



Federal Science and Engineering Obligations to Universities and Colleges Increase by 6% in FY 2014

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In FY 2014, federal agencies obligated \$30.8 billion to 996 academic institutions for science and engineering (S&E) activities, a 6% increase in current dollars from the \$29.1 billion obligated to 995 academic institutions in FY 2013. This is the first increase in S&E funding to academic institutions since FY 2009. These statistics are from the Survey of Federal Science and Engineering Support to Universities, Colleges, and Nonprofit Institutions from the National Science Foundation, National Center for Science and Engineering Statistics (NSF, NCSES).

After adjustment for inflation, federal S&E obligations to academic institutions declined by \$2.1 billion (7%) from FY 2012 to FY 2013 and increased by \$1.2 billion (4%) between FY 2013 and FY 2014 (table 1). For the remainder of this InfoBrief, unless otherwise noted, amounts for FY 2014 obligations are in current dollars.

Categories of Academic S&E Support

Federal academic S&E obligations include six categories: research and development (89% of total federal academic S&E obligations annually over the past 3 years); R&D plant;

facilities and equipment for instruction in S&E; fellowships, traineeships, and training grants; general support for S&E; and other S&E activities (table 1).

Federal academic R&D obligations increased by \$1.5 billion (6%) between FY 2013 and FY 2014. Four of the five remaining categories showed increased funding in FY 2014, with fellowships, traineeships, and training grants

showing the second largest increase (\$0.4 billion) and R&D plant the third largest (\$89 million). Other S&E activities decreased 17% (\$0.3 billion in FY 2014) (table 1).

Agency Sources for Academic S&E Support

Collectively, the Department of Health and Human Services (HHS), NSF, and the Department of Defense (DOD) provided 85% of all federally funded

TABLE 1. Federal academic science and engineering obligations, by activity: FY 2012–14

Fiscal year	All federal obligations	Research and development	R&D plant	Facilities and equipment for instruction in S&E	Fellowships, traineeships, and training grants	General support for S&E	Other S&E activities
Current \$millions							
2012	30,882	27,387	424	4	913	141	2,013
2013	29,072	25,854	246	4	892	132	1,944
2014	30,763	27,333	335	11	1,336	137	1,610
Constant FY 2009 \$millions							
2012	29,513	26,173	405	4	873	135	1,924
2013	27,370	24,340	232	4	840	124	1,830
2014	28,534	25,353	311	10	1,239	127	1,493

S&E = science and engineering.

NOTES: Gross domestic product implicit price deflators were used to convert current to constant dollars. Detail may not sum to total due to rounding.

SOURCE: National Science Foundation, National Center for Science and Engineering Statistics, Survey of Federal Science and Engineering Support to Universities, Colleges, and Nonprofit Institutions.

academic S&E obligations in FY 2014. Of these agencies, HHS accounted for 57% of all federally funded obligations; NSF, 16%; and DOD, 12%. The Department of Agriculture, Department of Energy, and the National Aeronautics and Space Administration provided most of the remaining academic S&E total (12%). All six of the largest academic S&E funding agencies showed increased obligations between FY 2013 and FY 2014 (table 2).

University Shares of Academic S&E Support

The Johns Hopkins University (including its Applied Physics Laboratory) continued to be the leading academic recipient of federal S&E obligations (\$1.7 billion in FY 2014). DOD provided Johns Hopkins with the largest share of federal S&E funds (50% of its FY 2014 total). The leading 20 universities, ranked in terms of federal academic S&E obligations, accounted for 38% of the FY 2014 federal total. Of these universities, 18 were also ranked among the top 20 recipients in FY 2013. In FY 2014, the Georgia Institute of Technology's rank fell from 19th to 25th and Washington University, Saint Louis's rank rose from 21st to 17th. Cornell University moved from 22nd to 20th by trading places with Vanderbilt University in FY 2014 (table 3).

Federal S&E Support to Nonprofit Institutions

NSF collects statistics on federal obligations to independent nonprofit institutions for two of the six S&E categories: R&D and R&D plant. During FY 2014, federal agencies obligated \$6.4 billion to 1,070 nonprofit institutions, a decrease of 3% from the \$6.6 billion reported in FY 2013. DOD accounted for the largest decrease in funding (\$407 million). Massachusetts General Hospital received the most federal R&D and R&D plant funds

TABLE 2. Federal academic science and engineering obligations, by agency in FY 2014 rank order: FY 2012–14

Fiscal year	All agencies	HHS	NSF	DOD	DOE	USDA	NASA	Other agencies ^a
Current \$millions								
2012	30,882	17,907	5,128	3,647	1,020	1,221	971	989
2013	29,072	16,849	4,926	3,373	1,056	1,136	885	847
2014	30,763	17,481	4,982	3,696	1,504	1,300	951	848
Constant FY 2009 \$millions								
2012	29,513	17,113	4,901	3,485	1,167	975	928	945
2013	27,370	15,862	4,638	3,175	1,069	994	833	797
2014	28,534	16,215	4,621	3,428	1,206	1,395	882	787

DOD = Department of Defense; DOE = Department of Energy; HHS = Department of Health and Human Services; NASA = National Aeronautics and Space Administration; NSF = National Science Foundation; USDA = Department of Agriculture.

