



**The University of Massachusetts**

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# **FY2013 Annual R&D Expenditures Report**

**(Expanded Version)  
With Rankings and Comparison Data**

*April 2014*

**UMASS President's Office\* *Institutional Research***

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## PREFACE

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The *FY2013 Annual Research and Development Expenditures Report* (Expanded Version) presents information on the research and development expenditures for the University of Massachusetts System. This expanded version of the previously published abridged FY13 R&D Expenditures Report includes additional highlights as well as national rankings and comparison data based on FY2012 figures.

**The NSF Survey Definition for Research and Development (R&D)** is “creative work conducted systematically to increase the stock of knowledge (research) and to use this stock of knowledge to devise new applications (development). R&D covers three activities defined below—basic research, applied research, and development.”

It covers three activities defined below:

- Basic research is undertaken primarily to acquire new knowledge without any particular application or use in mind.
- Applied research is conducted to gain the knowledge or understanding to meet a specific, recognized need.
- Development is the systematic use of the knowledge or understanding gained from research directed toward the production of useful materials, devices, systems, or methods, including the design and development of prototypes and processes.

*Source: FY 2013 HERD Survey*

### **What’s new in FY2013 HERD Survey**

- **Question 1. Row d, Non-profit organizations.** An instruction has been added to specify that funds from other universities and colleges should be reported in row f, All other sources.
- **Question 1. Row f, All other sources.** In addition to funds from foreign governments, instructions have been revised to specify that funds from foreign and U.S. universities and colleges should be reported in this row. If funds were received from another university as a sub-award, those funds should continue to be reported under the original source. Also, the instructions now specify that gifts designated by the donors for research should be included in this row.

Barbara Velardi  
Institutional Research Associate

Neena Verma  
Director of Institutional Research

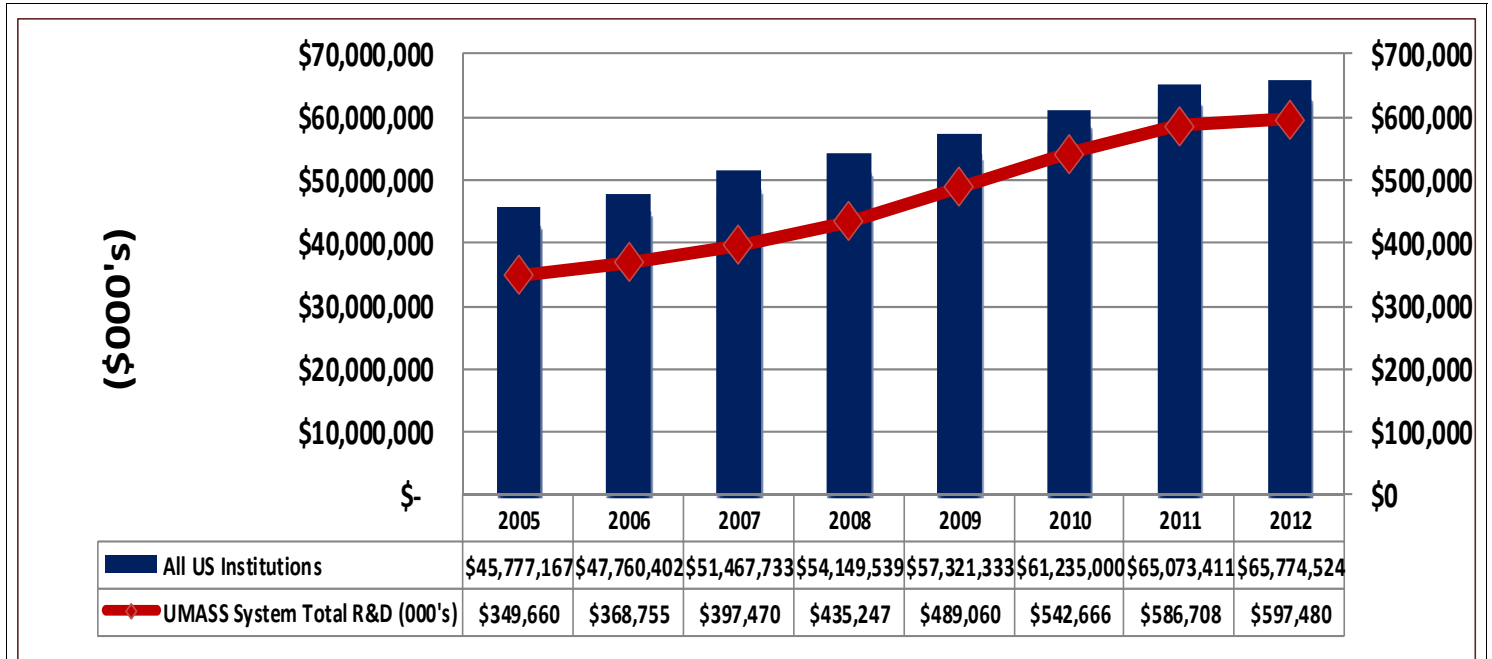
Adam Collins  
IR Graduate Research Assistant

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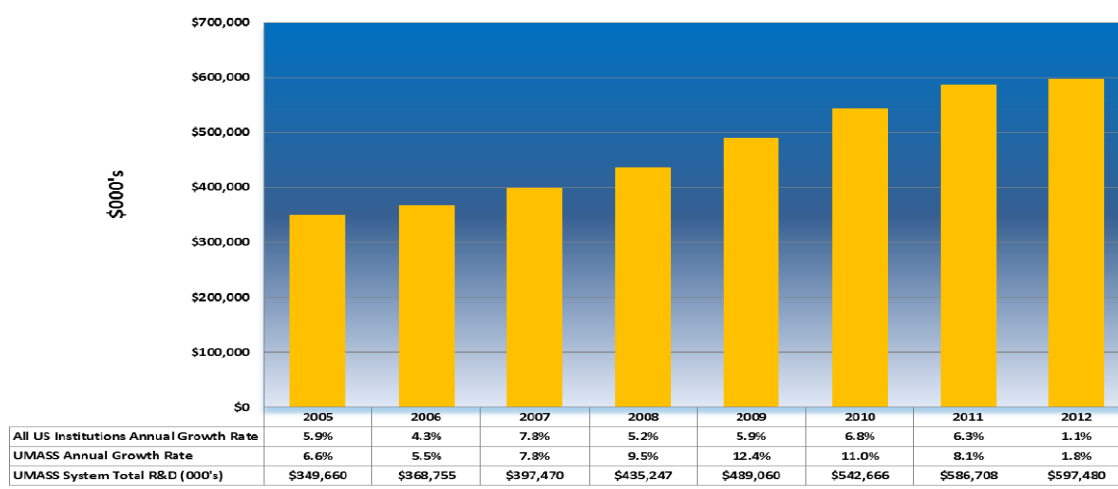
## EXECUTIVE SUMMARY

- UMASS Total R&D Expenditures** - Total FY2013 R&D Expenditures for the University of Massachusetts System was reported at \$591.1 million, which represents a one percent decrease from the FY2012 total of \$597.5 million.
- UMASS versus All U.S. Institutions - Total R&D Expenditures and Growth** - Between FY2005-FY2012, the UMASS System showed higher annual growth rates in Total R&D Expenditures in comparison to national trends for all years except FY2007, when the growth rate for both was the same.



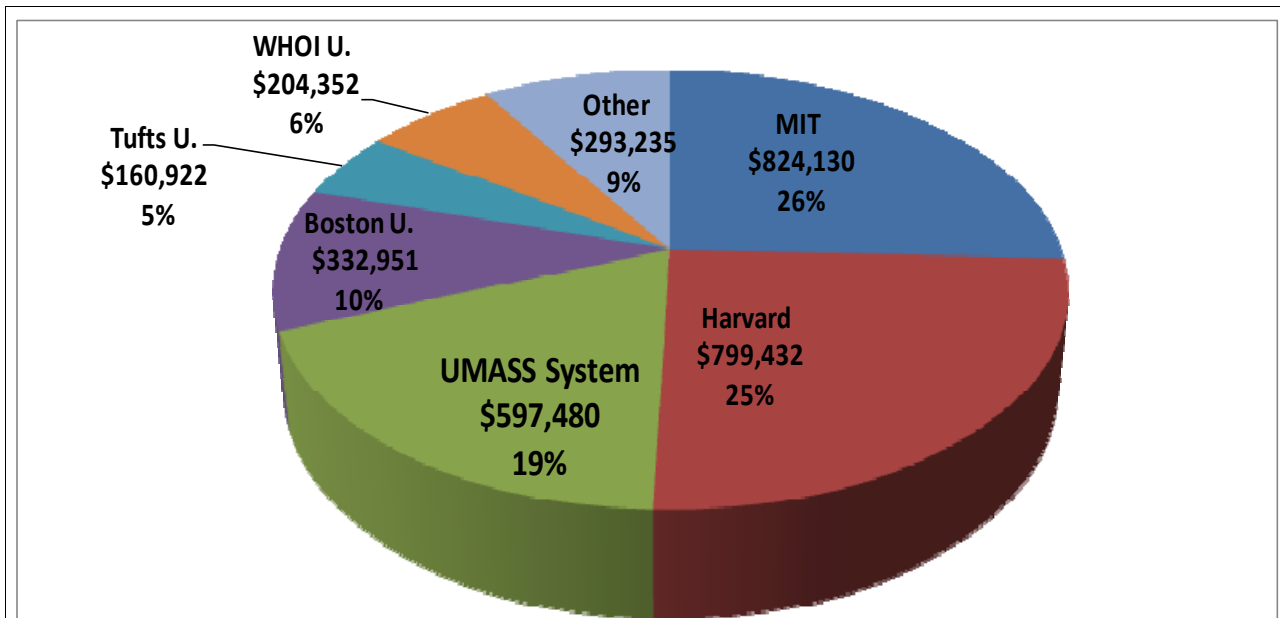
*Total R&D Expenditures: UMASS versus All U.S. Institutions  
As Percent of all MA Institutions, FY2005-FY2012*

The last year (FY2013) saw a decline in the growth rate for UMASS of (-1%), and it is expected that national trends will reflect a similar decline, due to major federal cuts in research spending. Despite these cuts, UMASS R&D continued to grow, albeit at a slower pace.



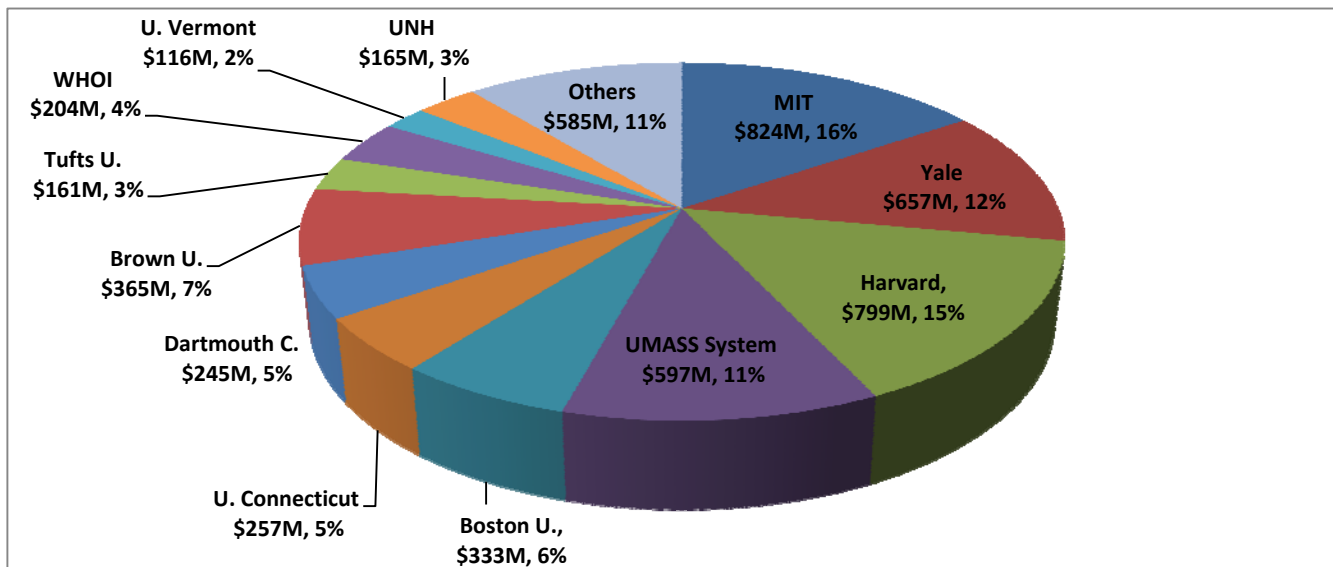
*Total R&D Expenditures: UMASS System (FY2005 – FY2012)  
With Comparative Annual Growth for UMASS and All U.S. Institutions (FY2005-FY2012)*

- **UMASS Total R&D Expenditures as Percent of MA Institutions** - Based on FY 2012 data, the UMASS System comprised 19% of the Total R&D Expenditures for Massachusetts institutions. (*Appendix B*).



*Total R&D Expenditures: UMASS System and Select Institutions  
As Percent of all MA Institutions, FY 2012 (Dollars in Thousands)*

- **UMASS State Ranking in Total R&D Expenditures** - Among Massachusetts colleges and universities, UMASS ranks 3<sup>rd</sup> in Total R&D Expenditures. UMass, MIT, Harvard and BU together account for 80% of the academic R&D Expenditures in the state. (Rankings based on FY 2012 data).
- **UMASS Total R&D Expenditures as Percent of New England Institutions** – Based on FY 2012 data, the UMASS System comprises 11% of the Total R&D Expenditures for New England institutions.



*Total R&D Expenditures: UMASS System and Select Institutions  
As Percent of All New England Institutions (FY 2012)*

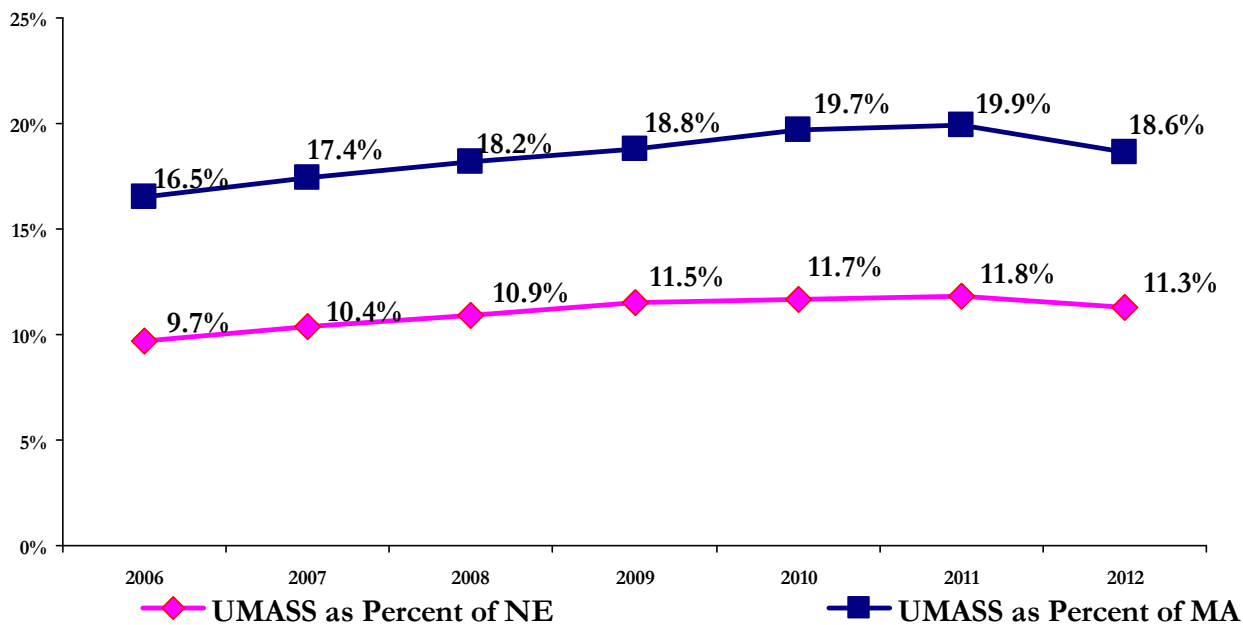
- **UMASS ranks 4<sup>th</sup> among all New England universities and colleges (FY 2012)** – Among all New England academic institutions, UMASS ranks 4<sup>th</sup>, only behind MIT, Yale, and Harvard. UMASS is the leader among New England public university systems, with Total R&D Expenditures (\$597M) larger than the next three public university systems (UConn, UNH, and University of Vermont) combined (\$538M). Rankings based on FY2012 data.
- **UMASS R&D Expenditures by Funding Source (FY2013)** – In terms of funding sources, 62% is from the federal government, 27% is from institutional sources, 3% is from state and local government, 4% from businesses, 4% from non-profit organizations, and 1% is from other sources (e.g., private foundations).
- **UMASS Areas of Funding Growth** – Between the reporting cycles FY2012-13, industry/business sponsorship increased slightly from 7% to 8%, and institutional funding increased slightly from 25% to 27%. State and local government funding was at 3% of all funds. As anticipated, federal funding dropped, by as much as 3 percentage points, from 65% to 62%.
- **Life Sciences Continues to Comprise More Than Half of all R&D Expenditures at UMASS** - At \$329 million, life sciences constitute more than half of UMass’s total R&D expenditures (56%).  
FY2013 distribution of R&D expenditures by field is:

Life Sciences	55.7%	Social Sciences	3.3%
Physical Sciences	8.4%	Non Sciences/Engineering	3.6%
Engineering	11.4%	Psychology	1.7%
Computer Sciences	4.4%	Mathematical Sciences	0.5%
Environmental Sciences	3.2%	Other Sciences	0.3%

## Additional Highlights for UMASS and UMASS Campuses

### I. UMASS Total R&D Expenditures As Percent of All New England and Massachusetts Institutions

- The University of Massachusetts Total R&D Expenditures has grown consistently over the past few years. In FY 2006, UMass R&D Expenditures constituted 16.5% of all of Massachusetts R&D Expenditures as compared to 18.6% in FY 2012, reflecting a 2.1% increase in percentage points. [Appendix A1].
- The University of Massachusetts R&D Expenditures continues to grow as a proportion of total R&D Expenditures for MA as well as all New England institutions. In FY2006, UMASS R&D Expenditures 9.7% of all of New England R&D Expenditures as compared to 11.3% in FY 2012. [Appendix A1].



#### *UMASS Science and Engineering R&D Expenditures as Percent of MA and New England*

- When compared to the New England region, UMASS performance in R&D Expenditures varies by field. The top fields in this arena have been Math & Computer Sciences and Non-Science and Engineering, where UMass R&D Expenditures comprised 15% of all New England institutions' R&D Expenditures, followed by Life Sciences (13%), Physical Sciences (12%), Psychology (11%), Social Sciences (11%), and Engineering (8%). When compared to institutions in Massachusetts, the top performing fields for UMASS R&D Expenditures are Non-Science and Engineering (29%), Life Sciences (25%), Psychology (25%), Math & Computer Sciences (21%), and Physical Sciences (16%), and Social Sciences (16%), [Appendix A2].

## II. NSF Research and Development Expenditures Rankings Based on FY2012 and Past Trends

### UMASS System Ranking

- The University of Massachusetts System ranked 33<sup>rd</sup> nationally, with a total of \$597.5M in Total R&D Expenditures (Among the top 5% in rankings nationwide). [*Appendix B*].

### UMASS Campuses – Science and Engineering R&D Expenditures Rankings

- With \$256M, UMass Medical School ranked 81<sup>st</sup> nationally in total R&D Expenditures from a total of 938 institutions nationwide (among the top 9% in rankings). [FY2012, *Appendix B*].
- With \$195M, UMass Amherst ranked 104<sup>th</sup> nationally in total R&D Expenditures from a total of 938 institutions nationwide (among the top 11% in rankings). [FY2012, *Appendix B*].
- With \$61M in Total R&D Expenditures in FY 2012, UMass Lowell ranked 184<sup>th</sup> out of the 938 participating academic institutions in the NSF HERD Survey (among the top 20% in rankings). [FY2012, *Appendix B*].
- With \$60M in Total R&D Expenditures in FY2012, UMass Boston ranked 185<sup>th</sup> out of 938 institutions (Among the top 20% in rankings). [FY2012, *Appendix B*].
- With \$23M in Total R&D Expenditures, UMass Dartmouth ranked 256<sup>th</sup> out of 938 institutions (among the top 27% in rankings). [FY2012, *Appendix B*].

### UMass Campuses – Prominent Rankings

- UMass Amherst has consistently ranked among the top 25 universities and colleges nationwide in total R&D Expenditures in the Computer Science field. In FY 2011, UM Amherst ranked 22<sup>nd</sup> among the first 100 institutions. [*Appendix F*].
- UMass Boston has consistently ranked among the first 100 institutions for academic R&D Expenditures in the Social Sciences over the past five years. In FY 2012, UM Boston ranked 73<sup>rd</sup>. UMass Amherst also ranked among the top 100 institutions in Social Science R&D Expenditures in FY 2012, at 87<sup>th</sup>. [*Appendix M*].
- Over the past eight years, UMass Dartmouth's ranking has ranged between 67<sup>th</sup>-77<sup>th</sup> among the first 100 institutions, for total academic R&D Expenditures in the Environmental Sciences. In FY 2012, UMass Dartmouth ranked 77<sup>th</sup>. [*Appendix H*].
- UMass Medical School's ranking for colleges and universities Total R&D Expenditures in Life Sciences has consistently been high over the past five years. In FY 2012, UMass Medical School improved its ranking to 49<sup>th</sup> from 60<sup>th</sup> in FY2009, among the first 150 institutions in this category. [*Appendix I*].

### **Additional Rankings**

- UMass Amherst has consistently ranked among the first 100 universities and colleges in R&D Expenditures in Engineering over the past five years. UMass Amherst's ranked 67<sup>th</sup> in Engineering in FY2012. [*Appendix G*].
- UMass Amherst has consistently ranked among the first 100 universities and colleges for R&D Expenditures in Mathematical Sciences. In FY 2012, UMass Amherst ranked 55<sup>th</sup>, improving on its ranking from 63<sup>rd</sup> in FY 2011 [*Appendix J*].
- UMass Amherst has consistently ranked among the first 100 institutions for R&D Expenditures in the Physical Sciences. In FY 2012, UMass Amherst ranked 40<sup>th</sup>, an improvement from its FY2009 ranking of 56<sup>th</sup> among the top 100 institutions. UMass Lowell also ranked among the top 100 institutions (94<sup>th</sup>) in FY 2012 [*Appendix K*].
- In FY 2012, UMass Boston ranked 70<sup>th</sup> and UMass Amherst ranked 75<sup>th</sup> among the first 100 universities and colleges in R&D Expenditures in Psychology. [*Appendix L*].

