

FEDERAL ACADEMIC S&E OBLIGATIONS INCREASED 13 PERCENT IN FY 2001: RECORD HIGHS REPORTED IN FIVE OF SIX FUNDING CATEGORIES

by Richard J. Bennof

According to the National Science Foundation's (NSF's) newly available data from the Survey of Federal Science and Engineering Support to Universities, Colleges, and Nonprofit Institutions, Federal agency obligations for academic science and engineering (S&E) activities reached \$22.5 billion in FY 2001, a historic high. This amount represents an increase of \$2.6 billion, or 13 percent (11 percent when accounting for inflation), over FY 2000 levels. The increase follows a 10 percent current-dollar increase (8 percent in real dollars) in total Federal academic support between FYs 1999 and 2000.

Categories of Support

Federal academic S&E obligations are divided into six categories, all of which registered increased support in FY 2001 (table 1). In five of the categories, support reached record levels. The largest category is research and development (R&D) projects, which have accounted for 84 to 87 percent of total Federal academic S&E support over the last decade (figure 1). A new high of \$19.4 billion was reached in this category in FY 2001, representing a 12 percent current-dollar increase (a 10 percent increase in real dollars) over the previous year. The Department of Health and Human Services (HHS) accounted for just over three-fifths (\$11.9 billion) of all Federal academic R&D obligations in FY 2001 and for more than two-thirds of the total R&D increase.

Federal academic S&E support covers five other categories as well: fellowships, traineeships, and

training grants (FTTGs); R&D plant; facilities and equipment for S&E instruction; general support for S&E; and other S&E activities. Funding levels increased in FY 2001 for all five of these categories; moreover, all categories except for FTTGs were at record funding levels.

Federal agency obligations for academic science and engineering (S&E) activities reached \$22.5 billion in FY 2001, a historic high.

- Federal obligations for FTTGs increased by 8 percent to \$842 million, just under FY 1999's record \$844 million. HHS was the major source of the latest increase.
- Federal support for R&D plant (R&D facilities and fixed equipment) increased by 67 percent to a new high of \$401 million. Most of the increase was from funding by NSF and the National Aeronautics and Space Administration (NASA).
- Funds for facilities and equipment for S&E instruction rose to \$68 million, a 13 percent jump. Most of this increase was reported by the Department of Transportation.



- Funding for general support projects totaled \$332 million in FY 2001, a 6 percent rise stemming mostly from increased HHS support. Such projects include activities that provide support for nonspecific or generalized purposes related to scientific research and education.
- Obligations for other S&E activities increased 23 percent to \$1.5 billion. Most of this increase was supplied by NSF. This category encompasses all academic S&E obligations that cannot be assigned elsewhere and includes activities supporting technical conferences, teacher institutes, and programs aimed at increasing the scientific knowledge of precollege and undergraduate students.

Agency Sources

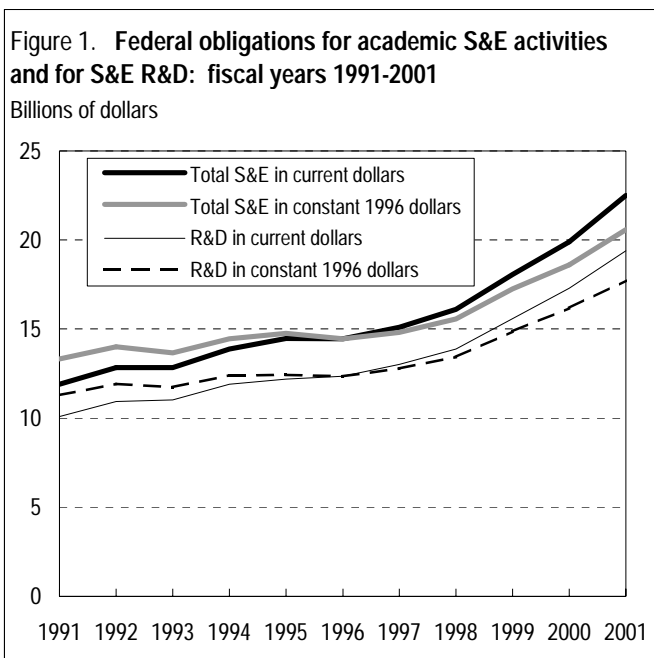
HHS accounted for 57 percent of all Federal FY 2001 academic S&E obligations. HHS, NSF, and the Department of Defense (DoD) together provided 81 percent of total Federal academic S&E funding. S&E funds obligated by HHS grew 13 percent in current terms. NSF and DoD reported S&E support level increases of 18 and 7 percent, respectively, in current dollars. The Department of Agriculture (USDA), NASA, and the Department of Energy (DOE) provided