^a Includes data for the Departments of Commerce, Education, Homeland Security, Housing and Urban Development, the Interior, and Transportation; Agency for International Development; Environmental Protection Agency; Appalachian Regional Commission; Nuclear Regulatory Commission; Office of Justice Programs (part of Department of Justice); and Social Security Administration.

NOTES: Gross domestic product implicit price deflators were used to convert current to constant dollars. Detail may not sum to total due to rounding.

SOURCE: National Science Foundation, National Center for Science and Engineering Statistics, Survey of Federal Science and Engineering Support to Universities, Colleges, and Nonprofit Institutions.

(\$350 million) among nonprofits in FY 2014, with HHS providing 99% of this funding (table 4).

In FY 2014, the 10 leading nonprofit institutions in terms of federal S&E funds received 33% of the total funding to all nonprofits. Six of these recipients were hospitals or medical research institutes, and 8 of these leading 10 nonprofits in FY 2014 also ranked among the top 10 in the prior year.

Two nonprofits moved into the top 10, the Broad Institute (ranked 17th in FY 2013 and 9th in FY 2014) and the Henry M. Jackson Foundation for the Advancement of Military Medicine (ranked 16th in FY 2013 and 10th in FY 2014). Two nonprofits fell out of the top 10: Boston Children's Hospital (ranked 10th in FY 2013 and 11th in FY 2014) and MITRE Corporation (ranked 1st in FY 2013 and 41st in FY 2014) (table 4). MITRE's fall was due to DOD

improving their reporting methodology, which enabled MITRE to identify and remove from their reports funding to federally funded research and development centers (FFRDCs), some of which are administered by MITRE Corporation. Funding to FFRDCs is to be excluded by the departments and agencies reporting in this survey.

Data Sources, Limitations, and Availability

Gross domestic product implicit price deflators were used to convert current to constant dollars in this InfoBrief. The data on federal S&E obligations to academic and nonprofit institutions presented here were obtained from 18 agencies that responded to the FY 2014 Survey of Federal Science and Engineering Support to Universities, Colleges, and Nonprofit Institutions (Federal S&E Support Survey). The Federal S&E Support Survey collects federal S&E support data by funding

TABLE 3. Federal academic science and engineering obligations to the 20 universities and colleges receiving the largest amounts, by agency: FY 2014
(Current dollars in thousands)

Institution	All federal obligations	HHS	NSF	DOD	DOE	USDA	NASA	Other agencies ^a
All institutions	30,762,640	17,480,936	4,982,327	3,696,132	1,503,607	1,300,376	950,938	848,325
Top 20 institutions	11,587,098	7,472,884	1,149,535	1,695,353	557,148	158,828	370,933	182,417
Johns Hopkins U. ^b	1,676,949	620,955	40,132	842,741	5,840	43	164,337	2,902
U. Michigan	913,038	420,147	81,221	50,229	282,195	1,302	61,996	15,948
U. Washington	717,738	461,879	86,268	89,908	24,641	14,298	11,524	29,221
U. California, San Diego	621,902	393,255	94,309	81,862	21,786	34	7,959	22,697
U. Pennsylvania	596,355	492,264	36,632	53,778	9,044	718	2,605	1,314
U. California, San Francisco	582,895	552,916	5,452	23,783	125	0	520	100
Stanford U.	531,655	391,411	51,210	66,558	7,870	12	11,764	2,830
U. California, Los Angeles	523,218	375,029	72,368	39,853	22,447	15	12,391	1,116
U. Pittsburgh	508,518	432,395	20,383	47,240	5,834	0	689	1,976
Harvard U.	499,289	381,995	53,321	43,875	10,511	0	7,568	2,019
Columbia U. in the City of New York	489,857	352,968	86,240	21,186	8,127	165	16,442	4,729
Duke U.	475,962	366,577	45,270	37,603	10,527	2,450	2,689	10,845
U. North Carolina, Chapel Hill	474,387	416,281	31,201	10,713	6,836	240	203	8,912
U. Colorado	453,639	241,857	63,365	30,671	15,096	1,465	42,772	58,412
U. Wisconsin-Madison	447,273	266,808	80,801	17,676	50,759	29,507	0	1,723
Yale U.	429,890	364,153	34,611	17,882	8,342	215	2,213	2,474
Washington U., Saint Louis	423,968	386,413	11,808	8,602	10,691	78	6,293	83
Pennsylvania State U.	423,035	111,679	64,679	165,268	29,937	35,398	9,697	6,377
U. Minnesota	421,524	262,226	79,224	22,553	15,291	31,304	4,794	6,132
Cornell U.	376,006	181,676	111,040	23,372	11,249	41,584	4,477	2,607
All other academic institutions	19,175,541	10,008,052	3,832,792	2,000,778	946,459	1,141,548	580,005	665,908

DOD = Department of Defense; DOE = Department of Energy; HHS = Department of Health and Human Services; NASA = National Aeronautics and Space Administration; NSF = National Science Foundation; USDA = Department of Agriculture.