## **A. TOTAL R&D EXPENDITURES**

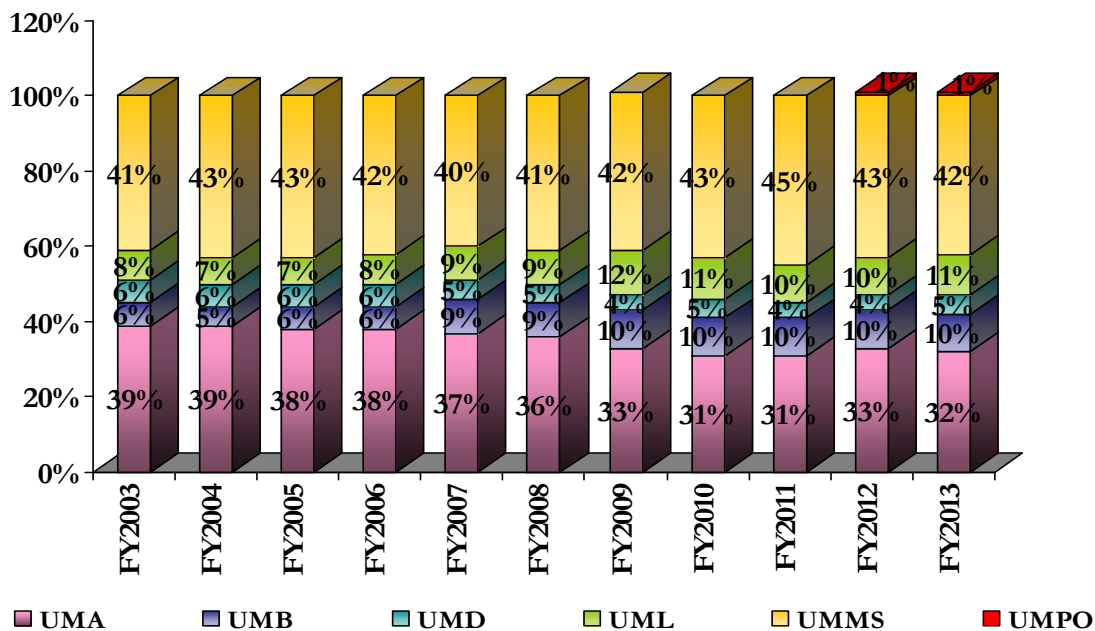
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## A. TOTAL R&D EXPENDITURES - FY2013

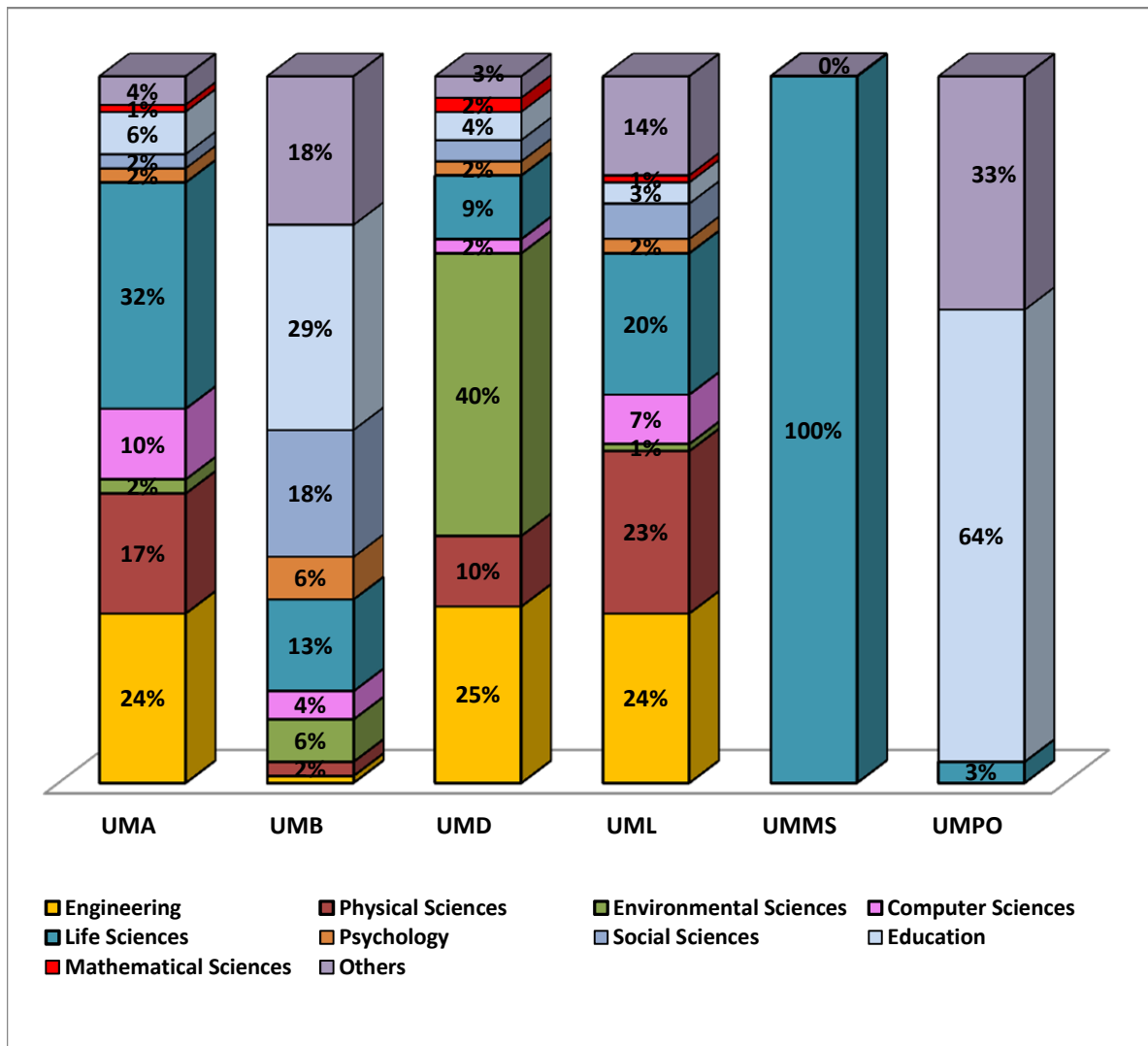
1. Total FY2013 R&D Expenditures for the University of Massachusetts System was reported at \$591.12 million, which represents a one percent decline from the FY2012 total of \$597.48 million.
2. UMass Campuses showed variation in growth rates over the past year. The smaller campuses (UMB, UMD, UML), with reasearch activities in the \$27-\$63 million range, reported increases in the growth rate of their R&D Expenditures ranging between 1% to 20%, even during a challenging funding climate. Not surprisingly, the relatively larger research campuses (UMA and UMW) showed slight delines in their R&D growth rates over the same cycle, albeit continuing to post impactful R&D expenditures figures, in the \$190-\$250 million range.
3. Within the UMASS System, a little over two-fifths (42%) of the total R&D Expenditures is attributed to the UMass Medical School and approximately one-third (32%) to UMass Amherst.
4. The other campuses (UMass Boston, UMass Dartmouth and UMass Lowell) have gradually increased their proportion of the System Total R&D Expenditures, from 20% in FY2003 to 26% in FY2013.
5. The UMass President's Office reported R&D Expenditures to NSF for the second time in FY2013, and contributed \$3.617 million to the University's Total R&D monies, reflecting a 14% increase over FY2012.

### UMASS Campuses and President's Office Total R&D Expenditures



5. R&D expenditures activities at UMass campuses vary by field. In FY2012, while UMass Amherst's top three R&D Expenditures areas were Life Sciences (32%), Engineering (24%), and Physical Sciences (17%), UMass Boston's concentration was primarily in Education (29%), Life Sciences (13%), the Social Sciences (18%), and Psychology (6%). UMass Dartmouth's major areas of concentration were in the fields of Environmental Sciences (40%) and Engineering (25%), and for UMass Lowell, Engineering (24%) and Physical Sciences (23%). The UMass Medical School had 100% of its R&D Expenditures in the Life Sciences. The UMass President's Office research contributions were primarily in Education (64%).

### UMass Campuses: Total R&D Expenditures by Field (FY2013)



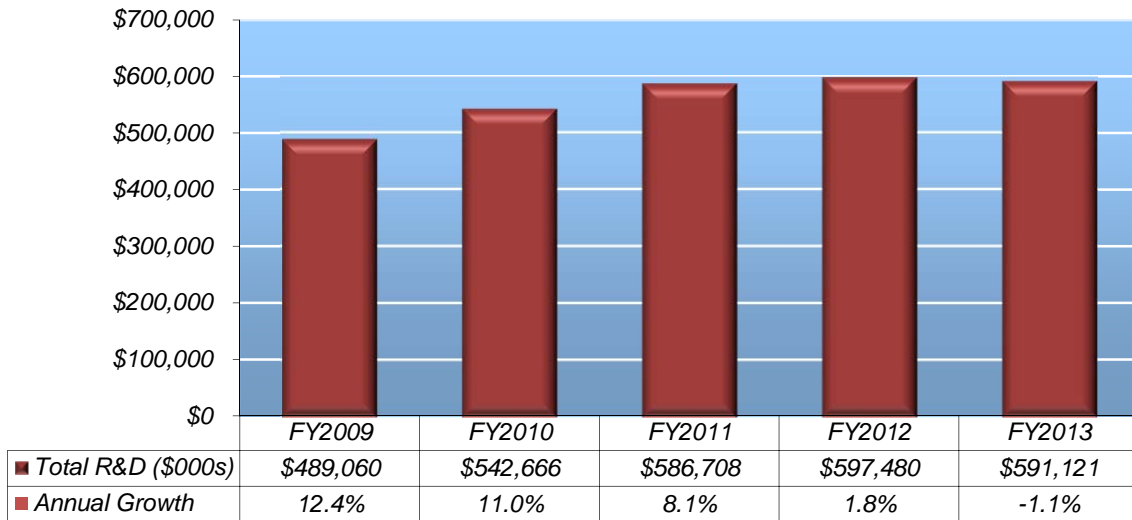
## **A. TOTAL R&D EXPENDITURES**

### **DATA AND CHARTS**

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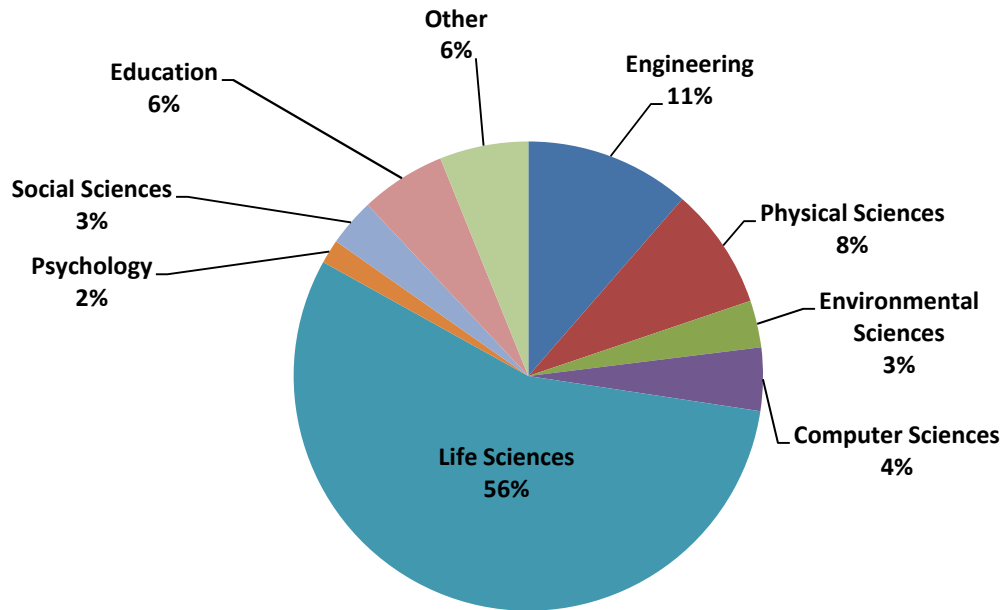
# UMASS System

Total R&D Expenditures FY2009 - FY2013



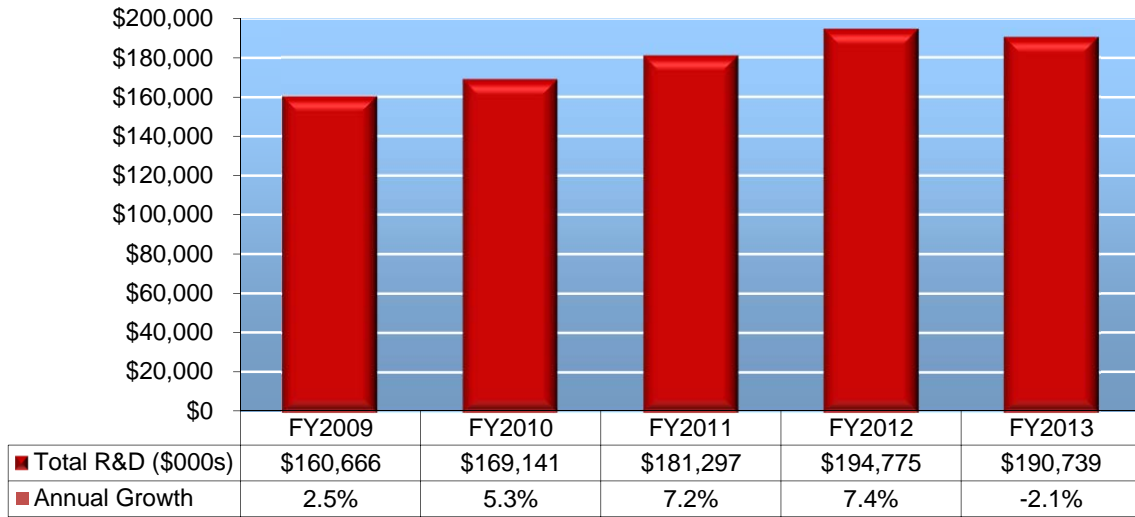
FY 2010 figures have been revised from the FY 2010 R&D Report publication (\$542,668).

## Total R&D Expenditures FY2013



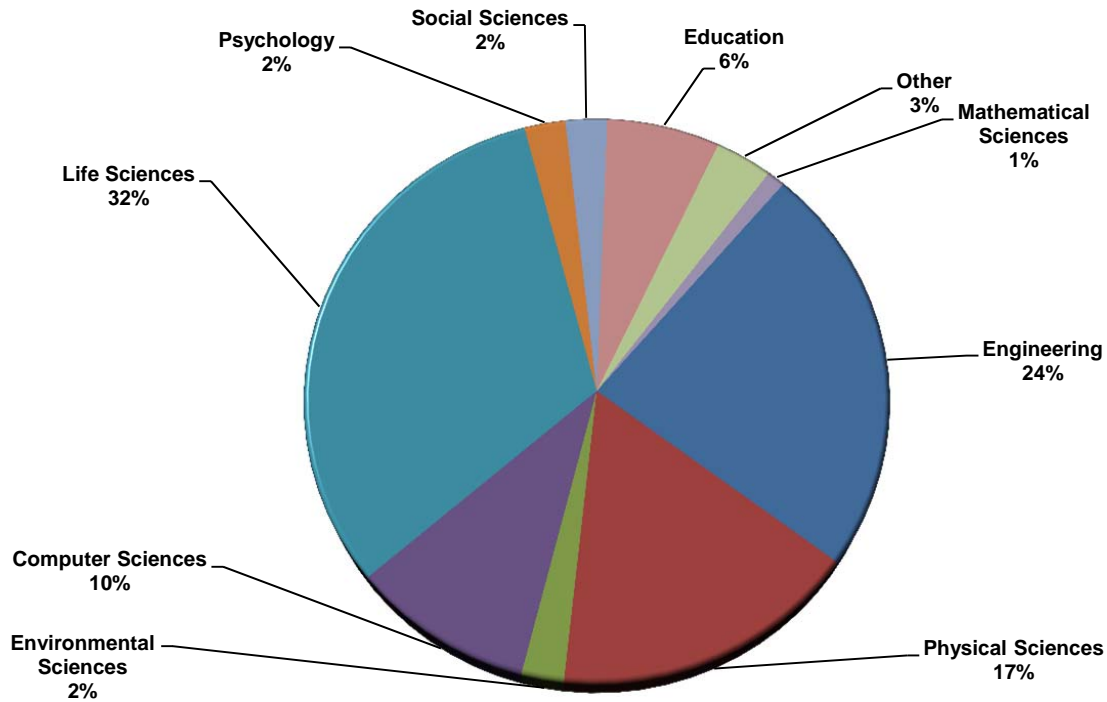
# Amherst

## Total R&D Expenditures FY2009 – FY2013



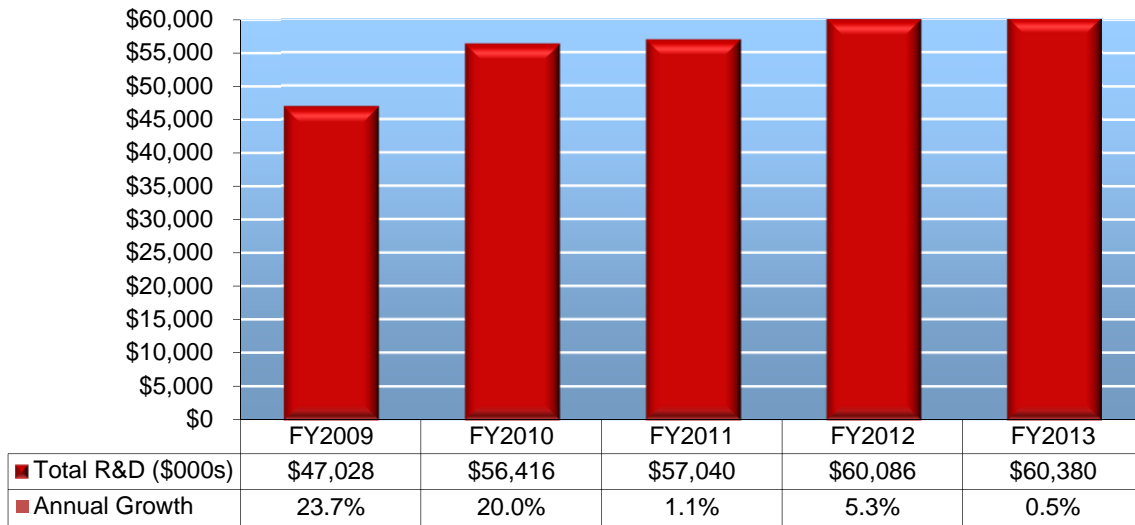
Note: UMA FY2010 figures have been revised since the FY2010 R&D Report publication.