Table 1. Federal academic science and engineering (S&E) obligations, by type of activity: fiscal years 2000-01

Type of activity	FY 2000	FY 2001	Current dollars	Constant 1996 dollars
	Millions of dollars		Percent change	
S&E total.....	19,877	22,488	13.1	10.6
R&D.....	17,290	19,385	12.1	9.6
R&D plant.....	240	401	67.3	63.5
Facilities for instruction.....	60	68	13.5	10.9
Fellowships, traineeships, and training grants.....	783	842	7.6	5.2
General support for S&E.....	314	332	5.6	3.2
Other S&E activities.....	1,191	1,461	22.6	19.8

NOTES: Percent changes are based on unrounded numbers. Details may not add to totals because of rounding

SOURCE: National Science Foundation, Division of Science Resources Statistics, Survey of Federal Science and Engineering Support to Universities, Colleges, and Nonprofit Institutions, FY 2001



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74 percent of the remaining academic S&E total. Of those three agencies, NASA and USDA increased their academic S&E levels by 11 percent each, and DOE increased its support by 9 percent, in current dollars (table 2).

University Shares

The Johns Hopkins University (including its Applied Physics Laboratory) continued to be the leading academic recipient of Federal S&E support in FY 2001 (table 3), with HHS and DoD together providing 82 percent of its Federal S&E funds. Nearly \$6 of every \$7 in the university's \$992 million total Federal S&E obligations supported R&D programs, with most of the remainder allocated to other S&E activities. The top 20 universities, as ranked by Federal academic S&E obligations, accounted for 34 percent of total Federal S&E obligations. All but one of the top 20 recipients in FY 2001 were also among the top 20 universities in FY 2000. The new entrant was Duke University (19th after being 21st the prior year); it replaced the Massachusetts Institute of Technology (21st after being 17th).

Table 2. Federal academic S&E obligations, by agency:
fiscal years 2000-01

Agency	FY 2000	FY 2001	Current dollars	Constant 1996 dollars
	Millions of dollars		Percent change	
All agencies.....	19,877	22,488	13.1	10.6
Department of Health and Human Services.....	11,319	12,831	13.4	10.8
National Science Foundation...	2,824	3,321	17.6	15.0
Department of Defense.....	2,007	2,153	7.3	4.9
Department of Agriculture.....	1,081	1,199	10.9	8.4
Nat'l Aeronautics and Space Administration...	1,016	1,127	11.0	8.5
Department of Energy.....	702	768	9.4	6.9
All other ¹	929	1,089	17.2	14.6

¹Includes data for the following agencies: the Departments of Commerce, Education, Housing and Urban Development, Interior, Labor, and Transportation; the Agency for International Development; the Environmental Protection Agency; the Appalachian Regional Commission; the Nuclear Regulatory Commission; the Office of Justice Programs; and the Social Security Administration.

NOTES: Percent changes are based on unrounded numbers. Details may not add to totals because of rounding.

SOURCE: National Science Foundation, Division of Science Resources Statistics, Survey of Federal Science and Engineering Support to Universities, Colleges, and Nonprofit Institutions, FY 2001.

