tr>
</tbody>
</table>

**SOURCE:** National Science Foundation, SRS

Additional data may be obtained from Mary A. Golladay, SRS, Tel. (202) 634-787
Figure 33. Scientists and engineers engaged in R&D per 10,000 labor force by country

Per 10,000 labor force

120

110

100

90

80

70

60

50

40

30

20

10

0

1969 71 73 75 77 79 81 83 85 86

NOTE: A figure has been omitted for the USSR because of the difficulties inherent in comparing Soviet scientific personnel data.

SOURCES: National Science Foundation, SRS, Organisation for Economic Co-operation and Development, Dr. Robert Campbell (Indiana University).

Data may be obtained from Jennifer Bond, SRS, Tel. (202) 634 4640.
Figure 34. Scientists and engineers engaged in research and development by country: 1965-87
(In thousands)

NOTES: Table includes all scientists and engineers engaged in research and development on a full time basis except Japan, whose data include persons primarily employed in research and development in natural sciences and engineering, and the United Kingdom whose data include only the Government and industry sectors. The figures for West Germany increased in 1979 in part because of increased coverage of small and medium enterprises not surveyed in 1977. The figures for France increased in 1981 in part due to a reevaluation of university research efforts. Data are estimated by the National Science Foundation for the following countries and years: France 1986 and 1987; Germany, 1978-1980, 1982, 1984, 1986, and 1987; United Kingdom 1984.

SOURCES: National Science Foundation, SRS, Organization for Economic Cooperation and Development and national country data. Data for the Soviet Union were provided by Robert Campbell, Indiana University, and Harley Balzer, Georgetown University.

Additional data may be obtained from Jennifer Bond, SRS, Tel (202) 634 4640.
Figure 35. R&D/GNP by country

Nondefense R&D/GNP by country

Data are based on GDP and consequently percentages may be slightly overstated compared to GNP. Currency conversions to U.S. dollars are calculated with OECD purchasing power parity exchange rates. Constant 1982 dollars are based on U.S. Department of Commerce GNP implicit price deflators. Data for 1987 are based on national estimates of R&D expenditures. After 1977, U.S. data are budget authority instead of budget obligations.

Sources: National Science Foundation, SRS, Organisation for Economic Co-operation and Development, the International Monetary Fund, and national sources. Additional data may be obtained from Jennifer Bond, SRS, Tel (202) 6344 4540.
Figure 36. National expenditures on research and development* by selected countries: 1980-87

*Gross expenditures for performance of R&D including associated capital expenditures except for the United States where total capital expenditure data are not available.

Conversions of foreign currencies to U.S. dollars are calculated based on OECD purchasing power parity exchange rates. Constant 1982 dollars are based on U.S. Department of Commerce GNP implicit price deflators.

Data for 1987 are national estimates.

SOURCES: National Science Foundation, SRS, Organisation for Economic Co-operation and Development, and national sources.

Additional data may be obtained from Jennifer Bond, SRS, Tel. (202) 534 4640.
Figure 38. U.S. receipts and payments of royalties and license fees associated with unaffiliated residents of selected countries

(Millions of dollars: constant (1982)')

1GDP implicit price deflators used to convert current to constant 1982 dollars

NOTE NA = Not available


Additional data may be obtained from Carlos Kinlaybosch, SRS, Tel (202) 634 4582
Figure 39. Foreign direct investment in the United States

(Millions of dollars constant 1982)

*GNP implicit price deflators used to convert current dollars to constant 1982 dollars


Additional data may be obtained from Carlos Kruytbosch, SAS Tel. (202) 634 1682
Figure 40 - Gross domestic product per employed person

[Plot of economic data with index values and years from 1970 to 1987]

SOURCE: Bureau of Labor Statistics, Department of Labor

Data may be obtained from Jennifer Bond, SRS, Tel (202) 634 4640
Figure 41. U.S. trade balance in high-technology and nonhigh-technology manufactured products, 1970-87

[Billions of dollars]

U.S. Department of Commerce

Exports less imports

Exports and imports

SOURCE: Department of Commerce, International Trade Administration

Additional data may be obtained from Jennifer Bond, SRS Tel. (202) 634 4640
Figure 42. Total foreign affiliate assets of U.S. corporations, as a percent of total parent assets: 1986