## Total R&D Expenditures FY2013

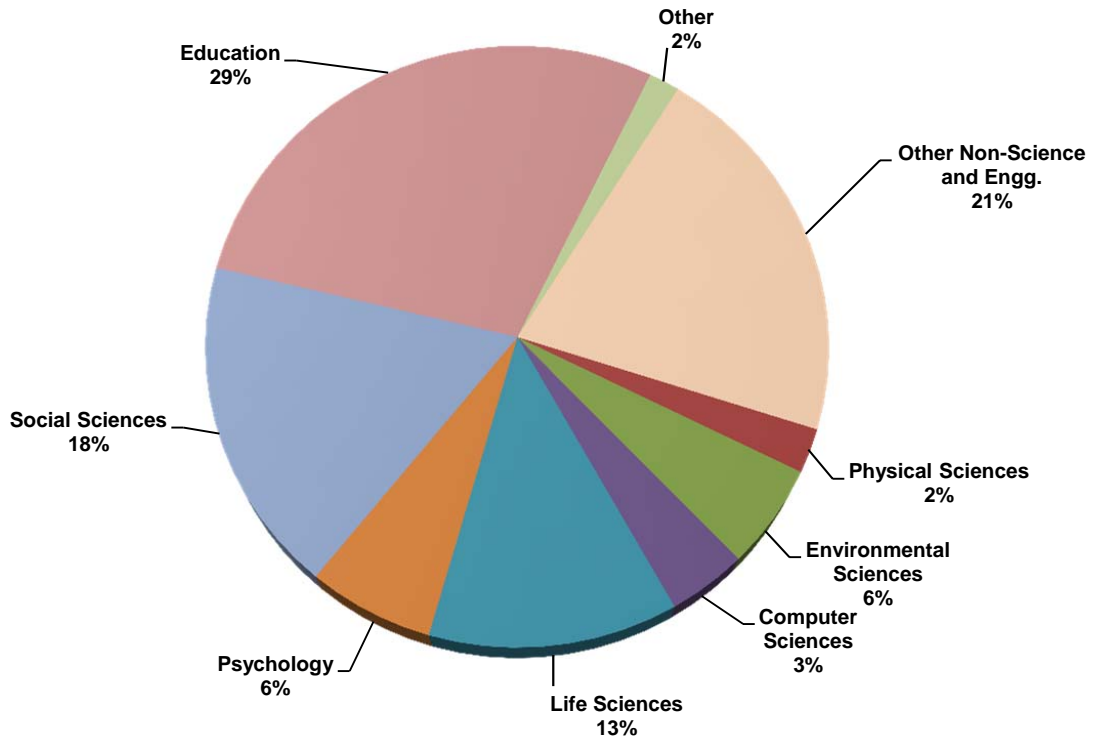


## Boston

### Total R&D Expenditures FY2009 – FY2013



### Total R&D Expenditures FY2013

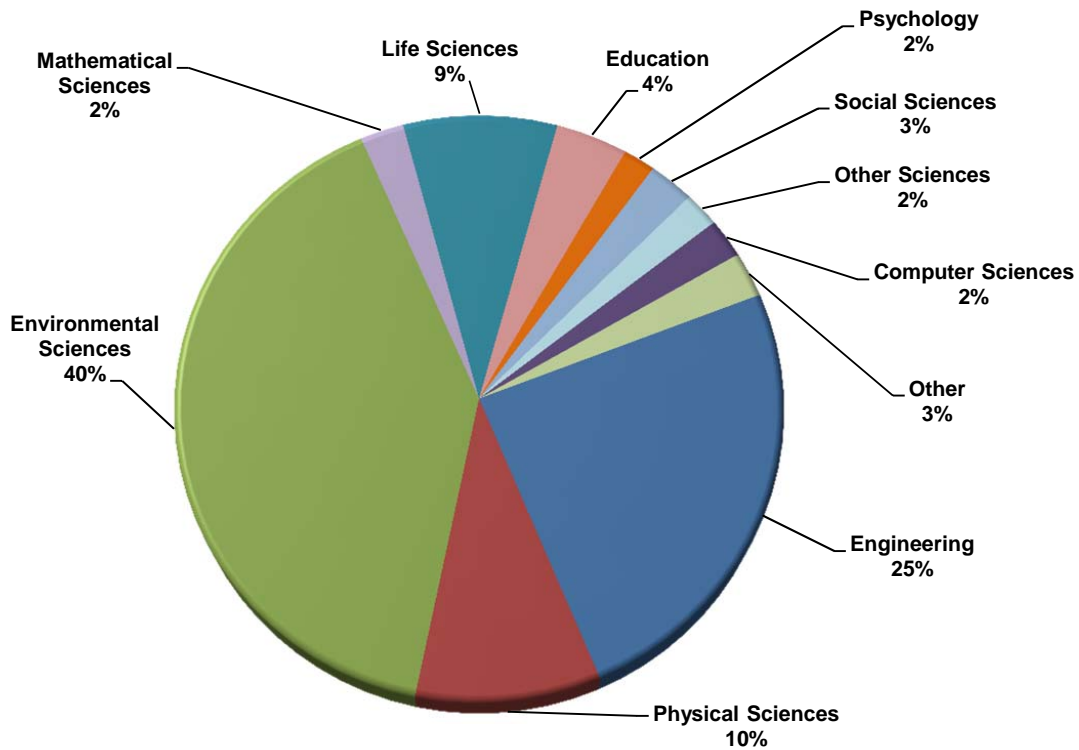


# Dartmouth

## Total R&D Expenditures FY2009 – FY2013



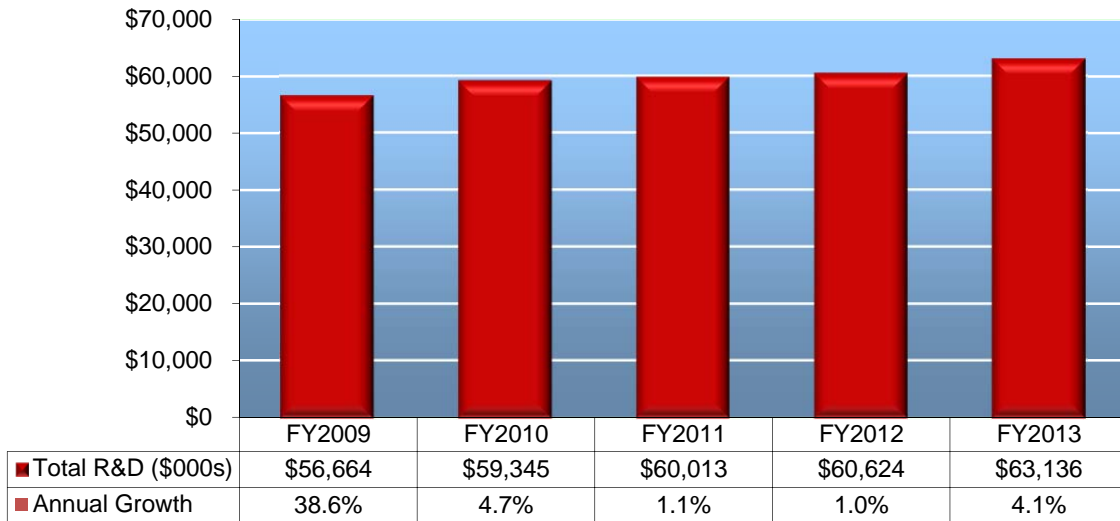
## Total R&D Expenditures FY2013



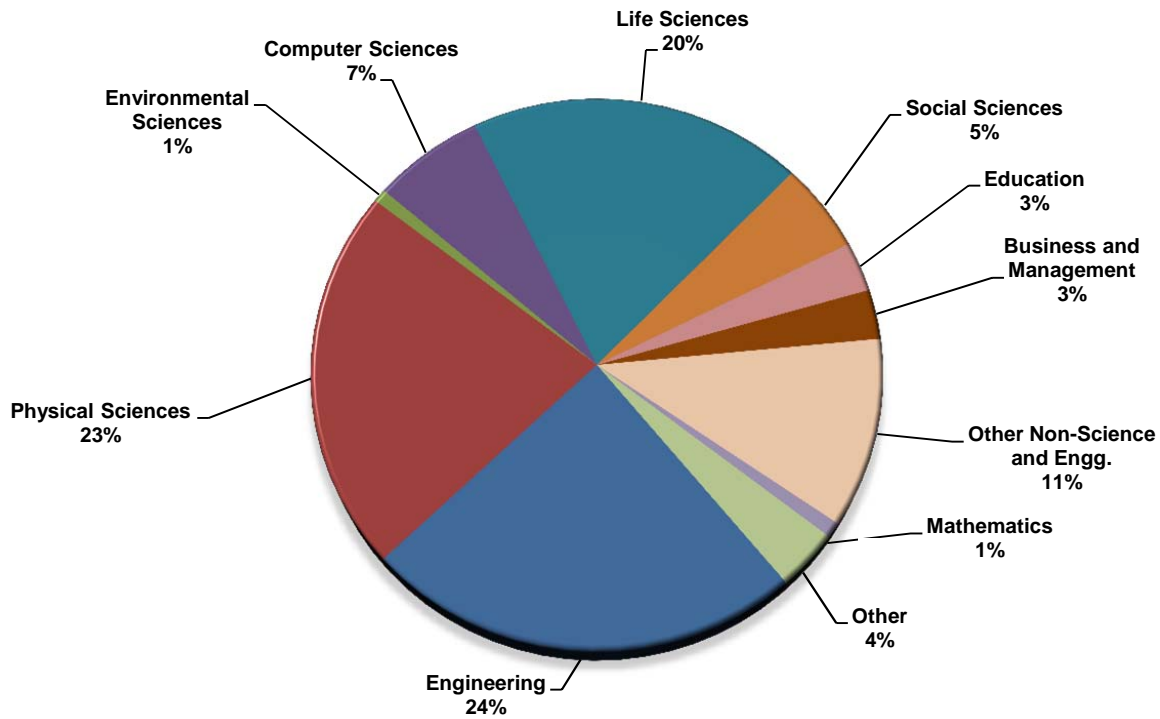


# Lowell

## Total R&D Expenditures FY2009 – FY2013

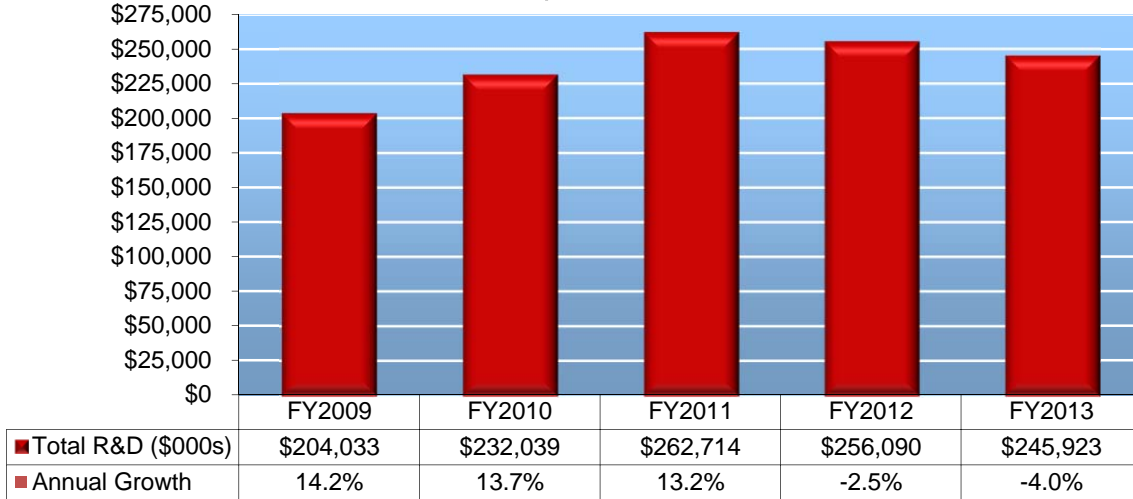


## Total R&D Expenditures FY2013



## Worcester

### Total R&D Expenditures FY2009 – FY2013



**All of Worcester's R&D expenditures are in the Life Sciences.**

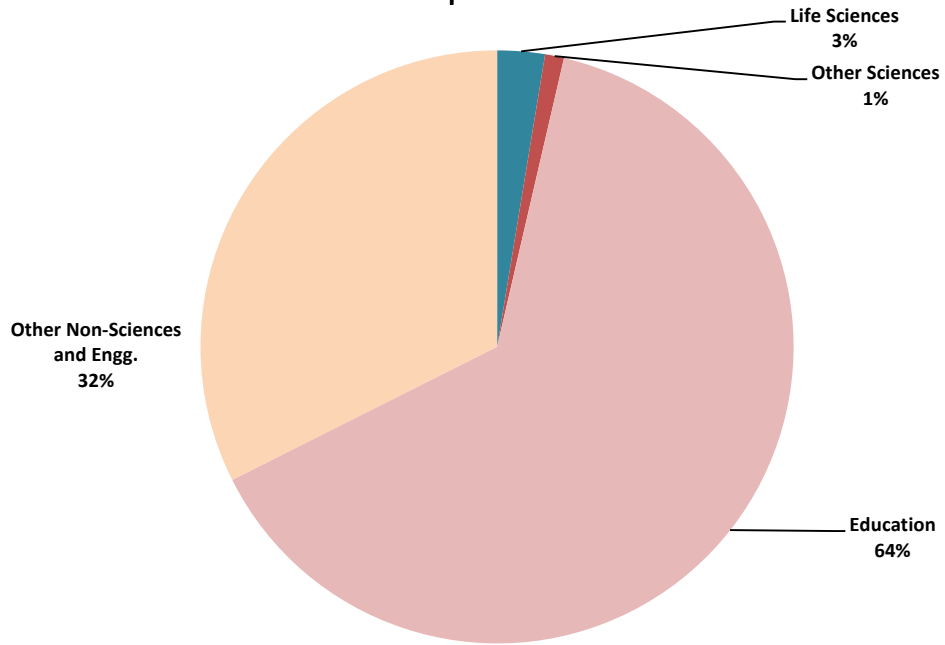
## President's Office

### Total R&D Expenditures FY2012 – FY2013



## President's Office (Cont'd)

### Total R&D Expenditures FY2013



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**B. R&D EXPENDITURES by FIELD**  
**ADDITIONAL CAMPUS DETAILS**

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**FY 2013 Total R&D Expenditures by Field (Federal and Non-Federal)**

FIELD	UMA						UMB						UMD					
	Federal	Non-Federal	UMA Total	% of UMA		% of Field	Federal	Non-Federal	UMB Total	% of UMB		% of Field	Federal	Non-Federal	UMD Total	% of UMD		% of Field
<b>Engineering (Total)</b>	\$24,216	\$20,814	\$45,030	23.6%	66.9%			\$191	\$160	\$351	0.6%		0.5%		\$1,697	\$5,008	\$6,705	
Aeronautical & Astronomical	\$0	\$0	\$0	0.0%	0.0%		\$0	\$0	\$0	0.0%	0.0%		\$0	\$0	\$0	0.0%	0.0%	
Bioengineering/Biomedical	\$0	\$0	\$0	0.0%	0.0%		\$0	\$0	\$0	0.0%	0.0%		\$429	\$465	\$894	3.3%	100.0%	
Chemical	\$ 7,882	\$6,621	\$14,503	7.6%	66.4%		\$0	\$0	\$0	0.0%	0.0%		\$0	\$0	\$0	0.0%	0.0%	
Civil	\$ 3,331	\$5,141	\$8,472	4.4%	73.2%		\$0	\$0	\$0	0.0%	0.0%		\$418	\$715	\$1,133	4.1%	9.8%	
Electrical	\$ 9,298	\$5,379	\$14,677	7.7%	74.2%		\$191	\$160	\$351	0.6%	1.8%		\$705	\$651	\$1,356	5.0%	6.9%	
Mechanical	\$ 3,422	\$2,908	\$6,330	3.3%	65.3%		\$0	\$0	\$0	0.0%	0.0%		\$145	\$836	\$981	3.6%	10.1%	
Metallurgical & Materials	\$0	\$0	\$0	0.0%	0.0%		\$0	\$0	\$0	0.0%	0.0%		\$0	\$27	\$27	0.1%	100.0%	
Other	\$ 283	\$765	\$1,048	0.5%	30.0%		\$0	\$0	\$0	0.0%	0.0%		\$0	\$2,314	\$2,314	8.5%	66.2%	
<b>Physical Sciences (Total)</b>	\$ 21,934	\$ 9,554	\$ 31,488	16.5%	63.3%		\$1,169	\$265	\$ 1,434	2.4%	2.9%		\$734	\$1,878	\$2,612	9.6%	5.3%	
Astronomy	\$ 2,997	\$1,248	\$ 4,245	2.2%	100.0%		\$0	\$0	\$ -	0.0%	0.0%		\$0	\$0	\$0	0.0%	0.0%	
Chemistry	\$ 13,643	\$5,591	\$ 19,234	10.1%	76.4%		\$530	\$175	\$ 705	1.2%	2.8%		\$171	\$1,582	\$1,753	6.4%	7.0%	
Physics	\$ 5,294	\$2,715	\$ 8,009	4.2%	39.5%		\$639	\$90	\$ 729	1.2%	3.6%		\$563	\$296	\$859	3.1%	4.2%	
Other	\$0	\$0	\$ -	0.0%	0.0%		\$0	\$0	\$ -	0.0%	0.0%		\$0	\$0	\$0	0.0%	0.0%	
<b>Environmental Sciences (Total)</b>	\$2,886	\$1,435	\$ 4,321	2.3%	22.6%		\$2,057	\$1,283	\$ 3,340	5.5%	17.5%		\$4,090	\$6,887	\$10,977	40.2%	57.4%	
Atmospheric	\$0	\$0	\$0	0.0%	0.0%		\$0	\$0	\$ -	0.0%	0.0%		\$0	\$0	\$0	0.0%	0.0%	
Earth Sciences	\$ 2,886	\$1,342	\$4,228	2.2%	89.6%		\$0	\$0	\$ -	0.0%	0.0%		\$0	\$0	\$0	0.0%	0.0%	
Oceanography	\$ -	\$0	\$0	0.0%	0.0%		\$1,996	\$892	\$ 2,888	4.8%	20.8%		\$4,090	\$6,887	\$10,977	40.2%	79.2%	
Other	\$ -	\$93	\$93	0.0%	17.1%		\$61	\$391	\$ 452	0.7%	82.9%		\$0	\$0	\$0	0.0%	0.0%	
<b>Mathematical Sciences (Total)</b>	\$ 1,358	\$602	\$ 1,960	1.0%	60.8%		\$36	\$19	\$ 55	0.1%	1.7%		\$317	\$338	\$655	2.4%	20.3%	
<b>Computer Sciences (Total)</b>	\$ 12,797	\$5,864	\$ 18,661	9.8%	72.3%		\$2,008	\$420	\$ 2,428	4.0%	9.4%		\$212	\$386	\$598	2.2%	2.3%	
<b>Life Sciences (Total)</b>	\$ 35,086	\$ 25,657	\$ 60,743	31.8%	18.5%		\$4,128	\$3,471	\$ 7,599	12.6%	2.3%		\$835	\$1,478	\$2,313	8.5%	0.7%	
Agricultural	\$ 12,645	\$9,986	\$22,631	11.9%	96.5%		\$0	\$0	\$ -	0.0%	0.0%		\$214	\$595	\$809	3.0%	3.5%	
Biological	\$ 15,073	\$11,908	\$26,981	14.1%	24.6%		\$1,855	\$737	\$ 2,592	4.3%	2.4%		\$621	\$882	\$1,503	5.5%	1.4%	
Medical	\$ 6,399	\$3,262	\$9,661	5.1%	7.3%		\$329	\$483	\$ 812	1.3%	0.6%		\$0	\$0	\$0	0.0%	0.0%	
Other	\$ 969	\$501	\$1,470	0.8%	2.3%		\$1,944	\$2,251	\$ 4,195	6.9%	6.6%		\$0	\$1	\$1	0.0%	0.0%	
<b>Psychology (Total)</b>	\$ 3,169	\$1,286	\$ 4,455	2.3%	45.4%		\$2,350	\$1,516	\$ 3,866	6.4%	39.4%		\$175	\$308	\$483	1.8%	4.9%	
<b>Social Sciences (Total)</b>	\$ 1,317	\$ 3,184	\$ 4,501	2.4%	23.3%		\$1,532	\$9,270	\$ 10,802	17.9%	55.8%		\$16	\$670	\$686	2.5%	3.5%	
Economics	\$ 467	\$773	\$ 1,240	0.7%	56.6%		\$0	\$117	\$ 117	0.2%	5.3%		\$0	\$8	\$8	0.0%	0.4%	
Political Science	\$ 295	\$446	\$ 741	0.4%	8.1%		\$244	\$7,265	\$ 7,509	12.4%	82.1%		\$0	\$538	\$538	2.0%	5.9%	
Sociology	\$ 339	\$1,445	\$ 1,784	0.9%	57.1%		\$462	\$479	\$ 941	1.6%	30.1%		\$16	\$106	\$122	0.4%	3.9%	
Other	\$ 216	\$520	\$ 736	0.4%	15.1%		\$826	\$1,409	\$ 2,235	3.7%	45.8%		\$0	\$18	\$18	0.1%	0.4%	
<b>Other Sciences (Total)</b>	\$ 470	\$588	\$ 1,058	0.6%	61.3%		\$0	\$0	\$ -	0.0%	0.0%		\$0	\$530	\$530	1.9%	30.7%	
<b>TOTAL, SCI &amp; ENG FIELDS</b>	\$ 103,233	\$ 68,984	\$ 172,217	90.3%	32.8%		\$13,471	\$16,404	\$29,875	49.5%	5.7%		\$8,076	\$17,483	\$25,559	93.5%	4.9%	
<b>FIELD</b>	% of UMA						% of UMB						% of UMD					
<b>Education</b>	\$ 6,976	\$5,312	\$ 12,288	6.4%	35.4%		\$11,186	\$6,029	\$ 17,215	28.5%	49.5%		\$734	\$349	\$1,083	4.0%	3.1%	
<b>Law</b>	\$ 51	\$6	\$ 57	0.0%	100.0%		\$0	\$0	\$ -	0.0%	0.0%		\$0	\$0	\$0	0.0%	0.0%	
<b>Humanities</b>	\$ 49	\$1,767	\$ 1,816	1.0%	59.8%		\$104	\$237	\$ 341	0.6%	11.2%		\$50	\$97	\$147	0.5%	4.8%	
<b>Visual and Performing Arts</b>	\$ 61	\$597	\$ 658	0.3%	69.3%		\$0	\$15	\$ 15	0.0%	1.6%		\$0	\$41	\$41	0.2%	4.3%	
<b>Business and Management</b>	\$ 918	\$1,761	\$ 2,679	1.4%	52.8%		\$0	\$224	\$ 224	0.4%	4.4%		\$0	\$330	\$330	1.2%	6.5%	
<b>Comm., Journalism &amp; Library Sci</b>	\$ 160	\$864	\$ 1,024	0.5%	96.8%		\$0	\$8	\$ 8	0.0%	0.0%		\$0	\$0	\$0	0.0%	0.0%	
<b>Social Work</b>	\$0	\$0	\$0	0.0%	0.0%		\$0	\$0	\$ -	0.0%	0.0%		\$0	\$0	\$0	0.0%	0.0%	
<b>Other Non-Science and Engin.</b>	\$ -	\$0	\$ -	0.0%	0.0%		\$163	\$12,539	\$ 12,702	21.0%	60.4%		\$0	\$166	\$166	0.6%	0.8%	
<b>TOTAL, NON-SCI &amp; ENG FIELDS</b>	\$ 8,215	\$ 10,307	\$ 18,522	9.7%	28.1%		\$ 11,453	\$19,052	\$30,505	50.5%	46.3%		\$784	\$983	\$1,767	6.5%	2.7%	
<b>TOTAL, SCI &amp; ENG FIELDS</b>	\$ 103,233	\$ 68,984	\$ 172,217	90.3%	32.8%		\$ 13,471	\$16,404	\$ 29,875	49.5%			\$8,076	\$17,483	\$25,559	93.5%	4.9%	
<b>GRAND TOTAL</b>	\$ 111,448	\$ 79,291	\$ 190,739	100.0%			\$ 24,924	\$35,456	\$60,380	100.0%			\$8,860	\$18,466	\$27,326	100.0%		

Source: Campus NSF surveys. All dollars are in thousands.

Note: Percent of Total is the percentage each field represents of total campus or system R&D expenditures in all fields.

Percent of Field is the percentage of the UMass system's expenditures in a particular field represented by that campus.

**FY 2013 Total R&D Expenditures by Field (Federal and Non-Federal)**

FIELD	UML					UMW					UMPO					UMass System			
	Federal	Non-Federal	UML Total	% of UML	% of Field	Federal	Non-Federal	UMW Total	% of UMW	% of Field	Federal	Non-Federal	UMPO Total	% of UMPO	% of Field	Federal	Non-Federal	System Total	% of System
<b>Engineering (Total)</b>	\$ 6,728	\$ 8,508	\$ 15,236	24.1%	22.6%	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%	\$ 32,832	\$ 34,490	\$ 67,322	11.4%
Aeronautical & Astronomical	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%
Bioengineering/Biomedical	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%	\$ 429	\$ 465	\$ 894	0.2%
Chemical	\$3,163	\$4,183	\$ 7,346	11.6%	33.6%	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%	\$ 11,045	\$ 10,804	\$ 21,849	3.7%
Civil	\$1,333	\$638	\$ 1,971	3.1%	17.0%	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%	\$ 5,082	\$ 6,494	\$ 11,576	2.0%
Electrical	\$1,396	\$2,001	\$ 3,397	5.4%	17.2%	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%	\$ 11,590	\$ 8,191	\$ 19,781	3.3%
Mechanical	\$836	\$1,552	\$ 2,388	3.8%	24.6%	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%	\$ 4,403	\$ 5,296	\$ 9,699	1.6%
Metallurgical & Materials	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%	\$0	\$ 27	\$ 27	0.0%
Other	\$0	\$134	\$ 134	0.2%	3.8%	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%	\$ 283	\$ 3,213	\$ 3,496	0.6%
<b>Physical Sciences (Total)</b>	\$8,875	\$5,319	\$14,194	22.5%	28.5%	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%	\$ 32,712	\$ 17,016	\$ 49,728	8.4%
Astronomy	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%	\$ 2,997	\$ 1,248	\$ 4,245	0.7%
Chemistry	\$1,401	\$2,096	\$3,497	5.5%	13.9%	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%	\$ 15,745	\$ 9,444	\$ 25,189	4.3%
Physics	\$7,474	\$3,223	\$10,697	16.9%	52.7%	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%	\$ 13,970	\$ 6,324	\$ 20,294	3.4%
Other	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%
<b>Environmental Sciences (Total)</b>	\$177	\$315	\$492	0.8%	2.6%	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%	\$ 9,210	\$ 9,920	\$ 19,130	3.2%
Atmospheric	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%
Earth Sciences	\$177	\$315	\$492	0.8%	10.4%	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%	\$ 3,063	\$ 1,657	\$ 4,720	0.8%
Oceanography	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%	\$ 6,086	\$ 7,779	\$ 13,865	2.3%
Other	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%	\$ 61	\$ 484	\$ 545	0.1%
<b>Mathematical Sciences (Total)</b>	\$71	\$485	\$556	0.9%	17.2%	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%	\$ 1,782	\$ 1,444	\$ 3,226	0.5%
<b>Computer Sciences (Total)</b>	\$2,139	\$1,979	\$4,118	6.5%	16.0%	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%	\$ 17,156	\$ 8,649	\$ 25,805	4.4%
<b>Life Sciences (Total)</b>	\$6,225	\$6,183	\$12,408	19.7%	3.8%	\$189,159	\$56,764	\$245,923	100.0%	74.7%	\$94	\$0	\$94	2.6%	0.0%	\$ 235,527	\$ 93,553	\$ 329,080	55.7%
Agricultural	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%	\$ 12,859	\$ 10,581	\$ 23,440	4.0%
Biological	\$901	\$569	\$1,470	2.3%	1.3%	\$61,055	\$16,232	\$77,287	31.4%	70.4%	\$0	\$0	\$0	0.0%	0.0%	\$ 79,505	\$ 30,328	\$ 109,833	18.6%
Medical	\$47	\$0	\$47	0.1%	0.0%	\$90,501	\$31,253	\$121,754	49.5%	92.0%	\$44	\$0	\$44	1.2%	0.0%	\$ 97,320	\$ 34,998	\$ 132,318	22.4%
Other	\$5,277	\$5,614	\$10,891	17.3%	17.2%	\$37,603	\$9,279	\$46,882	19.1%	73.8%	\$50	\$0	\$50	1.4%	0.1%	\$ 45,843	\$ 17,646	\$ 63,489	10.7%
<b>Psychology (Total)</b>	\$280	\$726	\$1,006	1.6%	10.3%	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%	\$ 5,974	\$ 3,836	\$ 9,810	1.7%
<b>Social Sciences (Total)</b>	\$946	\$2,407	\$3,353	5.3%	17.3%	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%	\$ 3,811	\$ 15,531	\$ 19,342	3.3%
Economics	\$134	\$693	\$827	1.3%	37.7%	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%	\$ 601	\$ 1,591	\$ 2,192	0.4%
Political Science	\$0	\$363	\$363	0.6%	4.0%	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%	\$ 539	\$ 8,612	\$ 9,151	1.5%
Sociology	\$0	\$275	\$275	0.4%	8.8%	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%	\$ 817	\$ 2,305	\$ 3,122	0.5%
Other	\$812	\$1,076	\$1,888	3.0%	38.7%	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%	\$ 1,854	\$ 3,023	\$ 4,877	0.8%
<b>Other Sciences (Total)</b>	\$0	\$102	\$102	0.2%	5.9%	\$0	\$0	\$0	0.0%	0.0%	\$37	\$0	\$37	1.0%	2.1%	\$ 507	\$ 1,220	\$ 1,727	0.3%
<b>TOTAL, SCI &amp; ENG FIELDS</b>	\$25,441	\$26,024	\$51,465	81.5%	9.8%	\$189,159	\$56,764	\$245,923	100.0%	46.8%	\$131	\$0	\$131	3.6%	0.0%	\$ 339,511	\$ 185,659	\$ 525,170	88.8%
FIELD	% of UML					% of UMW					% of UMPO					Non-			
	Federal	Non-Federal	UML Total	Total	% of Field	Federal	Non-Federal	UMW Total	Total	% of Field	Federal	Non-Federal	UMPO Total	Total	% of Field	Federal	Federal	Total	% of Total
Education	\$885	\$968	\$1,853	2.9%	5.3%	\$0	\$0	\$0	0.0%	0.0%	\$1,854	\$460	\$2,314	64.0%	6.7%	\$ 21,635	\$ 13,118	\$ 34,753	5.9%
Law	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%	\$ 51	\$ 6	\$ 57	0.0%
Humanities	\$0	\$731	\$731	1.2%	24.1%	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%	\$ 203	\$ 2,832	\$ 3,035	0.5%
Visual and Performing Arts	\$0	\$236	\$236	0.4%	24.8%	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%	\$ 61	\$ 889	\$ 950	0.2%
Business and Management	\$225	\$1,612	\$1,837	2.9%	36.2%	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%	\$ 1,143	\$ 3,927	\$ 5,070	0.9%
Comm., Journalism & Library Sci	\$17	\$9	\$26	0.0%	2.5%	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%	\$ 177	\$ 881	\$ 1,058	0.2%
Social Work	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%
Other Non-Science and Engin.	\$792	\$6,196	\$6,988	11.1%	33.2%	\$0	\$0	\$0	0.0%	0.0%	\$141	\$1,031	\$1,172	32.4%	5.6%	\$ 1,096	\$ 19,932	\$ 21,028	3.6%
<b>TOTAL, NON-SCI &amp; ENG FIELDS</b>	\$1,919	\$9,752	\$11,671	18.5%	17.7%	\$0	\$0	\$0	0.0%	0.0%	\$1,995	\$1,491	\$3,486	96.4%	5.3%	\$ 24,366	\$ 41,585	\$ 65,951	11.2%
<b>TOTAL, SCI &amp; ENG FIELDS</b>	\$25,441	\$26,024	\$51,465	81.5%	9.8%	\$189,159	\$56,764	\$245,923	100.0%	46.8%	\$131	\$0	\$131	3.6%	0.0%	\$ 339,511	\$ 185,659	\$ 525,170	88.8%
<b>GRAND TOTAL</b>	\$27,360	\$35,776	\$63,136	100.0%		\$189,159	\$56,764	\$245,923	100.0%		\$2,126	\$1,491	\$3,617	100.0%		\$ 363,877	\$ 227,244	\$ 591,121	100.0%

Source: Campus NSF surveys. All dollars in thousands.  
 Note: Percent of Total is the percentage of total R&D expenditures.  
 Percent of Field is the percentage of total R&D expenditures for that field.

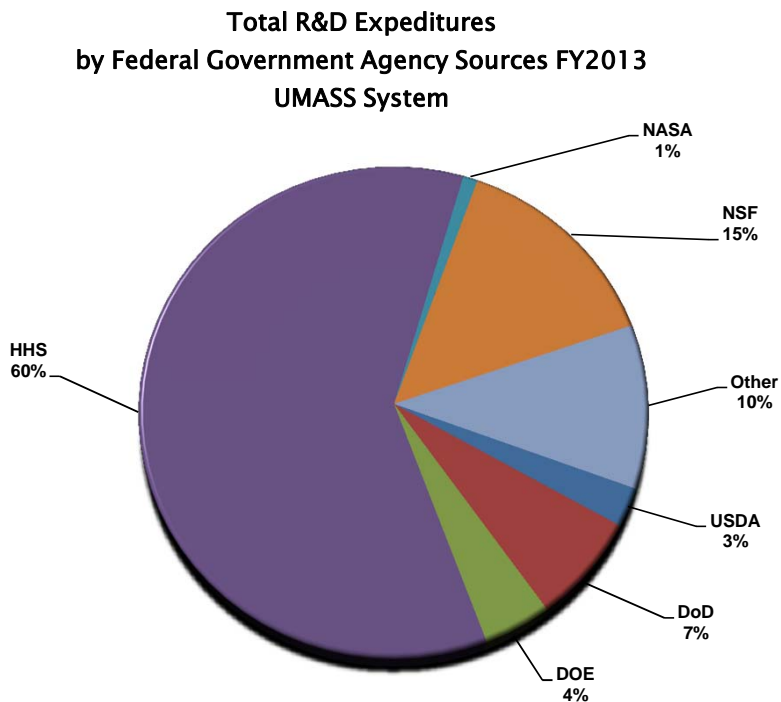


## B. R&D EXPENDITURES BY FIELD - ADDITIONAL CAMPUS DETAILS

1. With the exception of the last cycle, when the annual R&D growth rate declined slightly for some campuses, there has been consistent growth in R&D Expenditures over the past five years on all of the UMass campuses. Overall, growth has ranged from 11% to 32% between FY2009-FY2013. UMass Lowell and UMass Boston reflected a growth of 11% and 28% respectively over this five-year period. UMass Amherst R&D Expenditures grew by 19% and UMass Dartmouth's by 32%. The UMass Medical School grew by 21%, and the UMass System as a whole reflected an overall growth of 21% in R&D Expenditures over the same time.
2. Each campus has its unique strengths in certain fields, as evidenced by their consistent national rankings in Top 100 institutions in a wide array of fields, including Computer Science, Engineering, Physical Science, Psychology, Environmental Science, Social Sciences, Mathematical Sciences, and Life Sciences. Together they create an extremely rich, strong, and diverse research program for the University system.
3. UMass Amherst reflects its strength in Computer Sciences, comprising 72% of the entire UMass System's R&D expenditures in this field, at almost \$19M. In FY2012, UMass Amherst ranked **22nd** among the first hundred institutions in total R&D Expenditures in the field of Computer Science (NSF Survey Rankings, Appendix F).
4. UMass Boston had the highest proportion of R&D Expenditures in Psychology and Education. In FY2013, UMass Boston R&D Expenditures in Social Sciences and Education comprised 56% and 50% (respectively) of the University total R&D expenditures in those fields.
5. UMass Dartmouth's prominence (among the UMass campuses) in Environmental Sciences is reflected by the fact that it comprises 57%, or \$11M of the total R&D Expenditures in this field. UMass Dartmouth has consistently ranked among the first hundred institutions for R&D Expenditures in the Environmental Sciences (NSF Survey). In FY2012, UMass Dartmouth ranked **77th** in this field (Appendix H).
6. Nearly two-thirds (66%) of UMass Lowell's R&D Expenditures in FY2013 were in the fields of Engineering, Computer Science, and Physical Science. At \$15M, almost one-fourth of the University's R&D Expenditures in Engineering are sourced to the UMass Lowell campus. Well over one-fourth (29% or \$14M) of the University's R&D Expenditures in Physical Sciences come from UMass Lowell as well.
7. For the UMass Medical School, 100% of R&D Expenditures is in the Life Sciences field. At \$246M, this comprises three-fourths (75%) of the System total R&D Expenditures in the Life Sciences.