Data Notes

The Federal academic S&E obligations data presented in this InfoBrief were obtained from 18 agencies that participated in the FY 2001 Survey of Federal Science and Engineering Support to Universities, Colleges, and Nonprofit Institutions. NSF has collected annual data through this survey since 1965. These data allow

Federal S&E support to be reported by funding agency, type of institution, institutional ranking, and geographic distribution. The full set of detailed statistical tables on the FY 2001 Survey of Federal Science and Engineering Support to Universities, Colleges, and Nonprofit Institutions will be available online at <http://www.nsf.gov/sbe/srs/>.

NSF makes available computer-generated institutional profiles for individual doctorate-granting institutions and institutions of higher education with S&E departments that grant master's degrees. These profiles contain data from this survey as well as from two other NSF academic S&E surveys: the Survey of Research and Development Expenditures at Universities and Colleges, and the Survey of Graduate Students and Postdoctorates in Science and Engineering. Current and historic data from the three surveys are also available via the World Wide Web (<http://www.nsf.gov/sbe/srs/stats.htm>) by individual survey and the Computer-Aided Science Policy Analysis and Research (WebCASPAR) database system, a web tool for retrieval and analysis of statistical data on academic S&E resources (<http://caspar.nsf.gov>).

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Table 3. Federal academic S&E support to the top 20 universities: fiscal year 2001

Rank	Institution	Total academic S&E	Support provided for					Other S&E activities
			R&D	R&D plant	Facilities & equipment for S&E instruction	Fellowships, traineeships, & training grants	General support for S&E	
Millions of dollars								
	Total, all institutions.....	22,488.2	19,384.7	401.0	67.7	842.3	331.9	1,460.6
1	Johns Hopkins University ¹	992.3	838.0	1.8	0.0	26.4	17.5	108.6
2	University of Washington.....	527.4	474.5	1.5	0.0	28.3	11.9	11.3
3	University of Pennsylvania.....	438.2	412.0	0.4	0.2	21.9	1.1	2.7
4	University of Michigan.....	435.2	403.4	2.6	0.0	20.4	3.4	5.2
5	University of CA-San Diego.....	394.5	333.9	33.9	0.0	13.5	0.7	12.5
6	University of CA-Los Angeles.....	389.9	363.9	4.1	0.0	14.5	3.4	4.1
7	University of CA-San Francisco.....	371.1	344.9	3.0	0.0	20.5	2.0	0.7
8	Stanford University.....	369.7	351.1	—	0.0	15.2	1.1	2.3
9	Harvard University.....	352.2	321.7	2.5	0.0	22.2	3.9	1.9
10	Columbia University.....	348.4	305.8	14.3	0.0	13.3	0.3	14.7
11	University of WI-Madison.....	332.0	290.2	4.7	0.1	13.9	1.0	22.0
12	Washington University.....	331.6	314.7	0.0	0.0	15.2	1.4	0.2
13	University of Colorado.....	331.2	290.7	5.8	0.0	12.9	10.6	11.3
14	Cornell University.....	314.5	271.9	3.1	0.0	13.8	1.2	24.5
15	University of Pittsburgh.....	312.4	300.8	0.5	0.0	7.5	1.2	2.4
16	University of Minnesota.....	310.7	273.1	4.5	0.0	10.0	3.4	19.7
17	University of NC-Chapel Hill.....	299.9	275.9	0.6	0.0	17.6	4.1	1.7
18	Yale University.....	295.7	276.2	0.4	0.0	16.6	0.9	1.6
19	Duke University.....	288.9	274.1	1.5	0.0	11.8	0.0	1.5
20	PA State Univ-University Park.....	283.3	253.6	0.7	0.0	7.2	0.6	21.1
	Total, top 20 institutions.....	7,719.0	6,970.4	85.9	0.3	322.8	69.7	269.9

— less than \$50,000

¹Includes funding for the Applied Physics Laboratory.

SOURCE: National Science Foundation, Division of Science Resources Statistics, Survey of Federal Science and Engineering Support to Universities, Colleges, and Nonprofit Institutions, FY 2001.

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