Industry

All manufacturing industries
High-technology manufacturing industries
Radio, television and communications equipment
Electronic components and accessories
Office and computing machines
Drugs and medicines
Industrial chemicals and synthetics
Instruments and related products
Engines and turbines
Other manufacturing industries

Figure 43. Exports of high-technology* products as a percent of shipments: 1978-86


Additional data may be obtained from Carlos Kruytbosch, SRS, Tel. (202) 634-4582.
Figure 44. Export market shares, selected high-technology products: 1976, 1980, and 1986

SOURCES National Science Foundation, SRI Special Tabulations of International Trade 1988
Additional data may be obtained from Jennifer Bond SAS Tel (202) 634 4640
**Figure 45.** U.S. scientific and technical (S/T) publications as a percent of world S/T publications: 1986

- **All fields**
- **Clinical medicine**
- **Biomedicine**
- **Biology**
- **Chemistry**
- **Physics**
- **Earth & space sciences**
- **Engineering & technology**
- **Mathematics**

**NOTE** These data are based on the articles, notes, and reviews in over 3,000 influential journals carried in the 1981 Science Citation Index of the Institute for Scientific Information. An article written by researchers from more than one country is prorated across the countries involved.

**SOURCE** Computer Horizons, Inc.

Additional data may be obtained from Carlos Krauthausen, CSS, Tel. (202) 634-4882
Other Science Resources Publications

NOTE: Except where otherwise noted, all publications in this list are in paper copy and may be obtained gratis from the National Science Foundation, Washington, D C 20550

Highlights

R&D Fields

"Economic Outlook and Corporate Mergers Cam pen Growth in Company R&D" 88-311
Industrial Biotechnology R&D Performance Increased an Estimated 12 Percent in 1987 to $1.4 Billion 88-306
Non Federal Sources Lead Growth in Academic Research Instrumentation Support 88-319
Real Growth in Academic R&D Spending Slowed to 2% in FY 1987. Down from 9% in 1986 88-314
Real Increase in 1988 National R&D Funds Estimated at Lowest Rate in Eleven Years 88-303
Universities Report Improvement in Computer and Physical Science Instrumentation, but Deterioration in Engineering 87-316

S/E Personnel

Foreign Students Fueled 2% Rise in 1985 Graduate Science and Engineering Enrollment 87-306
More Recent Science and Engineering (S/E) Graduates Finding S/E Jobs 88-310
Recent-Doctorate Faculty Increase in Engineering and Some Science Fields 87-310
Scientists and Engineers Now Account for Over 4 Percent of Total U S Employment 87-313
Services Led in Private Industry Growth in Science: Engineering Jobs but Manufacturing Rebounds and Tops 1 Million in 1987 87-304

Detailed Statistical Tables

NOTE: Data sets from most Detailed Statistical Tables reports are obtainable on both diskette and in paper copy, and data sets from all Tables reports are available through the SRS Electronic Bulletin Board. An SRS Number is given for any title for which only a diskette is available. All numbers given below are NSF Numbers except those specified as SRS.
R&D Funds

Academic Science/Engineering Graduate Enrollment and Support, Fall 1986
Academic Science/Engineering R&D Funds, Fiscal Year 1986
Federal Support to Universities, Colleges, and Selected Nonprofit Institutions Fiscal Year 1986

S/E Personnel

Characteristics of Doctoral Scientists and Engineers in the United States 1985
Characteristics of Recent Science/Engineering Graduates 1986
Federal Scientists and Engineers Fiscal Year 1986
Immigrant Scientists and Engineers 1986
Science and Engineering Degrees 1950-86 A Source Book
Science and Engineering Doctorates 1960-83
Scientists, Engineers, and Technicians in Manufacturing Industries 1983
Scientists, Engineers, and Technicians in Nonmanufacturing Industries 1984
Scientists, Engineers, and Technicians in Trade and Regulated Industries 1985
U.S. Scientists and Engineers 1988

Reports (analytical)

Note: All Reports are available in paper copy. Additionally, selected tables from some of these Reports (designated in the following list by an asterisk) are obtainable on diskette and through the SRS Electronic Bulletin Board

Overviews

Biotechnology Research and Development Activities in Industry 1984 and 1985
Foreign Citizens in U.S. Science and Engineering  History, Status, and Outlook
Geographic Distribution of Industrial R&D Expenditures