### B. 3. TOTAL R&D EXPENDITURES BY FEDERAL GOVERNMENT AGENCY SOURCES (FY 2013)

1. In FY2013, total Federal R&D expenditures for the UMASS System was at \$363.88 million.
2. This comprises 62% of all R&D Expenditures for the UMASS System in FY2013.
3. In FY2013, the largest proportion of federal R&D Expenditures to the UMASS System came from the Department of Health and Human Services (60%), followed by the National Science Foundation (15%), Department of Defense (7%), Department of Energy (4%), Department of Agriculture (3%), NASA (1%). All Other federal sources comprised 10% of total federal R&D expenditures for UMASS.



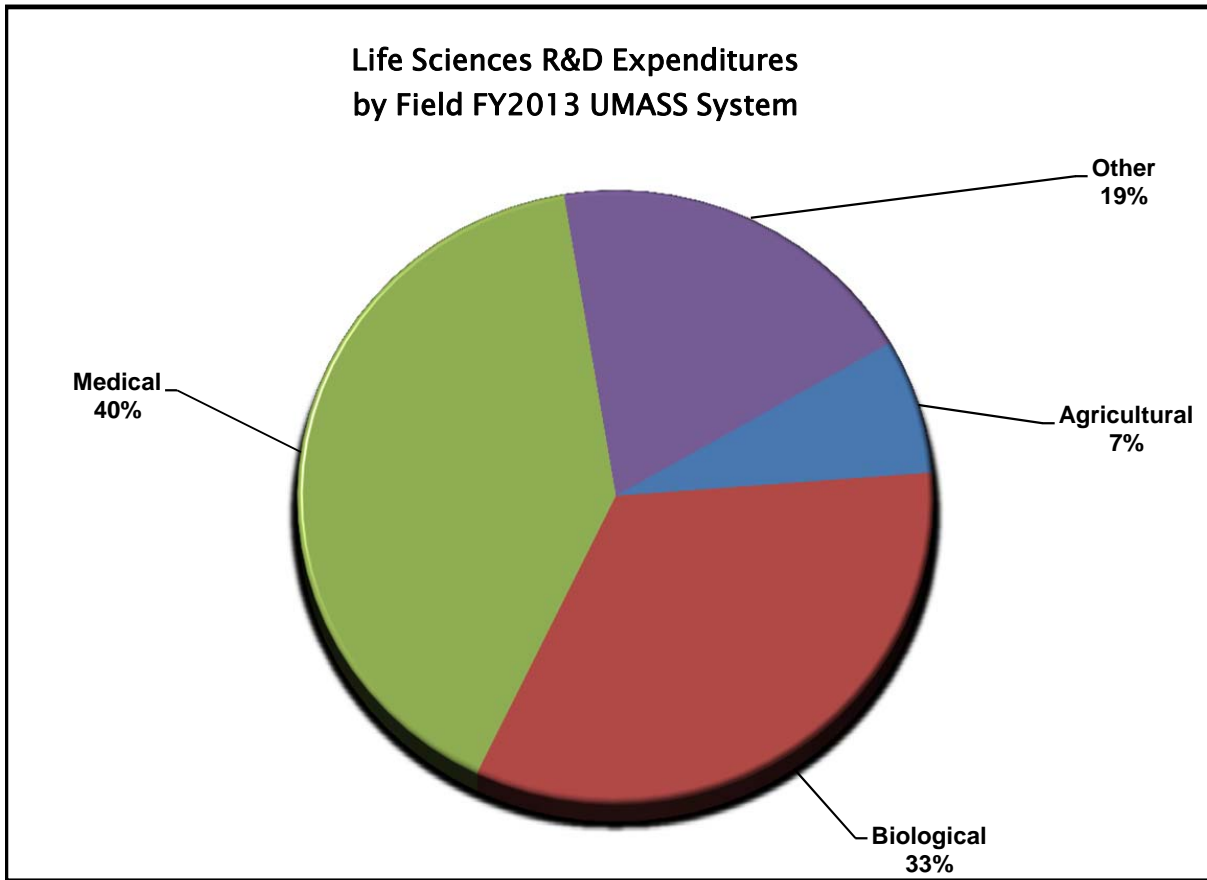
DOD - Department of Defense; DOE - Department of Energy; NASA - National Aeronautics and Space Administration; HHS - Health and Human Services; NSF - National Science Foundation; USDA - United States Department of Agriculture.

**C. LIFE SCIENCES**  
**R&D EXPENDITURES**

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(to facilitate two-sided printing)**

### C. LIFE SCIENCES R&D EXPENDITURES

1. In FY 2013, R&D Expenditures in the Life Sciences for the UMASS System was at \$329.1 million, comprising well over half (56%) of total R&D Expenditures.
2. This represents a 20% increase from FY 2009, and a slight drop of -3% from FY2012.
3. In FY 2013, 40% of all of the R&D Expenditures in the Life Sciences was within the Medical Sciences, followed by Biological Sciences (34%), Agricultural Sciences (7%), and all Other (19%).



**Life Sciences R&D Expenditures by Field  
FY2009 – FY2013**

(Dollars in Thousands)

	Total Life Sciences R&D									
	FY09	FY10	FY11	FY12	FY13	5-Year Change FY09 - FY13		1-Year Change FY12-FY13		
						\$	%	\$	%	
<b>Amherst</b>	\$54,733	\$51,326	\$58,946	\$61,999	\$60,743	\$6,010	11%	-\$1,256	-2%	
<b>Boston</b>	\$9,237	\$9,916	\$8,278	\$8,443	\$7,599	-\$1,638	-18%	-\$844	-10%	
<b>Dartmouth</b>	\$1,286	\$1,798	\$2,021	\$2,229	\$2,313	\$1,027	80%	\$84	4%	
<b>Lowell</b>	\$5,206	\$5,521	\$12,361	\$11,645	\$12,408	\$7,202	138%	\$763	7%	
<b>Worcester</b>	\$204,033	\$232,039	\$262,714	\$256,090	\$245,923	\$41,890	21%	-\$10,167	-4%	
<b>President's Office</b>				\$402	\$94	\$94	NA	-\$308	-77%	
<b>System</b>	<b>\$274,495</b>	<b>\$300,600</b>	<b>\$344,320</b>	<b>\$340,808</b>	<b>\$329,080</b>	<b>\$54,585</b>	<b>20%</b>	<b>-\$11,728</b>	<b>-3%</b>	

	Agricultural									
	FY09	FY10	FY11	FY12	FY13	5-Year Change FY09 - FY13		1-Year Change FY12-FY13		
						\$	%	\$	%	
<b>Amherst</b>	\$23,088	\$21,708	\$28,669	\$29,881	\$22,631	-\$457	-2%	-\$7,250	-24%	
<b>Boston</b>	\$0	\$0	\$0	\$0	\$0	\$0	NA	\$0	NA	
<b>Dartmouth</b>	\$531	\$645	\$946	\$1,170	\$809	\$278	52%	-\$361	-31%	
<b>Lowell</b>	\$0	\$0	\$0	\$0	\$0	\$0	NA	\$0	NA	
<b>Worcester</b>	\$0	\$0	\$0	\$0	\$0	\$0	NA	\$0	NA	
<b>President's Office</b>				\$0	\$0	\$0	NA	\$0	NA	
<b>System</b>	<b>\$23,619</b>	<b>\$22,353</b>	<b>\$29,615</b>	<b>\$31,051</b>	<b>\$23,440</b>	<b>-\$179</b>	<b>-1%</b>	<b>-\$7,611</b>	<b>-25%</b>	

	Biological									
	FY09	FY10	FY11	FY12	FY13	5-Year Change FY09 - FY13		1-Year Change FY12-FY13		
						\$	%	\$	%	
<b>Amherst</b>	\$23,323	\$22,494	\$23,276	\$25,081	\$26,981	\$3,658	16%	\$1,900	8%	
<b>Boston</b>	\$3,020	\$2,537	\$2,581	\$2,773	\$2,592	-\$428	-14%	-\$181	-7%	
<b>Dartmouth</b>	\$711	\$1,120	\$1,004	\$938	\$1,503	\$792	111%	\$565	60%	
<b>Lowell</b>	\$1,531	\$1,281	\$1,553	\$1,999	\$1,470	-\$61	-4%	-\$529	-26%	
<b>Worcester</b>	\$72,851	\$77,718	\$88,359	\$91,140	\$77,287	\$4,436	6%	-\$13,853	-15%	
<b>President's Office</b>				\$0	\$0	\$0	NA	\$0	na	
<b>System</b>	<b>\$101,436</b>	<b>\$105,150</b>	<b>\$116,773</b>	<b>\$121,931</b>	<b>\$109,833</b>	<b>\$8,397</b>	<b>8%</b>	<b>-\$12,098</b>	<b>-10%</b>	

Note: UMA FY2010 figures have been revised since the FY2010 R&D Report Publication.

**Life Sciences R&D Expenditures by Field  
FY2009 – FY2013**

*(Dollars in Thousands)*

<b>Medical</b>										
	FY09	FY10	FY11	FY12	FY13	5-Year Change FY09 - FY13		1-Year Change FY12-FY13		
						\$	%	\$	%	
<b>Amherst</b>	\$7,237	\$6,411	\$6,473	\$6,276	\$9,661	\$2,424	33%	\$3,385	54%	
<b>Boston</b>	\$3,493	\$4,697	\$4,675	\$4,345	\$812	-\$2,681	-77%	-\$3,533	-81%	
<b>Dartmouth</b>	\$0	\$0	\$0	\$0	\$0	\$0	NA	\$0	NA	
<b>Lowell</b>	\$0	\$0	\$252	\$0	\$47	\$47	NA	\$47	#DIV/0!	
<b>Worcester</b>	\$104,417	\$124,323	\$133,598	\$127,032	\$121,754	\$17,337	17%	-\$5,278	-4%	
<b>President's Office</b>				\$263	\$44	\$44	NA	-\$219	NA	
<b>System</b>	<b>\$115,147</b>	<b>\$135,431</b>	<b>\$144,998</b>	<b>\$137,916</b>	<b>\$132,318</b>	<b>\$17,171</b>	<b>15%</b>	<b>-\$5,598</b>	<b>-4%</b>	

<b>Other</b>										
	FY09	FY10	FY11	FY12	FY13	5-Year Change FY09 - FY13		1-Year Change FY12-FY13		
						\$	%	\$	%	
<b>Amherst</b>	\$1,085	\$713	\$528	\$761	\$1,470	\$385	35%	\$709	93%	
<b>Boston</b>	\$2,724	\$2,682	\$1,022	\$1,325	\$4,195	\$1,471	54%	\$2,870	217%	
<b>Dartmouth</b>	\$44	\$33	\$71	\$121	\$1	-\$43	-98%	-\$120	-99%	
<b>Lowell</b>	\$3,675	\$4,240	\$10,556	\$9,646	\$10,891	\$7,216	196%	\$1,245	13%	
<b>Worcester</b>	\$26,765	\$ 29,998	\$ 40,757	\$ 37,918	\$ 46,882	\$20,117	75%	\$8,964	24%	
<b>President's Office</b>				\$139	\$50	\$50	NA	-\$89	NA	
<b>System</b>	<b>\$34,293</b>	<b>\$ 37,666</b>	<b>\$52,934</b>	<b>\$49,910</b>	<b>\$63,489</b>	<b>\$29,196</b>	<b>85%</b>	<b>\$13,579</b>	<b>27%</b>	

Source: Campus NSF surveys and WebCASPAR. All dollars are in thousands.

Note: UMA FY2010 figures have been revised since the FY2010 R&D Report Publication.

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## **APPENDICES A-P**

**Appendix A1: UMass Total R&D Expenditures as Percent of  
US, New England, Massachusetts Figures: FY 2007–2012**

(Dollars in Thousands)

Division and state	2007	2008	2009	2010	2011	2012
United States	51,590,017	54,113,750	57,288,415	61,257,398	65,274,235	65,774,524
New England	3,827,520	3,995,165	4,249,189	4,649,376	4,991,415	5,308,745
Connecticut	712,775	754,792	777,963	888,949	945,705	946,826
Maine	142,789	151,762	156,851	137,516	139,983	120,072
Massachusetts	2,286,853	2,396,215	2,605,290	2,749,926	2,949,264	3,212,502
New Hampshire	313,309	310,721	309,144	311,455	359,839	415,691
Rhode Island	254,121	263,423	274,425	428,738	459,321	493,428
Vermont	117,673	118,252	125,516	132,792	137,303	120,226
U. MA Worcester	157,469	178,614	204,033	232,039	262,714	256,090
U. MA Amherst	146,323	156,817	160,666	169,141	181,297	194,775
U. MA Lowell	36,117	40,873	56,664	59,345	60,013	60,624
U. MA Dartmouth	20,120	20,925	20,669	25,725	25,644	22,732
U. MA Boston	37,441	38,018	47,028	56,416	57,040	60,086
U. MA President's Office	-	-	-	-	-	3,173
<b>UMass System Total</b>	<b>397,470</b>	<b>435,247</b>	<b>489,060</b>	<b>542,666</b>	<b>586,708</b>	<b>597,480</b>
As % of US	0.8%	0.8%	0.9%	0.9%	0.9%	0.9%
As % of New England	10.4%	10.9%	11.5%	11.7%	11.8%	11.3%
As % of MA	17.4%	18.2%	18.8%	19.7%	19.9%	18.6%

**Appendix A2: UMass Total R&D Expenditures as Percent of  
US, New England, Massachusetts Figures by Field: FY 2012**

(Dollars in Thousands)

Division and State	All R&D expenditures	Environmental sciences	Life sciences	Math and computer sciences	Physical sciences	Psychology	Social sciences	Sciences, nec	Engineering	All non-S&E fields
United States	65,774,524	3,172,613	37,215,163	2,496,414	4,721,131	1,187,582	2,055,807	1,115,068	10,302,305	3,508,441
New England	5,308,745	421,886	2,569,429	192,780	414,945	97,428	162,446	191,429	855,964	402,438
Connecticut	946,826	14,350	722,482	14,771	45,663	33,783	13,321	6,894	73,760	21,802
Maine	120,072	21,239	48,251	2,901	6,051	677	6,495	7,863	25,112	1,483
Massachusetts	3,212,502	258,055	1,353,279	137,342	314,384	45,341	113,847	145,798	640,973	203,483
New Hampshire	415,691	69,419	210,162	9,341	13,943	7,914	9,094	7,707	70,336	17,775
Rhode Island	493,428	56,861	139,995	26,837	31,828	6,411	18,617	19,126	36,282	157,471
Vermont	120,226	1,962	95,260	1,588	3,076	3,302	1,072	4,041	9,501	424
U. MA Worcester	256,090	0	256,090	0	0	0	0	0	0	-
U. MA Amherst	194,775	4,713	61,999	22,052	32,239	4,865	6,163	1,477	44,699	16,568
U. MA Lowell	60,624	384	11,645	3,711	14,563	440	3,752	1,412	18,073	6,644
U. MA Dartmouth	22,732	9,359	2,229	946	2,416	358	399	158	5,691	1,176
U. MA Boston	60,086	3,096	8,443	2,624	1,506	5,478	7,524	-	198	31,217
U. MA President's Office	3,173	-	402	-	-	-	24	59	-	2,688
<b>UMass System Total</b>	<b>597,480</b>	<b>17,552</b>	<b>340,808</b>	<b>29,333</b>	<b>50,724</b>	<b>11,141</b>	<b>17,862</b>	<b>3,106</b>	<b>68,661</b>	<b>58,293</b>
As % of US	0.9%	0.6%	0.9%	1.2%	2.0%	0.2%	1.5%	0.2%	6.2%	0.6%
As % of New England	11.3%	4.2%	13.3%	15.2%	12.2%	11.4%	11.0%	1.6%	8.0%	14.5%
As % of MA	18.6%	6.8%	25.2%	21.4%	16.1%	24.6%	15.7%	2.1%	10.7%	28.6%

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Research and Development Expenditures at Universities and Colleges, FY 2012.

**Appendix B: Higher Education Total R&D Expenditures, ranked by FY 2012 R&D expenditures: FYs 2005–12  
(Top 300)**

(Dollars in thousands)

Rank	Institution	2005	2006	2007	2008	2009	2010	2011	2012
	All institutions	47,535,201	49,645,341	51,590,017	54,113,750	57,288,415	61,257,398	65,274,235	65,774,524
1	Johns Hopkins U. <sup>a</sup>	1,458,426	1,512,066	1,566,392	1,691,469	1,866,243	2,004,482	2,145,308	2,106,185
2	U. MI, Ann Arbor	NA	NA	NA	NA	NA	1,184,445	1,279,123	1,322,711
3	U. WI, Madison	875,722	904,787	912,219	944,626	1,013,649	1,029,295	1,111,642	1,169,779
4	U. WA, Seattle	NA	NA	NA	NA	NA	1,022,740	1,148,533	1,109,008
5	U. CA, San Diego	721,035	757,157	801,823	844,877	883,653	943,219	1,009,378	1,073,864
6	U. CA, San Francisco	754,444	796,149	842,840	885,182	947,697	935,509	995,226	1,032,673
7	Duke U.	632,358	658,783	783,784	769,893	807,652	983,289	1,022,207	1,009,911
8	U. CA, Los Angeles	785,625	841,352	854,497	904,840	923,916	936,995	982,357	1,003,375
9	Stanford U.	728,044	692,263	702,497	698,883	717,022	839,839	907,971	903,238
10	Columbia U. in the City of New York	535,424	529,946	545,996	548,704	604,660	807,235	878,900	889,487
11	U. NC, Chapel Hill	447,984	448,509	484,160	530,515	651,308	755,284	869,174	884,791
12	U. Pittsburgh, Pittsburgh	526,458	535,186	564,994	599,800	629,088	822,491	899,386	866,638
13	U. PA	677,386	696,443	668,105	740,410	758,159	836,322	886,036	847,077
14	U. MN, Twin Cities	NA	NA	NA	NA	NA	786,074	847,419	826,173
15	MA Institute of Technology	597,007	623,343	637,621	682,058	759,649	677,138	723,610	824,130
16	Cornell U.	608,811	650,592	645,791	655,641	672,692	749,721	781,651	802,387
17	Harvard U.	498,219	506,987	493,920	505,832	525,452	583,361	649,774	799,432
18	PA State U., University Park and Hershey Medical Ctr.	NA	NA	NA	NA	NA	770,449	794,846	797,679
19	OH State U.	643,283	663,012	737,324	726,302	743,591	755,194	832,126	766,513
20	U. CA, Berkeley	554,551	563,837	570,252	620,374	682,568	694,049	707,945	730,348
21	U. CA, Davis	546,978	576,096	604,512	647,691	687,690	679,915	707,896	713,292
22	Washington U., St. Louis	535,642	551,333	575,846	566,378	630,141	695,974	725,039	706,410
23	U. FL	564,221	599,749	635,956	632,680	644,241	681,548	739,931	696,985
24	TX A&M U., College Station	494,262	508,787	565,631	604,526	651,923	689,624	705,720	693,421
25	GA Institute of Technology	427,067	444,959	476,138	524,888	565,487	615,833	655,375	688,905
26	U. TX, M. D. Anderson Cancer Ctr.	383,780	457,696	496,539	558,503	578,788	599,529	663,279	685,814
27	Yale U.	432,806	462,080	451,318	490,913	512,997	623,510	656,967	656,555
28	Northwestern U.	413,526	449,782	473,060	518,572	555,510	575,078	618,980	631,078
29	U. AZ	531,898	538,086	533,450	547,197	566,334	586,647	610,565	625,365
30	U. Southern CA	470,104	475,696	528,466	540,366	556,807	592,791	603,294	623,544
31	U. TX, Austin	453,113	476,958	502,786	553,051	566,166	589,502	632,171	621,538
32	Purdue U., West Lafayette	NA	NA	NA	NA	NA	548,980	578,231	602,501
33	U. IL, Urbana-Champaign	524,680	494,748	492,347	518,333	581,805	515,133	545,669	583,754
34	Vanderbilt U.	357,141	389,026	415,750	444,873	455,835	504,959	566,031	560,466
35	Emory U.	337,154	349,867	412,503	463,317	459,067	529,453	547,316	552,707
36	MI State U.	361,807	388,845	395,611	392,242	405,961	431,373	454,248	507,061
37	U. MD, College Park	362,461	368,989	371,696	405,569	417,365	451,415	495,382	502,406
38	Baylor C. of Medicine	458,694	462,375	438,280	449,301	449,031	447,874	466,061	474,700
39	NY U.	310,014	304,022	319,728	337,093	338,839	365,944	430,752	458,645
40	VA Polytechnic Institute and State U.	292,519	325,318	370,805	375,773	399,433	398,169	450,058	454,417
41	U. AL, Birmingham	319,840	332,841	352,777	405,731	435,460	489,845	503,698	453,779
42	U. IA	343,043	356,169	374,905	300,422	334,937	444,034	443,893	446,429
43	U. South FL, Tampa	NA	NA	NA	NA	NA	385,029	394,963	443,206
44	U. TX, Southwestern Medical Ctr., Dallas	320,800	333,237	341,090	390,349	402,087	419,220	431,883	435,085
45	Rutgers, State U. NJ, New Brunswick	NA	NA	NA	NA	NA	428,432	432,306	434,901

**Appendix B: Higher Education Total R&D Expenditures, ranked by FY 2012 R&D expenditures: FYs 2005–12  
(Top 300)**

(Dollars in thousands)

Rank	Institution	2005	2006	2007	2008	2009	2010	2011	2012
46	U. Cincinnati	296,113	304,815	344,526	359,011	369,906	411,269	448,936	433,668
47	U. MD, Baltimore	304,396	405,260	358,851	379,407	359,542	374,036	409,665	433,228
48	U. CO, Denver and Anschutz Medical Campus	253,444	260,292	264,739	269,805	364,659	389,461	417,587	431,977
49	Case Western Reserve U.	324,502	374,714	379,347	420,441	418,012	418,164	429,206	431,090
50	U. UT	246,132	249,719	248,864	254,632	334,002	379,200	414,316	430,056
51	U. Chicago	296,817	308,557	325,161	360,047	381,194	437,721	453,562	419,631
52	NC State U.	302,596	330,936	333,027	367,422	383,193	360,795	378,154	404,225
53	Icahn School of Medicine at Mt. Sinai	225,293	273,216	269,451	296,380	318,407	370,666	405,527	400,680
54	Scripps Research Institute	330,170	367,375	360,511	366,047	382,275	387,298	400,768	398,673
55	U. CO, Boulder	265,447	254,805	267,314	272,191	299,892	349,449	390,677	392,004
56	U. Rochester	348,278	369,487	377,016	378,368	398,187	414,655	429,034	389,612
57	U. IL, Chicago	322,468	337,180	344,815	339,704	347,118	362,939	380,828	388,625
58	AZ State U.	177,426	211,396	238,054	273,532	311,461	329,345	355,215	385,959
59	U. VA, Charlottesville	NA	NA	NA	NA	NA	276,308	398,096	383,359
60	CO State U., Ft. Collins	244,303	267,453	296,020	302,613	311,720	302,896	330,784	375,919
61	U. Miami	211,201	215,491	212,532	244,067	250,339	280,671	323,486	365,301
62	CA Institute of Technology	265,364	270,354	287,343	274,671	345,400	362,172	377,514	365,243
63	Brown U.	162,919	195,710	175,623	182,596	187,380	335,838	344,090	365,120
64	U. KY	319,900	337,646	348,835	345,355	360,254	359,944	372,932	360,776
65	SUNY, U. Buffalo	275,334	304,757	323,417	339,575	349,423	349,670	353,172	360,226
66	U. GA	337,467	342,763	351,935	369,546	369,997	295,339	335,901	351,395
67	U. CA, Irvine	276,763	306,257	316,178	334,279	336,345	327,594	344,678	350,030
68	WA State U.	185,282	203,542	213,262	283,086	301,080	304,352	320,510	335,930
69	Boston U.	251,198	261,632	253,899	259,045	284,507	352,817	355,916	332,951
70	IN U.-Purdue U., Indianapolis	NA	NA	NA	NA	NA	296,194	322,617	316,914
71	U. HI, Manoa	230,651	250,694	266,447	271,835	290,707	303,085	318,316	312,311
72	OR Health and Science U.	266,687	272,174	287,430	301,396	309,675	314,990	334,324	305,530
73	Rockefeller U.	198,719	215,417	233,917	247,505	252,478	265,750	272,491	292,896
74	Yeshiva U.	193,104	189,416	192,199	197,311	193,010	314,240	281,334	289,027
75	U. KS	208,285	214,768	219,535	227,433	236,544	267,961	274,727	286,262
76	LA State U., Baton Rouge	238,813	256,248	266,895	280,081	294,780	289,872	287,841	285,395
77	Princeton U.	212,723	195,148	198,945	204,489	212,510	242,570	263,335	275,666
78	SUNY, U. Albany, C. Nanoscale S&E	NA	NA	NA	NA	NA	NA	248,778	265,473
79	IA State U.	215,848	227,585	221,002	228,167	228,526	250,120	267,641	260,995
80	U. CT	223,192	225,274	233,774	233,246	232,944	237,908	253,792	256,854
<b>81</b>	<b>U. MA, Medical School</b>	<b>176,349</b>	<b>156,452</b>	<b>157,469</b>	<b>178,614</b>	<b>204,033</b>	<b>232,039</b>	<b>262,714</b>	<b>256,090</b>
82	Carnegie Mellon U.	202,244	213,338	198,139	210,988	217,687	222,790	242,882	255,933
83	U. NE, Lincoln	214,053	228,976	229,496	244,869	251,195	191,268	235,296	253,320
84	Wayne State U.	231,000	225,034	238,738	253,604	257,207	254,492	259,895	245,888
85	Dartmouth C.	179,107	200,329	192,846	188,122	190,425	194,141	210,631	245,386
86	U. OK	182,436	186,349	187,454	204,765	213,720	218,089	249,297	240,974
87	OR State U.	217,998	227,693	231,895	233,358	257,564	216,595	228,814	240,507
88	U. MO, Columbia	234,334	231,170	244,429	251,894	253,527	238,500	230,957	239,810
89	Medical U. SC	178,086	176,055	184,624	189,369	216,778	224,632	213,346	236,586
90	U. TX, Health Science Ctr., Houston	152,631	175,154	191,724	197,252	217,623	240,772	261,172	236,250
91	U. CA, Santa Barbara	165,014	179,857	200,504	214,441	227,221	225,730	230,435	233,883
92	MS State U.	184,612	196,119	211,271	219,017	225,426	231,675	226,070	233,197