^a Includes data for the Departments of Commerce, Education, Homeland Security, Housing and Urban Development, the Interior, and Transportation; Agency for International Development; Environmental Protection Agency; Appalachian Regional Commission; Nuclear Regulatory Commission; Office of Justice Programs (part of Department of Justice); and Social Security Administration.

^b Includes funding for Applied Physics Laboratory.

NOTE: Detail may not sum to total due to rounding.

SOURCE: National Science Foundation, National Center for Science and Engineering Statistics, Survey of Federal Science and Engineering Support to Universities, Colleges, and Nonprofit Institutions, FY 2014.

agency, institution, type of activity, type of institution, and geographic location.

The six funding categories of federal S&E support are defined as follows:

- *Research and development* includes all direct, indirect, incidental, or related costs resulting from or necessary to perform R&D by private

individuals and organizations under grant, contract, or cooperative agreement.

- *R&D plant* includes all projects whose principal purpose is to provide support for construction, acquisition, renovation, modification, repair, or rental of facilities, land, works, or fixed equipment for use in scientific or engineering R&D.

- *Facilities and equipment for S&E instruction* include all programs whose principal purpose is to provide support for construction, acquisition, renovation, modification, repair, or rental of facilities, land, works, or equipment for use in instruction in S&E.
- *Fellowships, traineeships, and training grants* include all fellowship, traineeship, and training grant

TABLE 4. Federal research and development and R&D plant obligations to the 10 independent nonprofit institutions receiving the largest amounts, by agency: FY 2014

(Current dollars in thousands)

Institution	All federal obligations	HHS	DOD	NSF	NASA	DOE	Other agencies ^a
All nonprofit institutions	6,379,295	4,240,988	841,296	491,716	380,212	139,829	285,256
Top 10 nonprofit institutions	2,131,295	1,384,308	467,403	127,673	117,796	27,982	6,132
Massachusetts General Hospital	349,639	344,486	4,113	630	0	100	310
Brigham and Women's Hospital	312,197	308,221	2,603	625	748	0	0
Mayo Clinic	238,873	234,497	4,314	12	0	0	50
Battelle Memorial Institute, all locations	238,735	33,870	178,193	0	0	26,410	262
Fred Hutchinson Cancer Research Center	235,417	235,076	146	195	0	0	0
Association of Universities for Research in Astronomy	215,510	0	0	98,463	117,048	0	0
RAND Corp.	148,705	32,762	112,639	994	0	0	2,310
SRI International	132,428	41,598	59,739	26,419	0	1,472	3,200
Broad Institute	130,458	130,271	0	187	0	0	0
Henry M. Jackson Foundation for the Advancement of Military Medicine	129,333	23,528	105,656	149	0	0	0
All other nonprofit institutions	4,248,000	2,856,680	373,892	364,043	262,415	111,847	279,123

DOD = Department of Defense; DOE = Department of Energy; HHS = Department of Health and Human Services; NASA = National Aeronautics and Space Administration; NSF = National Science Foundation.

^a Includes data for the Departments of Commerce, Education, Homeland Security, Housing and Urban Development, the Interior, Labor, and Transportation; Agency for International Development; Environmental Protection Agency; Appalachian Regional Commission; Nuclear Regulatory Commission; Office of Justice Programs (part of Department of Justice); and Social Security Administration.

NOTE: Because of rounding, detail may not add to totals.

SOURCE: National Science Foundation, National Center for Science and Engineering Statistics, Survey of Federal Science and Engineering Support to Universities, Colleges, and Nonprofit Institutions, FY 2014.

programs that are directed primarily toward the development and maintenance of the scientific workforce.

- *General support for S&E* includes funds used for scientific projects and support for activities within a specified discipline; explicit purpose is not specified.
- *Other S&E activities* include all academic S&E obligations that cannot be assigned elsewhere and

activities in support of technical conferences, teacher institutes, and programs aimed at increasing precollege and undergraduate students' scientific knowledge.

The full set of detailed statistical tables on the FY 2014 Survey of Federal Science and Engineering Support to Universities, Colleges, and Nonprofit Institutions will be available online at <http://www.nsf.gov/statistics/fedsup->

port/. Individual tables may be available in advance of the full report. For more information, please contact the author.

Note

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