**Appendix B: Higher Education Total R&D Expenditures, ranked by FY 2012 R&D expenditures: FYs 2005–12  
(Top 300)**

(Dollars in thousands)

Rank	Institution	2005	2006	2007	2008	2009	2010	2011	2012
93	FL State U.	207,968	209,857	211,310	211,557	237,794	227,329	230,411	225,378
94	U. NM	182,871	186,047	181,734	202,694	205,831	211,771	220,565	220,360
95	SUNY, Stony Brook U.	212,698	236,095	268,541	190,712	189,299	204,728	211,356	219,744
96	U. SC, Columbia	NA	NA	NA	NA	NA	229,145	201,592	214,901
97	Medical C. WI	143,540	147,140	158,171	165,529	176,237	191,816	215,358	209,040
98	U. of Medicine and Dentistry of NJ	239,778	245,771	236,834	230,347	223,796	230,235	234,354	206,504
99	Woods Hole Oceanographic Institution	117,517	121,888	137,410	150,720	157,289	181,746	198,775	204,352
100	Wake Forest U.	185,668	183,843	186,175	200,750	201,701	192,034	209,134	204,328
101	VA Commonwealth U.	161,801	167,748	151,197	171,637	162,283	197,709	207,756	201,366
102	U. Louisville	139,942	148,246	163,434	164,123	167,178	189,090	197,438	196,842
103	George Washington U.	130,405	135,931	149,413	181,688	103,793	196,917	197,621	196,448
<b>104</b>	<b>U. MA, Amherst</b>	<b>134,097</b>	<b>140,184</b>	<b>146,323</b>	<b>156,817</b>	<b>160,666</b>	<b>169,141</b>	<b>181,297</b>	<b>194,775</b>
105	IN U., Bloomington	NA	NA	NA	NA	NA	177,520	184,096	184,486
106	U. TX, Health Science Ctr., San Antonio	142,375	150,040	160,282	201,323	221,535	207,115	198,655	184,298
107	U. TX, Medical Branch	174,254	179,915	183,492	180,026	184,845	188,399	193,555	180,888
108	Georgetown U.	127,288	122,135	140,710	144,957	151,064	159,355	169,916	180,308
109	U. TN, Knoxville	NA	NA	NA	NA	NA	150,671	167,456	179,252
110	KS State U.	126,826	126,960	126,864	141,535	151,376	160,679	169,167	176,141
111	U. DE	112,591	116,982	120,431	126,971	126,788	153,311	169,746	170,174
112	OK State U., Stillwater	NA	NA	NA	NA	NA	147,094	162,786	166,523
113	U. NH	115,976	121,952	120,463	121,092	117,546	115,562	143,002	165,156
114	Tulane U.	143,899	118,828	140,321	165,678	163,572	165,513	171,703	164,373
115	WV U.	117,274	124,046	138,800	145,107	145,656	154,926	166,420	163,503
116	Tufts U.	136,602	133,628	135,868	145,169	154,575	156,106	156,395	160,922
117	U. AK, Fairbanks	140,594	154,441	155,147	149,313	157,600	161,986	165,530	160,407
118	U. Notre Dame	75,566	82,137	82,272	103,311	104,866	110,369	134,410	157,691
119	UT State U.	134,223	142,935	142,784	148,257	145,240	149,169	174,167	157,355
120	U. CA, Santa Cruz	105,617	134,458	147,396	162,100	170,461	143,919	155,617	155,516
121	Uniformed Services U. of the Health Sciences	78,694	67,716	71,307	106,179	192,268	134,126	175,365	151,392
122	Clemson U.	180,262	184,940	216,959	200,789	193,924	174,693	166,350	142,096
123	U. NE, Medical Ctr.	123,263	108,012	111,751	112,887	123,629	138,219	133,036	141,619
124	NM State U.	126,450	168,502	152,104	141,523	154,363	157,872	139,062	141,151
125	TX Tech U.	57,998	59,929	59,439	60,165	92,058	133,360	149,399	138,026
126	SUNY, U. Albany	264,581	277,841	309,438	271,187	341,624	359,364	148,625	137,758
127	U. CA, Riverside	122,221	135,603	139,960	139,319	139,536	130,288	132,238	135,494
128	ND State U.	103,248	104,505	107,337	116,327	114,260	126,419	134,064	135,493
129	Auburn U., Auburn	NA	NA	NA	NA	NA	145,115	163,335	133,013
130	Naval Postgraduate School	54,233	62,714	66,972	89,940	82,451	103,510	101,363	132,450
131	U. AR for Medical Sciences	91,516	107,871	108,551	117,440	106,314	119,518	122,066	129,056
132	Temple U.	86,646	84,114	90,773	99,815	111,421	124,528	126,478	128,580
133	MT State U., Bozeman	118,188	121,534	124,833	130,120	126,844	135,084	125,966	124,228
134	U. AR, Fayetteville	107,974	109,609	113,773	115,397	117,448	113,909	120,007	123,199
135	U. MS and U. MS Medical Ctr.	101,350	105,029	117,522	99,413	100,102	110,020	122,765	121,731
136	U. Central FL	121,699	122,879	141,140	147,092	148,809	117,985	109,190	121,653
137	FL International U.	87,720	84,697	108,015	107,025	101,322	110,271	110,006	118,058
138	Rice U.	63,769	67,045	72,112	74,720	79,431	97,903	110,235	117,223
139	Drexel U.	93,323	97,675	98,010	103,558	105,020	118,349	115,020	116,768

**Appendix B: Higher Education Total R&D Expenditures, ranked by FY 2012 R&D expenditures: FYs 2005–12  
(Top 300)**

(Dollars in thousands)

Rank	Institution	2005	2006	2007	2008	2009	2010	2011	2012
140	U. Houston	87,936	80,984	78,381	87,691	102,917	119,811	113,709	116,288
141	U. VT	116,279	122,814	114,172	116,463	122,991	129,856	132,356	115,697
142	U. RI	60,252	70,696	76,237	78,871	84,989	90,016	102,630	114,323
143	Northeastern U.	70,001	72,329	78,220	66,315	67,174	79,949	86,783	107,862
144	U. OR	61,058	66,602	71,362	78,934	86,371	94,107	103,019	105,030
145	Old Dominion U.	56,956	65,357	73,549	87,594	96,186	97,176	102,192	104,579
146	NJ Institute of Technology	76,920	77,583	88,699	89,792	92,891	92,318	100,491	102,851
147	Thomas Jefferson U.	107,388	106,986	107,288	99,275	101,188	103,064	104,923	100,506
148	U. ID	93,127	88,284	83,690	82,489	89,242	87,207	96,229	97,227
149	San Diego State U.	83,599	83,398	74,686	81,385	91,074	99,137	106,591	92,867
150	Rensselaer Polytechnic Institute	65,921	71,382	77,679	77,967	78,188	83,952	84,834	92,720
151	U. ME	75,815	93,867	100,072	96,755	101,344	111,282	111,600	92,135
152	GA State U.	61,651	64,624	65,900	94,429	78,920	81,015	92,725	91,148
153	U. TX, Dallas	43,111	44,198	46,477	59,300	65,804	82,044	93,230	90,700
154	George Mason U.	57,373	60,168	61,068	76,838	85,306	84,120	88,089	90,198
155	U. AL, Huntsville	57,330	61,831	73,760	75,818	74,340	75,683	75,724	87,388
156	U. NV, Reno	97,306	100,643	99,286	104,841	109,151	95,423	89,740	85,726
157	Syracuse U.	48,227	53,784	58,342	62,098	79,950	107,024	83,686	85,649
158	Cold Spring Harbor Lab.	ne	ne	ne	ne	ne	ne	89,913	84,072
159	TX A&M Health Science Ctr.	73,162	76,109	77,957	79,688	83,631	81,615	74,957	82,833
160	U. Dayton	70,178	72,070	76,166	83,293	95,043	93,309	90,557	81,030
161	SUNY, Binghamton U.	25,919	29,966	37,382	62,959	71,912	72,057	72,539	81,000
162	Rush U.	83,693	83,194	84,370	89,513	96,975	73,398	79,212	80,300
163	U. ND	47,024	56,301	63,298	65,185	71,858	76,560	74,882	80,149
164	U. TX, El Paso	37,985	42,882	47,410	50,603	59,983	68,870	74,069	79,649
165	U. TX, Arlington	29,155	29,408	33,324	48,475	55,005	71,414	72,483	78,556
166	U. TN, Health Science Ctr.	NA	NA	NA	NA	NA	81,904	81,220	77,754
167	U. MD, Baltimore County	59,105	68,205	71,201	72,057	81,056	87,156	91,657	74,993
168	Brandeis U.	56,435	59,250	58,925	51,686	65,586	71,006	74,889	74,660
169	MI Technological U.	41,337	44,200	56,640	60,356	60,395	63,471	70,089	71,989
170	Southern IL U., Carbondale	57,760	75,564	65,074	67,435	66,658	69,924	71,130	71,097
171	GA Health Sciences U.	67,278	61,174	60,001	57,085	65,473	72,015	73,486	70,526
172	SD State U.	32,389	33,496	39,564	48,063	55,584	67,552	69,680	68,743
173	U. TN, Institute of Agriculture	NA	NA	NA	NA	NA	59,212	62,786	68,480
174	U. Toledo	33,002	32,745	54,342	61,082	67,464	70,399	74,149	68,228
175	U. Akron	27,897	28,675	27,399	27,415	34,853	52,884	60,352	66,413
176	U. CA, Office of the President	97,245	128,992	119,109	100,189	83,108	72,542	63,420	65,627
177	U. WY	83,742	89,707	80,041	76,711	79,684	55,319	57,549	65,611
178	FL Atlantic U.	27,797	30,393	46,055	49,410	56,127	56,472	62,024	65,377
179	U. LA, Lafayette	52,139	55,427	60,203	65,462	75,474	69,412	69,978	65,275
180	U. WI, Milwaukee	42,974	45,219	52,523	52,443	56,196	71,181	65,648	61,771
181	Wichita State U.	53,182	37,934	53,392	60,640	75,655	51,524	63,538	61,279
182	TX Tech U., Health Sciences Ctr.	18,697	22,013	21,006	24,716	37,363	51,282	58,774	61,219
183	Cleveland State U.	22,415	16,076	17,819	15,027	14,345	34,235	55,502	61,111
184	<b>U. MA, Lowell</b>	<b>25,745</b>	<b>29,383</b>	<b>36,117</b>	<b>40,873</b>	<b>56,664</b>	<b>59,345</b>	<b>60,013</b>	<b>60,624</b>
185	<b>U. MA, Boston</b>	<b>19,418</b>	<b>22,347</b>	<b>37,441</b>	<b>38,018</b>	<b>47,028</b>	<b>56,416</b>	<b>57,040</b>	<b>60,086</b>

**Appendix B: Higher Education Total R&D Expenditures, ranked by FY 2012 R&D expenditures: FYs 2005–12  
(Top 300)**

(Dollars in thousands)

Rank	Institution	2005	2006	2007	2008	2009	2010	2011	2012
186	U. Southern MS	38,766	40,845	48,595	47,582	47,205	42,059	46,591	60,079
187	U. MT, Missoula	55,795	53,333	56,119	58,557	59,791	63,540	60,159	59,313
188	CO School of Mines	26,499	28,729	29,939	34,050	40,117	44,879	48,704	58,836
189	Portland State U.	29,371	32,308	30,203	35,705	44,574	56,533	58,975	58,489
190	CUNY, City C.	29,826	31,071	33,712	35,096	37,538	46,699	60,648	57,982
191	U. TX, San Antonio	23,606	32,317	32,321	34,601	46,521	56,279	58,667	57,233
192	OH U.	44,593	39,167	39,008	38,984	43,097	50,440	57,643	57,203
193	U.S. Air Force Academy	30,115	10,547	16,345	45,445	50,452	62,097	73,607	56,044
194	U. AL, Tuscaloosa	34,770	35,642	36,807	33,477	36,889	40,762	53,633	55,885
195	C. of William and Mary and VA Institute of Marine Science	57,867	60,813	59,894	63,400	59,638	57,461	58,919	55,805
196	LA State U., Health Sciences Ctr., New Orleans	93,595	79,927	91,498	60,007	59,111	59,776	57,007	53,712
197	FL A&M U.	28,506	36,824	17,695	25,515	27,018	53,474	53,326	52,263
198	Boston C.	33,732	38,309	41,710	44,413	45,795	50,537	52,253	51,442
199	U. Memphis	68,505	56,686	57,264	56,075	54,970	49,517	48,321	51,194
200	St. Louis U.	47,356	48,248	56,921	59,236	38,075	46,839	53,179	49,086
201	U. MD, Ctr. for Environmental Science	41,022	40,146	40,720	40,556	41,670	42,670	50,007	48,224
202	Jackson State U.	35,876	38,273	36,888	42,739	44,884	44,862	49,998	46,943
203	U. North TX, Denton	16,799	18,285	15,981	18,066	24,120	31,496	42,475	46,943
204	U. North TX, Health Science Ctr.	22,325	25,124	28,187	28,179	29,582	38,862	45,943	46,865
205	Wright State U.	40,409	47,749	49,798	47,803	48,215	48,575	48,501	46,213
206	Loyola U., Chicago	41,876	38,611	35,420	35,307	36,519	43,903	42,708	45,903
207	U. PR, Medical Sciences Campus	35,809	38,424	38,863	35,570	41,668	39,134	64,017	45,649
208	Howard U.	41,913	36,817	38,583	38,010	34,714	40,080	42,341	45,486
209	American U.	1,671	3,843	13,107	15,742	35,194	39,747	46,611	43,526
210	SUNY, Health Science Ctr. Brooklyn	29,732	31,064	29,809	32,299	29,184	32,512	41,993	43,257
211	CUNY, Hunter C.	37,075	36,039	31,023	34,644	37,349	38,900	39,772	41,022
212	U. South AL	19,431	19,729	26,181	29,895	32,882	35,500	42,233	40,172
213	MO U. of Science and Technology	40,832	39,274	31,168	36,533	35,672	42,263	41,581	38,588
214	NM Institute of Mining and Technology	56,134	73,792	83,742	79,437	81,742	51,696	43,857	37,875
215	Eastern VA Medical School	33,721	33,013	31,453	30,777	36,678	44,420	36,569	37,745
216	Morehouse School of Medicine	30,652	28,378	27,886	27,077	27,392	30,669	33,946	37,586
217	Rochester Institute of Technology	24,309	24,703	24,106	27,025	33,393	38,663	34,889	36,935
218	TX State U., San Marcos	8,896	9,496	10,320	19,309	24,497	30,560	33,487	36,664
219	SUNY, Upstate Medical U.	34,931	37,181	39,699	36,359	33,194	43,824	39,988	35,897
220	NC Agricultural and Technical State U.	22,993	23,948	24,138	29,036	28,615	35,297	34,930	35,103
221	Rutgers, State U. NJ, Newark	NA	NA	NA	NA	NA	27,745	35,774	34,797
222	San Jose State U.	48,624	49,267	47,256	52,408	55,213	38,241	40,149	34,727
223	U. NV, Las Vegas	49,564	58,618	57,768	53,320	41,652	44,457	39,526	34,543
224	Brigham Young U., Provo	26,990	30,013	29,635	28,988	29,901	32,997	37,142	33,843
225	U. PR, Rio Piedras	21,432	22,623	22,345	35,665	31,592	30,515	32,582	33,099
226	Desert Research Institute	34,570	38,511	40,238	38,045	36,490	34,367	35,331	33,056
227	Air Force Institute of Technology	15,091	19,394	17,173	20,527	27,458	31,259	31,879	32,746
228	Creighton U.	27,022	25,615	28,374	26,872	27,104	27,700	31,443	32,594
229	IL Institute of Technology	28,081	24,654	26,740	25,289	25,709	36,554	44,463	32,576
230	AL A&M U.	16,075	14,431	13,672	8,959	14,752	30,497	32,063	32,312
231	U. PR, Mayaguez	21,792	22,337	21,738	20,094	20,991	26,475	34,424	32,115

**Appendix B: Higher Education Total R&D Expenditures, ranked by FY 2012 R&D expenditures: FYs 2005–12  
(Top 300)**

(Dollars in thousands)

Rank	Institution	2005	2006	2007	2008	2009	2010	2011	2012
232	Lehigh U.	38,886	35,046	38,307	38,190	34,352	37,332	32,086	31,992
233	East Carolina U.	14,563	14,539	16,372	16,880	24,922	23,995	28,114	31,990
234	U. SD	18,919	22,892	21,473	22,742	34,690	30,616	28,959	31,982
235	Stevens Institute of Technology	31,059	33,600	34,383	30,493	28,660	35,544	41,622	31,929
236	Loma Linda U.	29,898	32,451	28,020	35,890	37,557	35,990	39,409	31,772
237	Mercer U.	20,042	19,622	18,163	19,739	21,974	27,298	29,039	31,376
238	San Francisco State U.	24,008	28,307	27,244	21,382	25,323	25,615	26,198	30,291
239	CA State U., Northridge	21,266	17,140	21,866	20,574	20,822	29,469	25,654	29,491
240	LA State U., Medical Ctr., Shreveport	NA	NA	NA	33,458	31,293	30,817	31,021	29,365
241	U. MO, Kansas City	34,282	27,572	30,944	28,892	28,657	30,163	32,769	29,227
242	SUNY, C. of Environmental Science and Forestry	12,054	17,954	23,854	26,359	20,513	26,916	28,289	28,509
243	U. New Orleans	35,061	26,520	28,972	27,917	30,801	35,021	35,359	28,450
244	Northern AZ U.	23,047	27,892	27,030	26,160	26,723	28,803	30,785	28,100
245	Boise State U.	9,168	8,997	11,520	11,592	12,305	18,731	24,204	27,920
246	Southern IL U., Edwardsville	39,914	42,457	44,650	47,268	49,139	31,781	33,736	26,992
247	LA Tech U.	18,612	18,095	17,190	22,768	21,458	26,020	27,583	26,546
248	Kent State U.	15,157	16,506	22,201	26,168	27,275	26,331	27,455	26,507
249	Miami U.	18,026	19,229	23,729	25,052	29,808	26,521	26,093	26,311
250	U. of the VI	16,735	17,495	17,842	18,099	22,019	32,350	21,994	25,719
251	Meharry Medical C.	29,105	32,878	33,218	34,152	26,587	27,001	29,055	25,559
252	U. NC, Charlotte	20,307	22,656	26,974	25,196	29,272	31,814	27,533	25,141
253	Catholic U. America	22,754	18,412	20,484	20,767	20,400	21,454	25,397	24,971
254	Southern Methodist U.	14,439	15,823	16,985	22,902	16,741	18,742	24,453	24,397
255	NY Medical C.	32,460	34,397	34,365	31,644	30,584	28,400	27,316	23,277
<b>256</b>	<b>U. MA, Dartmouth</b>	<b>21,133</b>	<b>20,389</b>	<b>20,120</b>	<b>20,925</b>	<b>20,669</b>	<b>25,725</b>	<b>25,644</b>	<b>22,732</b>
257	U. CA, Merced	na	7,931	11,600	17,403	22,013	21,591	21,328	22,656
258	CUNY, Queens C.	7,628	7,462	9,840	11,989	13,115	16,845	23,219	22,399
259	CA State U., Fullerton	7,515	7,893	7,115	9,038	14,898	21,776	28,186	22,222
260	U. HI, Hilo	16,653	18,564	16,674	14,500	20,202	14,857	9,934	22,003
261	Northern IL U.	14,787	21,048	21,483	21,179	27,938	27,036	21,748	21,823
262	U. MN, Duluth	NA	NA	NA	NA	NA	21,150	23,400	21,530
263	Polytechnic Institute of NY U.	24,845	24,329	23,766	13,673	9,547	10,601	13,222	21,413
264	ID State U.	20,137	17,119	20,569	21,627	21,405	20,495	21,450	21,179
265	Western MI U.	24,801	25,470	25,779	26,649	22,579	26,391	25,051	21,073
266	Teachers C., Columbia U.	13,296	13,113	14,561	17,104	18,399	17,167	18,406	20,805
267	Charles R. Drew U. of Medicine and Science	43,231	47,188	52,118	49,224	57,604	22,152	22,150	20,580
268	U. Tulsa	13,640	13,209	16,218	15,576	13,769	23,387	19,489	20,270
269	Worcester Polytechnic Institute	14,736	15,345	14,308	15,887	15,645	18,613	22,137	20,232
270	U. AK, Anchorage	13,594	16,520	14,751	13,353	13,400	16,709	18,620	20,194
271	U. NC, Wilmington	21,431	14,212	17,603	20,326	18,287	23,143	22,593	19,722
272	Embry-Riddle Aeronautical U.	14,629	10,628	7,930	7,004	10,899	12,189	16,289	19,376
273	U. MO, St. Louis	14,022	13,587	13,214	14,374	15,665	14,628	18,461	19,356
274	Fordham U.	5,198	12,525	13,268	16,492	15,676	19,289	18,350	19,311
275	SD School of Mines and Technology	13,347	12,589	14,480	16,503	14,373	28,572	32,070	19,140
276	U. NC, Greensboro	16,016	13,724	13,574	16,451	19,811	22,436	26,121	19,080
277	Marshall U.	23,606	19,957	22,755	23,022	23,645	24,501	26,723	18,998
278	Marquette U.	10,616	11,051	9,917	10,602	10,470	14,310	19,876	18,606



## Appendix B: Higher Education Total R&D Expenditures, ranked by FY 2012 R&D expenditures: FYs 2005–12 (Top 300)

(Dollars in thousands)

Rank	Institution	2005	2006	2007	2008	2009	2010	2011	2012
279	Oakland U.	6,654	9,554	9,038	9,812	11,275	12,856	15,868	18,194
280	IL State U.	7,079	6,298	7,528	7,110	8,727	18,417	17,833	17,760
281	Morgan State U.	9,544	13,523	11,257	12,336	12,433	12,804	12,803	17,751
282	Albany Medical C.	15,465	16,227	15,029	15,108	17,776	22,953	20,876	17,735
283	TX A&M U., Kingsville	13,888	13,785	14,381	14,495	16,217	17,378	17,114	17,419
284	CA Polytechnic State U., San Luis Obispo	11,515	12,956	14,970	15,196	19,857	19,732	16,532	17,412
285	FL Institute of Technology	7,920	8,990	7,732	9,232	11,523	12,054	14,523	17,100
286	CA State U., Long Beach	10,572	10,880	14,697	16,400	13,453	15,494	16,319	16,446
287	U. West FL	19,029	13,376	14,903	14,137	13,288	17,757	21,710	16,221
288	Tuskegee U.	12,168	12,982	15,905	16,606	18,543	15,581	15,685	15,991
289	TX A&M U., Corpus Christi	10,925	12,827	13,178	12,289	13,858	17,266	17,509	15,776
290	Fayetteville State U.	8,509	632	8,124	8,647	10,541	11,865	14,618	15,719
291	DE State U.	5,909	7,642	7,729	8,384	9,924	15,200	19,019	15,668
292	Rosalind Franklin U. of Medicine and Science	11,920	10,981	12,199	12,128	13,375	12,426	14,261	15,587
293	Duquesne U.	10,172	10,515	11,175	11,982	11,856	15,804	16,814	15,547
294	TN State U.	15,263	14,693	12,982	12,571	12,581	12,432	13,468	15,439
295	Hampton U.	43,124	28,819	24,017	21,089	12,847	14,455	12,414	15,356
296	U. Denver	16,526	14,585	14,178	14,657	16,727	15,748	17,004	15,237
297	Purdue U., Calumet	NA	NA	NA	NA	NA	14,014	11,946	14,897
298	Clarkson U.	13,826	16,176	17,257	17,724	15,047	18,584	17,951	14,809
299	Prairie View A&M U.	12,089	11,521	12,036	10,800	11,556	12,565	15,243	14,552
300	FL Gulf Coast U.	11,660	12,333	11,805	11,664	10,905	13,906	17,051	14,393
	All other surveyed institutions <sup>b</sup>	6,000,350	6,316,235	6,520,569	6,921,227	7,431,668	1,321,988	1,514,316	1,408,878

i = imputed. na = not applicable; institution did not exist or did not exist as a separate entity. NA = not available; institution was not surveyed separately. ne = not eligible; institution did not meet the criteria for inclusion.

<sup>a</sup> Johns Hopkins University includes Applied Physics Laboratory, with \$1,121,483 thousand in total R&D expenditures in FY 2012.

<sup>b</sup> The majority of expenditures included under All other surveyed institutions for FY 2009 and earlier years is accounted for by multi-campus institutions that reported a single amount prior to FY 2010.

NOTES: From FY 2005 through FY 2009, some institution totals for all R&D expenditures may be lower-bound estimates because the National Science Foundation did not attempt to estimate for nonresponse on non-science and engineering R&D expenditures item prior to FY 2010. Tied institutions are ranked alphabetically. Institutions ranked are geographically separate campuses headed by a campus-level president or chancellor. Some campuses are part of large multi-campus universities; some are part of state university systems. For a complete listing of campuses that belong to a larger university or system and their aggregate R&D expenditures, see table A-3.

SOURCE: National Science Foundation, National Center for Science and Engineering Statistics, Higher Education Research and Development Survey.

**Appendix C. Federally Financed Higher Education R&D Expenditures, Ranked by FY 2012 R&D Expenditures:  
FYs 2005–12 (Top 300 Institutions)**

(Dollars in thousands)

Rank	Institution	2005	2006	2007	2008	2009	2010	2011	2012
	All institutions	29,956,714	30,908,742	31,240,581	32,100,859	33,442,570	37,477,100	40,771,096	40,130,460
1	Johns Hopkins U. <sup>a</sup>	1,291,759	1,319,214	1,374,029	1,463,709	1,597,205	1,737,261	1,884,025	1,857,580
2	U. WA, Seattle	NA	NA	NA	NA	NA	829,885	948,976	909,652
3	U. MI, Ann Arbor	NA	NA	NA	NA	NA	747,778	820,125	791,729
4	U. PA	475,845	488,902	460,258	493,435	509,689	642,180	707,051	669,970
5	U. CA, San Diego	463,946	463,913	475,821	491,160	511,790	580,279	636,879	656,891
6	Columbia U. in the City of New York	453,188	451,187	459,748	461,029	491,837	572,213	645,233	645,573
7	U. Pittsburgh, Pittsburgh	423,473	426,257	446,151	459,230	467,465	594,675	662,471	637,857
8	Stanford U.	577,600	542,316	537,232	511,649	481,439	593,016	656,114	636,348
9	U. NC, Chapel Hill	321,483	330,201	347,958	374,295	433,896	545,993	600,843	606,348
10	Harvard U.	431,841	443,065	419,113	418,765	426,813	474,899	543,097	589,860
11	Duke U.	377,152	414,859	459,605	452,200	439,187	514,084	585,262	587,268
12	U. WI, Madison	503,517	513,120	489,986	481,259	514,875	545,189	593,633	580,661
13	U. CA, San Francisco	438,988	464,660	467,402	472,642	483,667	514,693	570,116	559,329
14	U. CA, Los Angeles	469,889	492,626	498,742	480,779	477,817	538,521	563,560	539,054
15	PA State U., University Park and Hershey Medical Ctr.	NA	NA	NA	NA	NA	464,750	468,705	531,421
16	Yale U.	333,218	349,969	350,933	376,314	380,576	475,794	519,844	518,184
17	MA Institute of Technology	462,745	481,471	482,014	501,531	539,160	457,575	489,080	496,132
18	U. MN, Twin Cities	NA	NA	NA	NA	NA	426,359	489,480	485,462
19	GA Institute of Technology	245,622	259,139	261,127	281,829	323,738	372,122	427,867	484,212
20	Cornell U.	367,028	391,130	368,468	359,407	363,695	448,085	476,583	472,673
21	Vanderbilt U.	286,652	308,597	323,504	347,415	353,587	397,656	458,173	448,948
22	OH State U.	310,255	319,606	316,763	341,257	349,863	399,942	493,130	445,635
23	U. Southern CA	338,497	341,966	359,306	351,761	378,391	408,564	453,283	443,842
24	Washington U., St. Louis	403,364	411,660	426,659	395,643	415,234	468,642	469,490	441,406
25	Northwestern U.	248,279	254,472	253,338	269,026	305,306	360,980	399,719	393,074
26	Emory U.	266,998	268,095	271,938	291,742	295,951	336,986	369,982	361,165
27	U. IL, Urbana-Champaign	296,942	268,877	258,149	270,908	292,522	303,852	323,454	359,989
28	Case Western Reserve U.	213,097	311,169	309,522	306,760	313,774	333,689	353,470	359,000
29	U. CA, Davis	240,003	248,573	257,597	269,952	297,140	332,325	362,976	358,577
30	U. TX, Austin	269,613	294,832	314,131	351,541	335,519	350,308	355,437	354,873
31	U. MD, College Park	214,465	217,797	224,385	241,224	250,895	297,896	338,780	340,180
32	U. CA, Berkeley	290,960	266,130	256,147	255,005	266,554	312,789	336,191	338,759
33	U. Chicago	248,442	256,442	264,461	287,164	304,575	352,728	372,288	336,125
34	U. AZ	292,907	302,707	270,682	278,229	288,148	308,157	327,565	331,578
35	U. CO, Boulder	237,188	227,013	228,297	228,129	248,259	292,030	323,078	330,089
36	CA Institute of Technology	249,371	248,646	255,088	244,944	308,230	328,522	342,945	326,701
37	NY U.	224,265	197,621	205,547	211,756	214,206	260,463	302,221	316,208
38	U. CO, Denver and Anschutz Medical Campus	214,504	222,889	216,799	215,519	266,137	285,126	307,395	315,685
39	Scripps Research Institute	272,969	268,533	267,073	265,657	288,388	313,746	317,201	309,471
40	U. Rochester	259,359	280,422	282,821	277,747	296,618	322,048	337,907	308,115
41	U. AL, Birmingham	289,738	294,259	269,943	304,107	302,697	325,103	344,164	306,210
42	U. FL	238,251	254,350	247,721	240,366	242,964	279,649	306,349	305,067
43	Rutgers, State U. NJ, New Brunswick	NA	NA	NA	NA	NA	224,894	239,908	279,161
44	Boston U.	231,478	241,726	234,104	236,597	256,666	302,411	305,476	277,436
45	U. UT	168,761	175,089	175,034	171,913	192,489	227,021	264,234	273,150

**Appendix C. Federally Financed Higher Education R&D Expenditures, Ranked by FY 2012 R&D Expenditures:  
FYs 2005–12 (Top 300 Institutions)**

(Dollars in thousands)

Rank	Institution	2005	2006	2007	2008	2009	2010	2011	2012
46	Icahn School of Medicine at Mt. Sinai	191,326	224,911	221,397	253,319	264,914	302,770	296,835	271,722
47	Purdue U., West Lafayette	NA	NA	NA	NA	NA	232,564	259,948	270,655
48	U. IA	221,119	221,966	228,526	234,559	255,101	282,465	283,627	269,734
49	TX A&M U., College Station	219,667	214,197	237,842	257,559	272,087	288,173	291,812	269,460
50	MI State U.	169,187	181,592	187,671	169,656	177,355	214,134	240,837	268,952
51	Baylor C. of Medicine	300,638	287,679	263,146	262,498	267,130	284,072	295,529	268,753
52	U. Cincinnati	203,142	202,306	219,625	221,738	229,504	262,513	287,182	267,691
53	CO State U., Ft. Collins	159,662	193,630	217,145	214,958	217,590	211,297	236,566	252,286
54	U. IL, Chicago	200,054	205,639	210,799	197,369	197,537	232,380	248,936	246,128
55	OR Health and Science U.	217,145	223,204	227,441	232,208	233,774	247,054	268,777	242,337
56	U. VA, Charlottesville	NA	NA	NA	NA	NA	228,917	252,928	240,254
57	U. South FL, Tampa	NA	NA	NA	NA	NA	243,017	243,030	236,148
58	U. MD, Baltimore	129,270	186,160	164,211	169,026	169,081	208,246	229,706	231,886
59	U. Miami	157,414	151,892	149,309	168,036	174,074	197,824	225,352	224,172
60	Carnegie Mellon U.	174,911	185,390	168,486	171,347	170,260	179,386	200,967	209,522
61	U. TX, Southwestern Medical Ctr., Dallas	202,057	196,621	191,687	201,480	207,216	232,027	231,639	207,513
62	U. CA, Irvine	161,524	170,336	170,611	179,527	178,138	194,559	209,117	206,985
63	U. MA, Medical School	130,680	136,141	131,226	145,113	145,834	178,293	208,244	202,149
64	Yeshiva U.	160,894	153,785	147,941	143,866	137,108	163,399	197,032	201,397
65	U. TX, M. D. Anderson Cancer Ctr.	160,953	182,028	190,508	194,889	194,633	206,664	236,400	196,753
66	AZ State U.	97,063	113,324	118,276	130,343	142,037	172,202	185,766	194,376
67	U. HI, Manoa	190,137	203,221	208,196	194,508	203,453	196,275	201,700	193,722
68	SUNY, U. Buffalo	154,972	155,668	151,572	158,152	154,876	167,099	182,585	193,613
69	VA Polytechnic Institute and State U.	110,621	121,129	129,208	135,977	148,716	162,566	189,198	184,175
70	NC State U.	109,128	131,262	131,848	131,987	136,905	139,096	155,293	174,758
71	Wake Forest U.	141,715	139,709	141,655	146,761	144,906	159,084	173,130	172,779
72	U. KS	122,271	127,180	125,300	128,306	134,257	147,598	162,721	171,043
73	IN U.-Purdue U., Indianapolis	NA	NA	NA	NA	NA	148,672	156,607	166,825
74	Princeton U.	120,699	118,757	121,095	125,917	130,006	150,261	163,438	161,591
75	Woods Hole Oceanographic Institution	100,747	101,631	112,754	117,587	127,378	153,066	165,819	161,115
76	U. NM	131,408	130,388	124,121	136,138	134,740	148,216	162,854	160,895
77	U. KY	151,056	155,366	158,559	159,302	147,583	171,528	179,161	159,678
78	OR State U.	127,323	133,328	129,287	134,280	139,587	135,886	146,882	156,446
79	U. CT	135,948	126,914	126,829	122,651	124,385	132,169	144,280	153,264
80	U. TX, Health Science Ctr., Houston	112,509	122,870	131,879	129,277	135,087	150,324	156,790	146,424
81	VA Commonwealth U.	109,732	112,159	96,690	106,335	104,206	144,138	153,228	142,053
82	FL State U.	119,601	121,944	124,050	121,901	127,104	134,794	140,850	140,419
83	U. GA	108,078	96,444	107,060	105,541	109,382	119,486	137,255	137,710
84	Medical U. SC	108,196	104,057	101,402	102,187	113,789	131,650	143,464	136,907
85	U. CA, Santa Barbara	103,955	107,686	113,335	113,298	115,453	129,457	136,244	136,352
86	U. OK	90,561	93,145	91,405	96,435	100,924	105,366	118,970	133,841
87	Brown U.	91,749	96,922	96,288	96,233	94,485	127,087	128,628	131,994
88	WA State U.	81,175	84,779	79,439	97,925	100,631	113,452	123,502	129,255
89	Naval Postgraduate School	45,249	59,636	65,946	88,846	81,330	93,605	94,278	127,049
90	Wayne State U.	121,714	118,623	114,720	116,266	117,395	132,166	134,735	126,915
91	Dartmouth C.	122,330	140,482	128,164	122,318	134,694	118,271	131,583	126,676

**Appendix C. Federally Financed Higher Education R&D Expenditures, Ranked by FY 2012 R&D Expenditures:  
FYs 2005–12 (Top 300 Institutions)**

(Dollars in thousands)

Rank	Institution	2005	2006	2007	2008	2009	2010	2011	2012
92	Medical C. WI	102,859	100,128	107,200	111,602	117,842	121,750	133,929	125,325
93	SUNY, Stony Brook U.	125,973	112,973	111,316	106,419	107,430	120,146	125,102	123,383
94	Tufts U.	100,628	98,634	94,284	98,175	105,122	116,699	122,208	121,512
95	U. NH	84,767	91,165	86,287	87,431	84,993	84,553	106,806	119,451
96	IA State U.	101,431	107,422	98,917	104,550	97,975	109,461	117,522	118,242
97	U. DE	76,363	81,066	84,189	86,005	88,357	105,454	118,673	117,072
98	U. MA, Amherst	68,768	71,244	73,485	80,432	80,950	97,937	107,683	115,280
99	Georgetown U.	102,504	94,901	107,904	113,707	121,514	120,589	123,540	115,197
100	U. MO, Columbia	104,795	109,996	119,545	112,814	124,796	116,965	116,403	114,345
101	SUNY, U. Albany	108,211	106,588	105,776	108,994	97,007	124,324	125,189	112,989
102	U. TN, Knoxville	NA	NA	NA	NA	NA	96,972	111,942	112,471
103	George Washington U.	93,780	91,837	104,533	128,022	91,665	122,357	116,611	112,110
104	U. of Medicine and Dentistry of NJ	143,239	140,923	126,101	122,061	115,770	123,399	124,585	110,595
105	Uniformed Services U. of the Health Sciences	50,016	39,461	37,275	67,345	124,314	72,125	117,781	110,276
106	U. TX, Medical Branch	117,235	120,408	118,173	122,009	126,703	128,840	128,098	109,867
107	UT State U.	93,567	97,577	91,953	89,940	84,970	90,581	113,871	108,501
108	U. TX, Health Science Ctr., San Antonio	95,125	95,110	95,610	121,758	129,399	121,723	121,200	106,177
109	U. NE, Lincoln	76,492	81,347	81,044	82,732	84,455	96,069	105,724	104,579
110	Tulane U.	94,775	84,196	98,612	109,561	109,659	106,872	111,007	101,360
111	U. AK, Fairbanks	90,743	99,277	101,219	97,356	92,244	99,657	105,469	99,674
112	U. SC, Columbia	NA	NA	NA	NA	NA	125,501	103,296	98,836
113	MS State U.	84,601	94,318	106,804	106,159	104,121	106,324	98,998	96,689
114	U. CA, Santa Cruz	62,301	67,010	69,122	70,919	77,253	84,518	97,817	94,222
115	LA State U., Baton Rouge	60,347	79,834	81,072	80,583	89,593	97,407	97,517	92,551
116	NM State U.	91,912	102,257	102,367	86,715	89,450	98,399	90,598	90,722
117	U. Louisville	68,213	71,920	78,070	74,581	78,614	93,260	96,010	89,976
118	Temple U.	55,844	54,567	57,778	60,848	71,131	79,939	89,074	89,963
119	Drexel U.	65,449	68,915	67,467	65,868	68,514	77,438	83,702	87,860
120	U. VT	79,958	82,676	90,419	90,220	92,760	98,635	101,471	87,843
121	MT State U., Bozeman	78,824	83,355	82,917	78,728	81,208	93,100	87,528	86,511
122	U. OR	50,620	54,935	57,708	65,135	70,628	76,378	84,997	86,316
123	OK State U., Stillwater	NA	NA	NA	NA	NA	56,998	81,855	85,876
124	Rockefeller U.	85,552	93,742	86,728	81,557	73,906	88,705	97,710	84,616
125	U. NE, Medical Ctr.	49,282	53,808	53,506	51,300	61,224	80,784	86,295	84,196
126	U. RI	42,132	46,898	52,561	51,791	58,762	62,981	78,303	83,754
127	U. Notre Dame	51,524	56,248	54,491	67,497	57,953	62,152	79,716	83,295
128	WV U.	62,914	64,262	67,159	71,075	68,741	79,415	88,419	82,149
129	IN U., Bloomington	NA	NA	NA	NA	NA	71,208	74,143	79,727
130	U. AL, Huntsville	43,751	46,365	50,504	49,030	55,152	73,075	72,665	78,528
131	U. Central FL	41,595	41,284	60,735	68,806	73,742	69,331	69,098	78,411
132	KS State U.	60,048	53,558	48,383	54,491	59,444	68,560	76,953	77,689
133	Northeastern U.	38,747	38,484	38,843	38,861	40,031	59,074	67,938	77,667
134	Rice U.	54,963	54,038	54,662	55,177	56,524	69,395	78,730	76,964
135	U. MS and U. MS Medical Ctr.	71,995	72,028	80,317	69,076	65,028	71,475	74,918	74,955
136	U. AR for Medical Sciences	59,053	66,127	60,836	62,035	61,249	72,217	75,924	69,883
137	FL International U.	58,718	58,158	62,366	60,045	57,371	62,580	65,446	69,402

**Appendix C. Federally Financed Higher Education R&D Expenditures, Ranked by FY 2012 R&D Expenditures:  
FYs 2005–12 (Top 300 Institutions)**

(Dollars in thousands)

Rank	Institution	2005	2006	2007	2008	2009	2010	2011	2012
138	Thomas Jefferson U.	86,171	82,551	81,545	76,034	73,152	77,817	80,027	68,976
139	U. Dayton	60,284	58,582	61,352	65,621	71,361	73,540	70,996	65,169
140	U. CA, Riverside	52,919	62,209	61,059	58,670	58,586	63,127	62,312	63,821
141	George Mason U.	47,904	45,126	48,452	52,908	60,694	63,011	65,301	63,786
142	Rensselaer Polytechnic Institute	42,555	45,414	49,153	47,491	48,509	54,847	59,284	62,341
143	NJ Institute of Technology	35,716	35,489	41,330	40,087	42,656	50,051	54,250	59,398
144	Rush U.	49,150	45,044	39,601	40,942	43,608	51,304	57,978	57,512
145	U. WY	29,567	26,060	25,579	29,018	30,144	45,323	48,932	57,441
146	San Diego State U.	36,076	37,770	34,792	38,038	44,250	56,504	64,056	56,797
147	U. Houston	41,413	42,613	42,644	43,845	42,450	52,920	59,580	55,812
148	Auburn U., Auburn	NA	NA	NA	NA	NA	53,971	59,559	55,557
149	U. NV, Reno	60,893	64,959	63,924	66,777	64,720	58,115	57,220	55,437
150	U. ID	49,003	48,335	46,273	46,235	43,207	46,303	54,243	55,115
151	GA Health Sciences U.	41,910	41,555	40,609	39,486	45,272	51,727	54,254	55,106
152	U. ND	32,092	38,849	44,625	46,620	49,240	52,504	54,058	54,476
153	Clemson U.	57,891	57,181	54,394	56,944	57,232	62,934	52,919	51,764
154	U. TN, Health Science Ctr.	NA	NA	NA	NA	NA	52,652	51,842	48,473
155	Cleveland State U.	12,244	6,087	6,282	5,496	4,356	25,024	42,575	46,645
156	ND State U.	46,201	46,086	46,345	50,682	44,343	51,883	53,451	46,490
157	U. MD, Baltimore County	43,392	44,885	49,696	50,698	54,455	59,448	61,172	45,014
158	Brandeis U.	39,895	41,201	41,366	38,204	40,817	43,669	48,235	44,532
159	Cold Spring Harbor Lab.	ne	ne	ne	ne	ne	ne	51,529	43,874
160	U.S. Air Force Academy	15,842	9,678	16,142	44,935	38,795	49,711	62,118	43,431
161	FL A&M U.	22,452	25,674	14,502	23,657	23,535	45,856	44,905	42,937
162	Portland State U.	18,877	22,236	20,813	23,727	31,917	36,996	41,580	42,662
163	SD State U.	13,917	12,793	17,064	20,929	24,356	38,368	41,904	41,975
164	U. Toledo	15,680	17,649	32,801	29,676	29,707	38,389	44,881	41,072
165	LA State U., Health Sciences Ctr., New Orleans	54,108	52,437	54,690	43,865	43,398	46,142	45,581	40,637
166	U. TX, El Paso	24,041	26,844	27,218	26,996	29,507	34,617	35,399	40,024
167	U. ME	29,564	41,751	44,919	41,740	47,785	50,163	59,800	39,661
168	CUNY, City C.	22,862	21,902	21,866	22,027	23,238	32,900	40,595	39,572
169	Jackson State U.	30,472	30,783	30,980	35,221	37,321	39,457	43,001	39,511
170	Old Dominion U.	24,662	32,869	32,976	35,421	36,433	34,687	39,534	38,555
171	Howard U.	40,252	35,125	34,251	35,873	31,938	33,017	36,060	37,690
172	U. Southern MS	35,800	36,175	43,972	42,820	41,978	37,054	40,984	37,524
173	U. MT, Missoula	37,191	33,096	33,953	34,497	36,888	40,760	38,565	35,984
174	St. Louis U.	44,757	45,183	49,588	49,434	33,736	33,728	38,323	35,873
175	U. TX, Dallas	19,933	19,954	17,783	21,383	26,244	30,754	33,216	35,297
176	U. PR, Medical Sciences Campus	29,863	31,199	31,955	28,481	33,841	29,813	54,381	35,173
177	SUNY, Health Science Ctr. Brooklyn	23,466	25,184	23,232	25,299	22,849	25,023	33,964	34,884
178	U. AR, Fayetteville	35,636	34,357	38,831	33,066	33,184	33,674	37,587	34,189
179	GA State U.	28,870	28,542	28,205	30,248	28,364	27,073	28,210	34,075
180	CO School of Mines	15,501	20,543	18,248	20,072	25,109	29,892	33,789	33,481
181	U. MA, Boston	6,786	9,131	16,104	17,149	18,378	24,527	26,958	33,275
182	MI Technological U.	19,780	18,789	28,226	29,944	27,263	27,676	32,724	33,189
183	Syracuse U.	30,644	32,444	32,230	33,566	31,000	33,796	33,850	33,156
184	U. TX, Arlington	17,790	19,095	20,259	20,927	25,144	31,628	30,659	33,150

**Appendix C. Federally Financed Higher Education R&D Expenditures, Ranked by FY 2012 R&D Expenditures:  
FYs 2005–12 (Top 300 Institutions)**

		(Dollars in thousands)							
Rank	Institution	2005	2006	2007	2008	2009	2010	2011	2012
185	U. AL, Tuscaloosa	24,546	22,997	27,953	23,788	24,283	26,364	32,999	33,023
186	U. TX, San Antonio	16,175	21,463	21,669	22,574	26,966	28,717	31,972	32,672
187	C. of William and Mary and VA Institute of Marine Science	31,812	35,174	33,045	31,357	30,665	27,685	30,361	32,526
188	Morehouse School of Medicine	24,213	25,156	23,230	24,985	23,583	25,855	28,128	31,786
189	Boston C.	18,536	18,837	21,227	22,585	24,324	33,290	31,953	30,855
190	TX A&M Health Science Ctr.	32,949	35,214	35,004	33,045	26,984	33,511	33,405	30,739
191	TX Tech U.	22,955	23,171	23,961	21,392	25,651	35,970	35,191	29,969
192	NM Institute of Mining and Technology	30,877	47,901	69,050	64,322	61,178	42,243	37,316	29,894
193	U. WI, Milwaukee	20,247	20,650	23,982	21,710	24,868	29,042	30,479	28,862
194	Loyola U., Chicago	31,528	25,903	25,148	23,481	23,855	28,995	28,633	28,530
195	IL Institute of Technology	18,217	19,883	20,930	20,230	17,705	28,349	34,858	27,767
196	Stevens Institute of Technology	22,074	25,223	26,800	20,461	20,620	29,370	32,570	27,420
197	Desert Research Institute	28,655	30,407	30,752	30,703	29,544	28,307	28,489	27,294
198	SUNY, Upstate Medical U.	23,275	27,247	27,933	23,117	21,828	27,959	28,663	27,013
199	U. MA, Lowell	18,906	19,598	20,759	23,284	23,933	25,550	27,960	26,786
200	U. North TX, Health Science Ctr.	17,037	19,183	19,203	19,818	20,215	25,847	26,132	26,627
201	Wright State U.	20,527	22,430	22,229	21,315	22,789	24,785	27,422	25,552
202	U. PR, Rio Piedras	14,440	16,881	16,114	25,382	19,376	21,717	24,887	25,407
203	U. NV, Las Vegas	36,572	43,200	49,347	42,314	32,033	32,441	30,457	25,068
204	Loma Linda U.	26,855	28,788	24,666	32,350	29,114	29,284	32,187	24,884
205	CA State U., Northridge	12,035	8,966	11,874	11,372	11,686	17,213	19,769	24,837
206	Eastern VA Medical School	19,969	19,399	20,620	17,499	24,083	29,291	25,319	24,694
207	CUNY, Hunter C.	19,127	19,179	16,473	15,833	19,487	18,498	22,901	24,265
208	San Jose State U.	29,536	31,283	28,188	29,151	33,299	24,292	26,389	24,153
209	AL A&M U.	12,005	7,537	8,467	5,566	10,265	22,154	23,988	23,778
210	MO U. of Science and Technology	21,850	23,722	18,798	22,353	23,548	28,239	27,961	23,731
211	Meharry Medical C.	27,408	30,914	31,263	31,035	23,829	24,302	26,779	23,467
212	Lehigh U.	22,932	19,648	23,559	22,739	19,724	23,721	22,390	23,312
213	U. of the VI	12,213	12,518	12,561	12,770	16,628	28,369	16,338	22,605
214	NC Agricultural and Technical State U.	16,403	16,093	15,453	18,506	18,550	23,883	22,652	22,477
215	U. Memphis	17,114	18,807	22,872	20,293	19,024	20,654	20,348	22,142
216	Brigham Young U., Provo	19,486	20,607	19,436	19,819	20,800	22,115	24,273	22,069
217	Southern IL U., Carbondale	16,989	20,108	17,724	17,499	19,223	22,209	23,696	22,055
218	SUNY, Binghamton U.	10,494	12,322	15,207	15,497	18,119	20,979	21,244	21,162
219	OH U.	20,846	19,630	18,641	18,274	16,783	18,466	23,051	20,780
220	U. HI, Hilo	14,393	16,962	14,962	11,481	14,907	12,265	7,150	20,726
221	Rutgers, State U. NJ, Newark	NA	NA	NA	NA	NA	12,631	18,226	20,588
222	Boise State U.	8,453	8,346	10,345	9,370	9,938	14,614	18,811	20,070
223	Mercer U.	11,235	11,741	11,075	12,012	13,377	18,778	17,904	19,963
224	U. PR, Mayaguez	12,026	11,645	12,366	11,913	12,673	12,735	18,568	19,949
225	Charles R. Drew U. of Medicine and Science	41,207	44,394	48,580	43,291	53,110	20,430	20,679	19,733
226	Air Force Institute of Technology	5,238	5,579	6,774	8,274	12,197	15,474	20,196	19,579
227	Rochester Institute of Technology	12,783	15,361	14,572	15,597	19,707	23,254	20,396	19,394
228	U. NC, Charlotte	12,740	13,159	13,858	12,038	14,202	17,284	15,930	19,230
229	Wichita State U.	20,037	20,496	22,251	23,846	18,598	13,751	20,569	19,078
230	U. North TX, Denton	7,881	9,009	7,815	9,045	10,870	14,444	14,754	18,043

**Appendix C. Federally Financed Higher Education R&D Expenditures, Ranked by FY 2012 R&D Expenditures:  
FYs 2005–12 (Top 300 Institutions)**

(Dollars in thousands)

Rank	Institution	2005	2006	2007	2008	2009	2010	2011	2012
231	East Carolina U.	11,070	10,771	10,472	11,351	17,633	16,113	19,675	17,838
232	U. TN, Institute of Agriculture	NA	NA	NA	NA	NA	12,527	15,512	17,786
233	Catholic U. America	16,937	13,561	15,533	15,223	16,029	15,878	19,890	17,608
234	U. MO, Kansas City	17,457	16,401	19,144	17,263	15,976	16,391	18,988	17,522
235	SUNY, U. Albany, C. Nanoscale S&E	NA	NA	NA	NA	NA	NA	9,887	17,290
236	FL Atlantic U.	16,084	20,590	18,157	17,780	15,335	17,268	15,579	17,226
237	San Francisco State U.	12,777	17,800	12,430	10,149	13,249	15,601	17,337	17,075
238	U. Akron	10,809	11,517	11,277	9,362	11,030	12,107	12,962	16,768
239	Southern Methodist U.	9,983	11,705	13,117	13,123	11,254	13,312	18,502	16,640
240	U. NC, Greensboro	14,525	12,217	12,137	14,259	17,578	19,477	20,868	16,530
241	NY Medical C.	25,242	26,579	26,101	23,107	22,253	21,095	21,013	16,471
242	ID State U.	12,288	11,862	11,989	13,363	12,701	14,645	17,149	16,095
243	U. MD, Ctr. for Environmental Science	13,853	12,860	13,365	12,019	11,656	12,123	18,007	16,081
244	Northern AZ U.	14,621	14,445	12,409	13,310	13,345	15,070	17,765	16,015
245	Morgan State U.	8,126	12,199	9,992	10,978	10,702	10,039	9,884	15,408
246	Hampton U.	42,792	28,584	23,836	20,910	12,662	14,455	12,292	15,356
247	CUNY, Queens C.	5,732	6,422	7,676	9,245	9,519	13,642	15,573	14,897
248	Kent State U.	10,795	11,053	11,813	13,784	14,748	14,586	15,085	14,882
249	U. New Orleans	19,471	13,478	15,628	14,346	15,078	19,244	19,000	14,521
250	SD School of Mines and Technology	10,752	9,834	11,232	13,866	11,859	25,172	28,105	14,480
251	Western MI U.	18,551	17,414	17,550	19,169	15,663	19,738	18,736	14,378
252	Creighton U.	12,683	10,505	11,716	10,722	12,196	11,850	14,140	14,270
253	U. SD	15,617	17,502	16,683	17,569	18,795	16,467	14,490	14,088
254	Embry-Riddle Aeronautical U.	7,850	6,531	6,419	4,631	7,424	8,241	11,444	14,048
255	TX Tech U., Health Sciences Ctr.	6,730	9,713	8,765	8,995	11,274	12,950	14,790	13,944
256	U. LA, Lafayette	16,471	11,819	11,099	13,079	13,641	12,881	14,659	13,848
257	U. South AL	16,538	15,567	16,676	15,907	15,883	14,730	16,758	13,816
258	CA State U., Long Beach	9,449	8,926	12,655	13,914	10,723	12,731	13,811	13,690
259	AL State U.	1,685	1,685	1,685	2,461	11,117	13,340	12,340	13,607
260	LA State U., Medical Ctr., Shreveport	NA	NA	NA	14,009	14,106	13,890	15,316	13,504
261	Miami U.	8,014	7,874	8,964	10,872	13,500	13,591	13,210	13,418
262	Marshall U.	19,710	15,983	18,449	18,846	17,510	18,218	21,852	13,154
263	Worcester Polytechnic Institute	9,481	11,047	10,146	10,650	10,938	13,582	15,714	12,968
264	Northern IL U.	10,373	11,794	13,123	11,639	17,225	17,334	11,807	12,861
265	U. West FL	15,714	10,259	12,349	10,167	10,265	11,038	13,156	12,858
266	Polytechnic Institute of NY U.	12,929	11,486	10,329	6,050	5,384	5,729	7,831	12,687
267	Tuskegee U.	9,606	10,256	12,562	13,165	14,700	12,309	12,397	12,633
268	CA State U., Fullerton	6,228	6,787	5,947	7,353	9,169	13,651	16,159	12,440
269	U.S. Military Academy	6,290	6,660	7,248	9,420	8,641	22,146	13,799	12,227
270	TX State U., San Marcos	3,045	1,930	3,091	3,237	8,312	8,904	10,319	11,950
271	Albany Medical C.	11,525	11,152	9,521	10,239	12,653	15,758	13,884	11,845
272	U. Denver	13,095	11,772	11,671	12,306	14,126	13,364	14,042	11,779
273	U. NC, Wilmington	11,449	10,267	11,510	14,153	11,675	14,364	14,218	11,571
274	DE State U.	5,436	6,870	6,797	7,354	8,875	10,154	12,822	11,305
275	Fayetteville State U.	8,379	554	7,673	7,500	9,110	10,844	10,029	11,187
276	NC Central U.	5,763	6,597	4,337	6,323	5,055	6,870	9,496	11,076

## Appendix C. Federally Financed Higher Education R&D Expenditures, Ranked by FY 2012 R&D Expenditures: FYs 2005–12 (Top 300 Institutions)

(Dollars in thousands)

Rank	Institution	2005	2006	2007	2008	2009	2010	2011	2012
277	U. CA, Merced	2,816	3,135	3,119	4,852	8,025	9,392	10,140	11,052
278	U. MA, Dartmouth	10,190	9,893	11,843	13,543	10,804	12,236	13,657	10,979
279	SC State U.	2,587	2,587	2,587	6,766	7,037	6,334	8,630	10,926
280	U. AK, Anchorage	7,470	8,225	6,214	6,541	6,673	9,368	9,858	10,760
281	Prairie View A&M U.	8,671	9,138	9,230	7,659	7,676	8,623	11,058	10,569
282	Ponce School of Medicine and Health Sciences	6,715	5,022	6,594	5,707	4,679	7,569	9,318	10,486
283	TN State U.	10,470	10,216	8,475	7,576	7,257	7,414	8,369	10,240
284	Teachers C., Columbia U.	6,648	6,985	7,662	7,622	7,357	6,533	8,526	10,173
285	CA Polytechnic State U., San Luis Obispo	5,849	6,761	5,678	7,770	12,284	11,637	8,658	10,125
286	Rosalind Franklin U. of Medicine and Science	9,974	9,507	7,689	6,936	7,246	8,350	9,317	10,084
287	Marquette U.	7,082	7,611	6,896	7,134	6,876	9,381	11,291	9,968
288	Purdue U., Calumet	NA	NA	NA	NA	NA	6,127	5,835	9,917
289	LA Tech U.	5,467	5,826	4,309	6,646	8,431	10,806	11,952	9,835
290	U. MO, St. Louis	5,522	5,521	5,664	6,329	7,635	7,151	10,157	9,650
291	AR State U., Jonesboro	1,080	3,965	4,727	4,568	7,000	6,194	8,644	9,645
292	SUNY, C. of Environmental Science and Forestry	7,821	7,831	7,842	9,239	7,853	8,907	9,645	9,560 i
293	U.S. Naval Academy	5,987	6,739	7,806	8,928	10,450	10,750	10,243	9,322
294	Oakland U.	5,747	6,478	5,476	5,428	5,564	7,130	9,178	9,185
295	Morehouse C.	3,602	5,517	4,935	4,822	6,993	7,857	8,460	9,063
296	RI C.	ne	ne	ne	ne	ne	ne	2,404	9,060
297	Claremont Graduate U.	1,859	1,695	1,359	1,194	2,873	5,888	5,215	8,875
298	Alcorn State U.	5,396	5,706	7,874	9,525	10,711	9,256	8,655	8,598
299	Clark Atlanta U.	11,379	10,008	7,905	6,784	7,329	7,229	7,040	8,447
300	U. AR, Little Rock	2,681	1,126	2,617	4,108	5,961	7,571	8,615	8,104

i = imputed. NA = not available; institution was not surveyed separately. ne = not eligible; institution did not meet the criteria for inclusion.

<sup>a</sup> Johns Hopkins University includes Applied Physics Laboratory, with \$1,085,637 thousand in federally financed R&D expenditures in FY 2012.

<sup>b</sup> The majority of expenditures included under All other surveyed institutions for FY 2009 and earlier years is accounted for by multi-campus institutions that reported a single amount prior to FY 2010.

NOTES: From FY 2005 through FY 2009, some institution totals for all R&D expenditures may be lower-bound estimates because the National Science Foundation did not attempt to estimate for nonresponse on non-science and engineering R&D expenditures item prior to FY 2010. Tied institutions are ranked alphabetically. Institutions ranked are geographically separate campuses headed by a campus-level president or chancellor. Some campuses are part of large multi-campus universities; some are part of state university systems. For a complete listing of campuses that belong to a larger university or system and their aggregate R&D expenditures, see table A-3.

SOURCE: National Science Foundation, National Center for Science and Engineering Statistics, Higher Education Research and Development Survey.



Appendix D. Higher Education R&D Expenditures, Ranked by Total R&D Expenditures, for the Top 150 Institutions:  
FY 2012

(Dollars in thousands)

Rank	Institution	All R&D expenditures	Federal government	State and local government	Institution funds	Business	Nonprofit organizations	All other sources
	All institutions	65,774,524	40,130,460	3,704,365	13,673,539	3,281,809	4,033,233	951,118
1	Johns Hopkins U. <sup>a</sup>	2,106,185	1,857,580	5,109	80,988	47,102	114,054	1,352
2	U. MI, Ann Arbor	1,322,711	791,729	639	433,249	41,947	46,970	8,177
3	U. WI, Madison	1,169,779	580,661	72,156	313,895	23,152	157,818	22,097
4	U. WA, Seattle	1,109,008	909,652	14,741	74,242	19,731	69,617	21,025
5	U. CA, San Diego	1,073,864	656,891	54,974	118,616	73,443	112,971	56,969
6	U. CA, San Francisco	1,032,673	559,329	36,401	160,711	59,557	127,679	88,996
7	Duke U.	1,009,911	587,268	5,539	123,198	226,200	66,437	1,269
8	U. CA, Los Angeles	1,003,375	539,054	46,780	174,526	51,311	101,999	89,705
9	Stanford U.	903,238	636,348	36,465	80,878	62,918	79,074	7,555
10	Columbia U. in the City of New York	889,487	645,573	12,580	102,628	37,341	71,117	20,248
11	U. NC, Chapel Hill	884,791	606,348	14,722	163,669	26,722	73,108	222
12	U. Pittsburgh, Pittsburgh	866,638	637,857	9,186	182,144	12,060	25,391	0
13	U. PA	847,077	669,970	20,185	52,324	42,744	61,501	353
14	U. MN, Twin Cities	826,173	485,462	50,691	216,007	29,657	22,476	21,880
15	MA Institute of Technology	824,130	496,132	163	80,832	119,068	88,595	39,340
16	Cornell U.	802,387	472,673	63,881	145,932	31,365	85,314	3,222
17	Harvard U.	799,432	589,860	1,632	69,386	34,901	91,040	12,613
18	PA State U., University Park and Hershey Medical Ctr.	797,679	531,421	47,402	138,999	36,973	38,626	4,258
19	OH State U.	766,513	445,635	69,456	91,490	100,986	25,108	33,838
20	U. CA, Berkeley	730,348	338,759	54,973	137,894	92,103	86,601	20,018
21	U. CA, Davis	713,292	358,577	59,920	156,550	40,392	64,699	33,154
22	Washington U., St. Louis	706,410	441,406	17,520	109,867	45,567	91,355	695
23	U. FL	696,985	305,067	94,435	233,648	24,662	32,801	6,372
24	TX A&M U., College Station	693,421	269,460	128,819	193,012	49,392	52,378	360
25	GA Institute of Technology	688,905	484,212	12,487	129,080	44,491	14,788	3,847
26	U. TX, M. D. Anderson Cancer Ctr.	685,814	196,753	246,988	72,864	68,414	100,795	0
27	Yale U.	656,555	518,184	5,229	55,554	22,204	50,547	4,837
28	Northwestern U.	631,078	393,074	8,875	156,803	15,023	57,303	NA
29	U. AZ	625,365	331,578	19,915	200,439	15,693	33,695	24,045
30	U. Southern CA	623,544	443,842	18,576	100,648	28,353	32,125	0
31	U. TX, Austin	621,538	354,873	36,018	125,732	67,890	32,202	4,823
32	Purdue U., West Lafayette	602,501	270,655	68,604	184,277	32,552	43,911	2,502
<b>33</b>	<b>**University of Massachusetts System</b>	<b>597,480</b>	<b>476,993</b>	<b>10,716</b>	<b>147,941</b>	<b>20,887</b>	<b>26,794</b>	<b>1,018</b>
	<b>** (UMASS System data inserted by UMPO IR)</b>							
33	U. IL, Urbana-Champaign	583,754	359,989	25,996	141,817	37,433	18,228	291
34	Vanderbilt U.	560,466	448,948	189	73,871	12,920	21,967	2,571
35	Emory U.	552,707	361,165	673	117,832	29,360	40,917	2,760
36	MI State U.	507,061	268,952	36,238	172,202	5,084	9,162	15,423
37	U. MD, College Park	502,406	340,180	14,433	130,888	6,353	3,109	7,443
38	Baylor C. of Medicine	474,700	268,753	23,278	122,687	14,678	45,304	0
39	NY U.	458,645	316,208	6,127	74,245	15,579	33,377	13,109
40	VA Polytechnic Institute and State U.	454,417	184,175	103,679	121,812	25,056	16,495	3,200

Appendix D. Higher Education R&D Expenditures, Ranked by Total R&D Expenditures, for the Top 150 Institutions:  
FY 2012

(Dollars in thousands)

Rank	Institution	All R&D expenditures	Federal government	State and local government	Institution funds	Business	Nonprofit organizations	All other sources
41	U. AL, Birmingham	453,779	306,210	818	107,597	21,430	17,724	0
42	U. IA	446,429	269,734	7,700	138,499	13,892	16,347	257
43	U. South FL, Tampa	443,206	236,148	23,351	142,402	24,368	14,239	2,698
44	U. TX, Southwestern Medical Ctr., Dallas	435,085	207,513	64,958	64,679	18,464	44,437	35,034
45	Rutgers, State U. NJ, New Brunswick	434,901	279,161	40,555	68,621	15,972	26,927	3,665
46	U. Cincinnati	433,668	267,691	10,132	106,980	20,600	28,265	0
47	U. MD, Baltimore	433,228	231,886	24,690	106,711	18,595	50,876	470
48	U. CO, Denver and Anschutz Medical Campus	431,977	315,685	15,230	28,290	35,928	30,869	5,975
49	Case Western Reserve U.	431,090	359,000	14,555	32,968	6,647	16,623	1,297
50	U. UT	430,056	273,150	1,285	123,639	13,514	16,026	2,442
51	U. Chicago	419,631	336,125	2,676	34,147	16,703	27,216	2,764
52	NC State U.	404,225	174,758	78,766	101,161	44,032	5,331	177
53	Icahn School of Medicine at Mt. Sinai	400,680	271,722	6,971	46,246	21,736	53,324	681
54	Scripps Research Institute	398,673	309,471	9,288	44,490	22,691	12,733	NA
55	U. CO, Boulder	392,004	330,089	1,102	33,647	11,514	15,652	0
56	U. Rochester	389,612	308,115	8,070	44,622	14,630	9,272	4,903
57	U. IL, Chicago	388,625	246,128	6,147	105,918	5,089	25,343	0
58	AZ State U.	385,959	194,376	21,957	134,619	13,643	19,056	2,308
59	U. VA, Charlottesville	383,359	240,254	5,470	94,068	15,173	28,394	0
60	CO State U., Ft. Collins	375,919	252,286	47,829	47,965	9,014	13,339	5,486
61	U. Miami	365,301	224,172	10,290	85,092	22,976	22,771	0
62	CA Institute of Technology	365,243	326,701	909	9,559	9,372	12,968	5,734
63	Brown U.	365,120	131,994	1,942	191,228	4,074	35,148	734
64	U. KY	360,776	159,678	49,283	125,872	13,996	11,947	0
65	SUNY, U. Buffalo	360,226	193,613	17,009	97,708	16,364	20,392	15,140
66	U. GA	351,395	137,710	29,573	151,558	4,119	24,487	3,948
67	U. CA, Irvine	350,030	206,985	18,315	54,811	23,456	34,622	11,841
68	WA State U.	335,930	129,255	65,632	117,946	11,161	8,741	3,195
69	Boston U.	332,951	277,436	295	26,015	6,683	21,588	934
70	IN U.-Purdue U., Indianapolis	316,914	166,825	863	102,816	17,637	28,672	101
71	U. HI, Manoa	312,311	193,722	16,113	67,685	21,386	6,067	7,338
72	OR Health and Science U.	305,530	242,337	212	25,158	15,174	22,613	36
73	Rockefeller U.	292,896	84,616	1,708	184,653	3,524	18,395	0
74	Yeshiva U.	289,027	201,397	3,226	66,390	5,625	12,389	0
75	U. KS	286,262	171,043	4,093	85,249	6,861	18,496	520
76	LA State U., Baton Rouge	285,395	92,551	74,045	95,007	17,556	5,585	651
77	Princeton U.	275,666	161,591	742	83,301	12,093	12,599	5,340
78	SUNY, U. Albany, C. Nanoscale S&E	265,473	17,290	113,694	46,766	82,912	4,056	755
79	IA State U.	260,995	118,242	40,522	75,180	17,093	8,370	1,588
80	U. CT	256,854	153,264	9,624	76,676	6,335	10,567	388
<b>81</b>	<b>U. MA, Medical School</b>	<b>256,090</b>	<b>202,149</b>	<b>1,101</b>	<b>28,813</b>	<b>9,749</b>	<b>14,278</b>	<b>0</b>
82	Carnegie Mellon U.	255,933	209,522	1,248	15,047	20,909	5,577	3,630
83	U. NE, Lincoln	253,320	104,579	3,797	129,668	10,460	3,327	1,489

Appendix D. Higher Education R&D Expenditures, Ranked by Total R&D Expenditures, for the Top 150 Institutions:  
FY 2012

(Dollars in thousands)

Rank	Institution	All R&D expenditures	Federal government	State and local government	Institution funds	Business	Nonprofit organizations	All other sources
84	Wayne State U.	245,888	126,915	3,374	92,873	5,108	9,867	7,751
85	Dartmouth C.	245,386	126,676	9,700	78,518	12,259	17,804	429
86	U. OK	240,974	133,841	29,462	57,181	8,009	7,513	4,968
87	OR State U.	240,507	156,446	37,461	25,196	7,032	2,271	12,101
88	U. MO, Columbia	239,810	114,345	2,987	105,986	6,987	7,736	1,769
89	Medical U. SC	236,586	136,907	4,203	64,414	13,652	6,683	10,727
90	U. TX, Health Science Ctr., Houston	236,250	146,424	28,554	19,807	11,214	30,251	0
91	U. CA, Santa Barbara	233,883	136,352	8,385	36,860	21,740	24,662	5,884
92	MS State U.	233,197	96,689	73,801	47,841	14,175	691	0
93	FL State U.	225,378	140,419	7,407	70,348	1,691	5,513	0
94	U. NM	220,360	160,895	992	49,638	2,983	4,485	1,367
95	SUNY, Stony Brook U.	219,744	123,383	4,286	77,944	6,117	5,835	2,179
96	U. SC, Columbia	214,901	98,836	1,096	101,602	6,396	6,971	0
97	Medical C. WI	209,040	125,325	382	54,597	8,678	20,058	0
98	U. of Medicine and Dentistry of NJ	206,504	110,595	7,578	49,375	13,627	25,229	100
99	Woods Hole Oceanographic Institution	204,352	161,115	551	14,557	4,376	NA	23,753
100	Wake Forest U.	204,328	172,779	6,274	7,472	12,163	5,640	0
101	VA Commonwealth U.	201,366	142,053	9,043	33,656	8,328	8,286	0
102	U. Louisville	196,842	89,976	12,788	77,169	8,049	8,860	0
103	George Washington U.	196,448	112,110	1,832	46,845	1,923	33,524	214
<b>104</b>	<b>U. MA, Amherst</b>	<b>194,775</b>	<b>115,280</b>	<b>4,358</b>	<b>61,924</b>	<b>6,485</b>	<b>6,102</b>	<b>626</b>
105	IN U., Bloomington	184,486	79,727	2,145	85,295	4,276	13,043	0
106	U. TX, Health Science Ctr., San Antonio	184,298	106,177	7,040	37,932	10,833	22,316	0
107	U. TX, Medical Branch	180,888	109,867	5,455	48,962	2,885	13,719	0
108	Georgetown U.	180,308	115,197	1,885	38,487	5,252	19,364	123
109	U. TN, Knoxville	179,252	112,471	15,885	42,634	6,144	2,118	0
110	KS State U.	176,141	77,689	43,380	41,448	5,141	4,921	3,562
111	U. DE	170,174	117,072	7,493	35,381	6,603	1,700	1,925
112	OK State U., Stillwater	166,523	85,876	29,692	46,844	3,594	517	0
113	U. NH	165,156	119,451	1,604	30,736	7,216	3,248	2,901
114	Tulane U.	164,373	101,360	4,375	32,946	4,308	7,193	14,191
115	WV U.	163,503	82,149	12,984	61,575	3,788	2,822	185
116	Tufts U.	160,922	121,512	705	13,799	11,575	11,108	2,223
117	U. AK, Fairbanks	160,407	99,674	7,164	43,717	6,129	2,120	1,603
118	U. Notre Dame	157,691	83,295	851	53,656	6,434	13,455	0
119	UT State U.	157,355	108,501	28,848	11,002	3,977	602	4,425
120	U. CA, Santa Cruz	155,516	94,222	3,920	28,855	8,546	15,123	4,850
121	Uniformed Services U. of the Health Sciences	151,392	110,276	0	39,023	0	0	2,093
122	Clemson U.	142,096	51,764	1,569	69,578	12,230	4,251	2,704
123	U. NE, Medical Ctr.	141,619	84,196	3,128	34,554	6,065	13,676	NA
124	NM State U.	141,151	90,722	18,428	19,071	5,114	222	7,594
125	TX Tech U.	138,026	29,969	17,602	69,231	11,274	9,950	0
126	SUNY, U. Albany	137,758	112,989	3,773	11,365	496	1,795	7,340

**Appendix D. Higher Education R&D Expenditures, Ranked by Total R&D Expenditures, for the Top 150 Institutions:  
FY 2012**

(Dollars in thousands)

Rank	Institution	All R&D expenditures	Federal government	State and local government	Institution funds	Business	Nonprofit organizations	All other sources
127	U. CA, Riverside	135,494	63,821	9,402	39,420	8,083	8,151	6,617
128	ND State U.	135,493	46,490	45,567	35,957	670	1,435	5,374
129	Auburn U., Auburn	133,013	55,557	26,248	42,516	5,200	1,161	2,331
130	Naval Postgraduate School	132,450	127,049	231	4,181	372	142	475
131	U. AR for Medical Sciences	129,056	69,883	2,535	42,500	1,611	0	12,527
132	Temple U.	128,580	89,963	3,772	22,941	4,308	7,596	0
133	MT State U., Bozeman	124,228	86,511	3,069	27,856	NA	NA	6,792
134	U. AR, Fayetteville	123,199	34,189	49,894	27,054	9,300	1,739	1,023
135	U. MS and U. MS Medical Ctr.	121,731	74,955	417	36,188	3,288	2,918	3,965
136	U. Central FL	121,653	78,411	8,043	22,925	7,854	2,819	1,601
137	FL International U.	118,058	69,402	9,006	34,101	2,343	2,978	228
138	Rice U.	117,223	76,964	3,961	21,617	4,848	9,833	0
139	Drexel U.	116,768	87,860	3,962	15,744	2,531	6,671	0
140	U. Houston	116,288	55,812	21,527	23,974	8,822	6,153	0
141	U. VT	115,697	87,843	151	21,207	2,665	3,831	0
142	U. RI	114,323	83,754	12,790	14,075	2,948	451	305
143	Northeastern U.	107,862	77,667	1,179	21,820	4,971	2,225	0
144	U. OR	105,030	86,316	662	11,693	1,585	4,774	NA
145	Old Dominion U.	104,579	38,555	5,683	57,819	1,336	876	310
146	NJ Institute of Technology	102,851	59,398	4,762	30,015	5,431	3,245	0
147	Thomas Jefferson U.	100,506	68,976	5,892	9,870	8,988	6,768	12
148	U. ID	97,227	55,115	21,017	17,427	2,250	1,028	390
149	San Diego State U.	92,867	56,797	6,024	25,980	283	3,635	148
150	Rensselaer Polytechnic Institute	92,720	62,341	7,801	14,422	5,193	2,963	0
	All Others	8,974,245	5,183,935	703,885	2,107,337	423,616	470,479	84,993

i = imputed. NA = not available; data were not provided by institution.

<sup>a</sup> Johns Hopkins University includes Applied Physics Laboratory, with \$1,121,483 thousand in total R&D expenditures in FY 2012.

NOTES: Source-specific rankings available in eTables. Tied institutions are ranked alphabetically. Institutions ranked are geographically separate campuses headed by a campus-level president or chancellor. Some campuses are part of large multi-campus universities; some are part of state university systems. For a complete listing of campuses that belong to a larger university or system and their aggregate R&D expenditures, see table A-3.

SOURCE: National Science Foundation, National Center for Science and Engineering Statistics, Higher Education Research and Development Survey, FY 2012.

## Appendix E. Higher Education R&D Expenditures at all Institutions, Ranked by all Non-Medical School R&D Expenditures: FY 2012 (Top 300 Institutions)

(Dollars in thousands)

Rank	Institution	All non-medical school R&D expenditures	All medical school R&D expenditures	All R&D expenditures
	All institutions	42,861,328	22,913,196	65,774,524
1	Johns Hopkins U. <sup>a</sup>	1,483,244	622,941	2,106,185
2	U. WI, Madison	824,388	345,391	1,169,779
3	MA Institute of Technology	824,130	0	824,130
4	U. MI, Ann Arbor	765,730	556,981	1,322,711
5	U. CA, Berkeley	730,348	0	730,348
6	PA State U., University Park and Hershey Medical Ctr.	701,677	96,002	797,679
7	TX A&M U., College Station	693,421	0	693,421
8	GA Institute of Technology	688,905	0	688,905
9	U. TX, M. D. Anderson Cancer Ctr.	685,814	0	685,814
10	U. TX, Austin	621,538	0	621,538
11	Purdue U., West Lafayette	602,501	0	602,501
12	U. IL, Urbana-Champaign	583,754	0	583,754
13	U. MN, Twin Cities	577,460	248,713	826,173
14	U. CA, Los Angeles	549,939	453,436	1,003,375
15	U. CA, Davis	544,394	168,898	713,292
16	U. CA, San Diego	544,220	529,644	1,073,864
17	U. WA, Seattle	539,479	569,529	1,109,008
18	Harvard U.	538,611	260,821	799,432
19	Cornell U.	508,650	293,737	802,387
20	U. MD, College Park	502,406	0	502,406
21	OH State U.	477,549	288,964	766,513
22	U. AZ	466,857	158,508	625,365
23	VA Polytechnic Institute and State U.	454,417	0	454,417
24	MI State U.	454,122	52,939	507,061
25	Columbia U. in the City of New York	451,638	437,849	889,487
26	U. FL	449,466	247,519	696,985
27	Rutgers, State U. NJ, New Brunswick	434,901	0	434,901
28	U. NC, Chapel Hill	410,914	473,877	884,791
29	NC State U.	404,225	0	404,225
30	Scripps Research Institute	398,673	0	398,673
31	U. CO, Boulder	392,004	0	392,004
32	AZ State U.	385,959	0	385,959
33	Stanford U.	381,735	521,503	903,238
34	CO State U., Ft. Collins	375,919	0	375,919
35	CA Institute of Technology	365,243	0	365,243
36	U. GA	351,395	0	351,395
37	WA State U.	335,930	0	335,930
38	U. Southern CA	305,477	318,067	623,544
39	Rockefeller U.	292,896	0	292,896
40	LA State U., Baton Rouge	285,395	0	285,395
41	Princeton U.	275,666	0	275,666
42	U. UT	271,144	158,912	430,056
43	SUNY, U. Albany, C. Nanoscale S&E	265,473	0	265,473
44	U. HI, Manoa	264,382	47,929	312,311
45	IA State U.	260,995	0	260,995
46	U. Pittsburgh, Pittsburgh	259,045	607,593	866,638

**Appendix E. Higher Education R&D Expenditures at all Institutions, Ranked by all Non-Medical School R&D Expenditures: FY 2012 (Top 300 Institutions)**

(Dollars in thousands)

Rank	Institution	All non-medical school R&D expenditures	All medical school R&D expenditures	All R&D expenditures
47	Carnegie Mellon U.	255,933	0	255,933
48	U. PA	254,394	592,683	847,077
49	U. NE, Lincoln	253,320	0	253,320
50	Emory U.	251,069	301,638	552,707
51	Brown U.	244,420	120,700	365,120
52	OR State U.	240,507	0	240,507
53	U. CA, Santa Barbara	233,883	0	233,883
54	MS State U.	233,197	0	233,197
55	U. CA, Irvine	224,833	125,197	350,030
56	U. KY	218,638	142,138	360,776
57	FL State U.	214,647	10,731	225,378
58	U. CA, San Francisco	210,361	822,312	1,032,673
59	U. IL, Chicago	204,604	184,021	388,625
60	Woods Hole Oceanographic Institution	204,352	0	204,352
61	SUNY, U. Buffalo	202,567	157,659	360,226
62	U. IA	202,511	243,918	446,429
63	U. MO, Columbia	200,855	38,955	239,810
64	U. SC, Columbia	197,110	17,791	214,901
<b>65</b>	<b>U. MA, Amherst</b>	<b>194,775</b>	<b>0</b>	<b>194,775</b>
66	Boston U.	192,415	140,536	332,951
67	Duke U.	190,953	818,958	1,009,911
68	IN U., Bloomington	184,486	0	184,486
69	U. TN, Knoxville	179,252	0	179,252
70	KS State U.	176,141	0	176,141
71	U. DE	170,174	0	170,174
72	U. South FL, Tampa	168,046	275,160	443,206
73	U. CT	166,649	90,205	256,854
74	OK State U., Stillwater	166,523	0	166,523
75	U. NH	165,156	0	165,156
76	Northwestern U.	164,292	466,786	631,078
77	U. AK, Fairbanks	160,407	0	160,407
78	George Washington U.	159,481	36,967	196,448
79	U. KS	159,159	127,103	286,262
80	U. VA, Charlottesville	157,719	225,640	383,359
81	U. Notre Dame	157,691	0	157,691
82	UT State U.	157,355	0	157,355
83	U. CA, Santa Cruz	155,516	0	155,516
84	U. OK	148,297	92,677	240,974
85	U. Rochester	146,747	242,865	389,612
86	Clemson U.	142,096	0	142,096
87	NM State U.	141,151	0	141,151
88	Vanderbilt U.	138,566	421,900	560,466
89	TX Tech U.	138,026	0	138,026
90	SUNY, U. Albany	137,758	0	137,758
91	U. NM	137,729	82,631	220,360
92	NY U.	136,998	321,647	458,645
93	U. CA, Riverside	135,494	0	135,494

**Appendix E. Higher Education R&D Expenditures at all Institutions, Ranked by all Non-Medical School R&D Expenditures: FY 2012 (Top 300 Institutions)**

(Dollars in thousands)

Rank	Institution	All non-medical school R&D expenditures	All medical school R&D expenditures	All R&D expenditures
94	ND State U.	135,493	0	135,493
95	Auburn U., Auburn	133,013	0	133,013
96	Naval Postgraduate School	132,450	0	132,450
97	OR Health and Science U.	130,275	175,255	305,530
98	SUNY, Stony Brook U.	126,548	93,196	219,744
99	Dartmouth C.	125,661	119,725	245,386
100	U. CO, Denver and Anschutz Medical Campus	125,178	306,799	431,977
101	MT State U., Bozeman	124,228	0	124,228
102	WV U.	123,452	40,051	163,503
103	U. AR, Fayetteville	123,199	0	123,199
104	U. TX, Medical Branch	123,093	57,795	180,888
105	U. Chicago	121,545	298,086	419,631
106	U. Central FL	119,162	2,491	121,653
107	Rice U.	117,223	0	117,223
108	U. AL, Birmingham	116,807	336,972	453,779
109	U. Houston	116,288	0	116,288
110	Yale U.	115,303	541,252	656,555
111	U. RI	114,323	0	114,323
112	FL International U.	111,314	6,744	118,058
113	U. TX, Health Science Ctr., Houston	111,215	125,035	236,250
114	Tulane U.	108,903	55,470	164,373
115	Northeastern U.	107,862	0	107,862
116	U. OR	105,030	0	105,030
117	Old Dominion U.	104,579	0	104,579
118	NJ Institute of Technology	102,851	0	102,851
119	Tufts U.	100,856	60,066	160,922
120	VA Commonwealth U.	100,790	100,576	201,366
121	U. ID	97,227	0	97,227
122	U. Cincinnati	94,334	339,334	433,668
123	San Diego State U.	92,867	0	92,867
124	Rensselaer Polytechnic Institute	92,720	0	92,720
125	U. ME	92,135	0	92,135
126	GA State U.	91,148	0	91,148
127	U. TX, Dallas	90,700	0	90,700
128	George Mason U.	90,198	0	90,198
129	Washington U., St. Louis	90,093	616,317	706,410
130	U. MS and U. MS Medical Ctr.	88,100	33,631	121,731
131	U. Louisville	88,047	108,795	196,842
132	U. Miami	87,522	277,779	365,301
133	U. AL, Huntsville	87,388	0	87,388
134	Syracuse U.	85,649	0	85,649
135	Cold Spring Harbor Lab.	84,072	0	84,072
136	Wayne State U.	83,571	162,317	245,888
137	U. Dayton	81,030	0	81,030
138	SUNY, Binghamton U.	81,000	0	81,000
139	Case Western Reserve U.	79,890	351,200	431,090
140	U. TX, El Paso	79,649	0	79,649

## Appendix E. Higher Education R&D Expenditures at all Institutions, Ranked by all Non-Medical School R&D Expenditures: FY 2012 (Top 300 Institutions)

(Dollars in thousands)

Rank	Institution	All non-medical school R&D expenditures	All medical school R&D expenditures	All R&D expenditures
141	U. TX, Arlington	78,556	0	78,556
142	U. MD, Baltimore	75,446	357,782	433,228
143	U. MD, Baltimore County	74,993	0	74,993
144	Brandeis U.	74,660	0	74,660
145	MI Technological U.	71,989	0	71,989
146	SD State U.	68,743	0	68,743
147	Drexel U.	68,585	48,183	116,768
148	U. TN, Institute of Agriculture	68,480	0	68,480
149	U. NV, Reno	68,317	17,409	85,726
150	U. TX, Southwestern Medical Ctr., Dallas	67,626	367,459	435,085
151	U. ND	67,103	13,046	80,149
152	U. Akron	66,413	0	66,413
153	U. CA, Office of the President	65,627	0	65,627
154	U. WY	65,611	0	65,611
155	U. LA, Lafayette	65,275	0	65,275
156	U. WI, Milwaukee	61,771	0	61,771
157	FL Atlantic U.	61,336	4,041	65,377
158	Wichita State U.	61,279	0	61,279
159	Cleveland State U.	61,111	0	61,111
160	Temple U.	60,862	67,718	128,580
<b>161</b>	<b>U. MA, Lowell</b>	<b>60,624</b>	<b>0</b>	<b>60,624</b>
<b>162</b>	<b>U. MA, Boston</b>	<b>60,086</b>	<b>0</b>	<b>60,086</b>
163	U. Southern MS	60,079	0	60,079
164	U. MT, Missoula	59,313	0	59,313
165	CO School of Mines	58,836	0	58,836
166	Portland State U.	58,489	0	58,489
167	CUNY, City C.	57,982	0	57,982
168	U. TX, San Antonio	57,233	0	57,233
169	U.S. Air Force Academy	56,044	0	56,044
170	U. AL, Tuscaloosa	55,885	0	55,885
171	C. of William and Mary and VA Institute of Marine Science	55,805	0	55,805
172	TX A&M Health Science Ctr.	54,763	28,070	82,833
173	U. NE, Medical Ctr.	53,797	87,822	141,619
174	OH U.	52,411	4,792	57,203
175	IN U.-Purdue U., Indianapolis	52,355	264,559	316,914
176	FL A&M U.	52,263	0	52,263
177	Boston C.	51,442	0	51,442
178	U. Memphis	51,194	0	51,194
179	U. MD, Ctr. for Environmental Science	48,224	0	48,224
180	Jackson State U.	46,943	0	46,943
181	U. North TX, Denton	46,943	0	46,943
182	American U.	43,526	0	43,526
183	U. VT	42,674	73,023	115,697
184	Medical U. SC	41,872	194,714	236,586
185	Southern IL U., Carbondale	41,765	29,332	71,097
186	U. North TX, Health Science Ctr.	41,291	5,574	46,865
187	CUNY, Hunter C.	41,022	0	41,022



**Appendix E. Higher Education R&D Expenditures at all Institutions, Ranked by all Non-Medical School R&D Expenditures: FY 2012 (Top 300 Institutions)**

(Dollars in thousands)

Rank	Institution	All non-medical school R&D expenditures	All medical school R&D expenditures	All R&D expenditures
188	U. Toledo	40,720	27,508	68,228
189	MO U. of Science and Technology	38,588	0	38,588
190	NM Institute of Mining and Technology	37,875	0	37,875
191	Rochester Institute of Technology	36,935	0	36,935
192	TX State U., San Marcos	36,664	0	36,664
193	Georgetown U.	35,968	144,340	180,308
194	NC Agricultural and Technical State U.	35,103	0	35,103
195	Rutgers, State U. NJ, Newark	34,797	0	34,797
196	San Jose State U.	34,727	0	34,727
197	U. NV, Las Vegas	34,543	0	34,543
198	Brigham Young U., Provo	33,843	0	33,843
199	U. PR, Rio Piedras	33,099	0	33,099
200	Desert Research Institute	33,056	0	33,056
201	Air Force Institute of Technology	32,746	0	32,746
202	IL Institute of Technology	32,576	0	32,576
203	AL A&M U.	32,312 i	0 i	32,312 i
204	U. PR, Mayaguez	32,115	0	32,115
205	Lehigh U.	31,992	0	31,992
206	Stevens Institute of Technology	31,929	0	31,929
207	U. TX, Health Science Ctr., San Antonio	30,591	153,707	184,298
208	San Francisco State U.	30,291	0	30,291
209	CA State U., Northridge	29,491	0	29,491
210	Wright State U.	29,285	16,928	46,213
211	SUNY, C. of Environmental Science and Forestry	28,509 i	0 i	28,509 i
212	U. New Orleans	28,450	0	28,450
213	Northern AZ U.	28,100	0	28,100
214	Boise State U.	27,920	0	27,920
215	Southern IL U., Edwardsville	26,992	0	26,992
216	U. South AL	26,955	13,217	40,172
217	Mercer U.	26,749	4,627	31,376
218	U. PR, Medical Sciences Campus	26,577	19,072	45,649
219	LA Tech U.	26,546	0	26,546
220	Kent State U.	26,507	0	26,507
221	Miami U.	26,311	0	26,311
222	St. Louis U.	25,885	23,201	49,086
223	U. of the VI	25,719	0	25,719
224	U. NC, Charlotte	25,141	0	25,141
225	Catholic U. America	24,971	0	24,971
226	U. MO, Kansas City	24,533	4,694	29,227
227	Southern Methodist U.	24,397	0	24,397
228	U. SD	23,667	8,315	31,982
<b>229</b>	<b>U. MA, Dartmouth</b>	<b>22,732</b>	<b>0</b>	<b>22,732</b>
230	U. CA, Merced	22,656	0	22,656
231	CUNY, Queens C.	22,399	0	22,399
232	CA State U., Fullerton	22,222	0	22,222
233	U. HI, Hilo	22,003	0	22,003
234	Northern IL U.	21,823	0	21,823

**Appendix E. Higher Education R&D Expenditures at all Institutions, Ranked by all Non-Medical School R&D Expenditures: FY 2012 (Top 300 Institutions)**

(Dollars in thousands)

Rank	Institution	All non-medical school R&D expenditures	All medical school R&D expenditures	All R&D expenditures
235	U. MN, Duluth	21,530	0	21,530
236	Polytechnic Institute of NY U.	21,413	0	21,413
237	Howard U.	21,219	24,267	45,486
238	ID State U.	21,179	0	21,179
239	Western MI U.	21,073	0	21,073
240	Teachers C., Columbia U.	20,805	0	20,805
241	Charles R. Drew U. of Medicine and Science	20,580	0	20,580
242	U. Tulsa	20,270	0	20,270
243	Worcester Polytechnic Institute	20,232	0	20,232
244	U. AK, Anchorage	20,194	0	20,194
245	U. NC, Wilmington	19,722	0	19,722
246	Embry-Riddle Aeronautical U.	19,376	0	19,376
247	U. MO, St. Louis	19,356	0	19,356
248	Fordham U.	19,311	0	19,311
249	SD School of Mines and Technology	19,140	0	19,140
250	U. NC, Greensboro	19,080	0	19,080
251	Marquette U.	18,606	0	18,606
252	Oakland U.	18,192	2	18,194
253	TX Tech U., Health Sciences Ctr.	17,838	43,381	61,219
254	IL State U.	17,760	0	17,760
255	Morgan State U.	17,751	0	17,751
256	TX A&M U., Kingsville	17,419	0	17,419
257	CA Polytechnic State U., San Luis Obispo	17,412	0	17,412
258	FL Institute of Technology	17,100	0	17,100
259	CA State U., Long Beach	16,446	0	16,446
260	LA State U., Health Sciences Ctr., New Orleans	16,443	37,269	53,712
261	East Carolina U.	16,377	15,613	31,990
262	U. West FL	16,221	0	16,221
263	Tuskegee U.	15,991	0	15,991
264	TX A&M U., Corpus Christi	15,776	0	15,776
265	Fayetteville State U.	15,719	0	15,719
266	DE State U.	15,668	0	15,668
267	Duquesne U.	15,547	0	15,547
268	TN State U.	15,439	0	15,439
269	Hampton U.	15,356	0	15,356
270	U. Denver	15,237	0	15,237
271	Purdue U., Calumet	14,897	0	14,897
272	Clarkson U.	14,809	0	14,809
273	Prairie View A&M U.	14,552	0	14,552
274	FL Gulf Coast U.	14,393	0	14,393
275	AR State U., Jonesboro	14,250	0	14,250
276	CA State U., Sacramento	14,053	0	14,053
277	U. Southern ME	13,915	0	13,915
278	AL State U.	13,607	0	13,607
279	SC State U.	12,909	0	12,909
280	Eastern MI U.	12,437	0	12,437
281	U.S. Military Academy	12,227	0	12,227

**Appendix E. Higher Education R&D Expenditures at all Institutions, Ranked by all Non-Medical School R&D Expenditures: FY 2012 (Top 300 Institutions)**

(Dollars in thousands)

Rank	Institution	All non-medical school R&D expenditures	All medical school R&D expenditures	All R&D expenditures
282	MT Tech of U. MT	11,765	0	11,765
283	Ball State U.	11,740	0	11,740
284	Alcorn State U.	11,515	0	11,515
285	NC Central U.	11,076	0	11,076
286	U. TN, Chattanooga	10,896	0	10,896
287	Central MI U.	10,767	140	10,907
288	Western KY U.	10,639	0	10,639
289	Xavier U. LA	10,606	0	10,606
290	U. AR, Little Rock	10,500	0	10,500
291	Clark Atlanta U.	10,406	0	10,406
292	RI C.	10,389	0	10,389
293	Claremont Graduate U.	10,350	0	10,350
294	VA State U.	10,296	0	10,296
295	TN Technological U.	10,233	0	10,233
296	Villanova U.	10,192 i	0 i	10,192 i
297	Baylor U.	10,161	0	10,161
298	Fairfield U.	9,868 i	0 i	9,868 i
299	Bryn Mawr C.	9,837	0	9,837
300	U.S. Naval Academy	9,610	0	9,610

i = imputed.

<sup>a</sup> Johns Hopkins University includes Applied Physics Laboratory, with \$1,121,483 thousand in total R&D expenditures in FY 2012.

NOTES: Tied institutions are ranked alphabetically. Institutions ranked are geographically separate campuses headed by a campus-level president or chancellor. Some campuses are part of large multi-campus universities; some are part of state university systems. For a complete listing of campuses that belong to a larger university or system and their aggregate R&D expenditures, see table A-3.

SOURCE: National Science Foundation, National Center for Science and Engineering Statistics, Higher Education Research and Development Survey, FY 2012.

## Appendix F. Total and Federally Financed Higher Education R&D Expenditures in the Computer Sciences, Ranked by FY 2012 Total: FYs 2009–12

(Dollars in thousands)

Rank	Institution	Total	Federally financed
		2012	2012
	All institutions	1,821,482	1,357,726
1	Carnegie Mellon U.	109,069	95,071
2	U. Southern CA	99,828	95,438
3	Johns Hopkins U. <sup>a</sup>	96,331 i	90,806
4	U. IL, Urbana-Champaign	93,722	72,010
5	GA Institute of Technology	86,061	66,408
6	U. TX, Austin	64,639	51,173
7	MA Institute of Technology	58,932	37,146
8	U. CA, San Diego	48,703	25,486
9	U. MD, College Park	45,399	31,209
10	PA State U., University Park and Hershey Medical Ctr.	39,534	34,877
11	OH State U.	33,704	9,478
12	U. Chicago	31,354	30,256
13	U. TN, Knoxville	25,476	21,538
14	U. UT	23,463	15,420
15	U. WI, Madison	22,368	16,899
16	U. AL, Huntsville	21,660	21,105
17	Purdue U., West Lafayette	21,381	15,067
18	Columbia U. in the City of New York	21,261	16,822
19	Stanford U.	21,031	16,957
20	U. HI, Manoa	20,456	19,070
21	Cornell U.	19,222	16,222
<b>22</b>	<b>U. MA, Amherst</b>	<b>18,798</b>	<b>12,617</b>
23	IN U., Bloomington	17,055	9,879
24	U. PA	16,562	14,660
25	U. CA, Los Angeles	16,333	10,572
26	Naval Postgraduate School	16,202	15,925
27	SUNY, U. Buffalo	15,975	9,894
28	U. MN, Twin Cities	15,120	9,882
29	U. NC, Chapel Hill	14,607	12,191
30	U. CA, Irvine	14,278	9,052
31	U. CA, Santa Barbara	13,479	5,680
32	U. CO, Boulder	13,339	12,866
33	VA Polytechnic Institute and State U.	12,914	5,356
34	OR Health and Science U.	12,786	11,288
35	Princeton U.	12,263	9,320
36	Brown U.	11,327	5,316
37	NC State U.	11,073	8,568
38	U. IL, Chicago	10,953	7,198
39	MI State U.	10,721	6,566
40	George Mason U.	10,646	9,953
41	AZ State U.	10,269	6,880
42	Syracuse U.	10,009	2,612
43	MS State U.	10,003	6,089

## Appendix F. Total and Federally Financed Higher Education R&D Expenditures in the Computer Sciences, Ranked by FY 2012 Total: FYs 2009–12

(Dollars in thousands)

Rank	Institution	Total	Federally financed
		2012	2012
44	U. WA, Seattle	9,830	4,525
45	U. LA, Lafayette	9,377	1,409
46	U. AZ	9,227	8,439
47	U. CA, Davis	9,158	6,522
48	Rice U.	9,098	7,373
49	U. AL, Tuscaloosa	8,889	3,655
50	TX A&M U., College Station	8,224	4,573
51	U. NE, Lincoln	8,145	4,141
52	U. TX, El Paso	8,119	6,879
53	U. OR	7,850	7,389
54	U. VA, Charlottesville	7,815	6,475
55	Rensselaer Polytechnic Institute	7,795	5,885
56	NY U.	7,436	6,371
57	Northeastern U.	7,394	6,248
58	SUNY, Stony Brook U.	7,366	6,398
59	U. Houston	7,273	3,978
60	FL International U.	7,240	4,218
61	Rutgers, State U. NJ, New Brunswick	6,979	4,883
62	U. Pittsburgh, Pittsburgh	6,951	4,632
63	U. TX, San Antonio	6,863	5,568
64	Dartmouth C.	6,815	3,992
65	U. MD, Baltimore County	6,728	5,738
66	IA State U.	6,717	3,475
67	U. TX, Dallas	6,681	4,444
68	U. CA, Santa Cruz	6,444	3,491
69	U. FL	6,442	4,858
70	Yale U.	6,432	5,414
71	Rockefeller U.	6,361	0
72	U. NC, Charlotte	6,053	5,315
73	U. Notre Dame	6,026	4,186
74	U. DE	5,991	4,845
75	U.S. Air Force Academy	5,756	5,629
76	CA Institute of Technology	5,724	4,221
77	U. MI, Ann Arbor	5,674	4,182
78	Dakota State U.	5,671	3,555
79	FL State U.	5,670	3,773
80	Duke U.	5,214	4,365
81	SUNY, Binghamton U.	5,185	1,647
82	SUNY, U. Albany	5,182	3,948
83	Clemson U.	5,098	2,599
84	Washington U., St. Louis	4,980	4,362
85	Polytechnic Institute of NY U.	4,640	3,938
86	U. AK, Fairbanks	4,488	4,423
87	Wright State U.	4,336	1,483

## Appendix F. Total and Federally Financed Higher Education R&D Expenditures in the Computer Sciences, Ranked by FY 2012 Total: FYs 2009–12

(Dollars in thousands)

Rank	Institution	Total	Federally financed
		2012	2012
88	U. Tulsa	4,219	3,804
89	Old Dominion U.	4,181	1,348
90	U. TX, Arlington	3,968	2,315
91	NJ Institute of Technology	3,923	794
92	U. Memphis	3,899	2,296
93	U. NM	3,810	3,528
94	KS State U.	3,796	2,983
95	Boston U.	3,772	3,357
96	CO State U., Ft. Collins	3,736	3,338
97	U. CA, Riverside	3,719	3,045
98	Temple U.	3,666	2,503
99	Wayne State U.	3,628	1,993
100	OR State U.	3,608	3,325

i = imputed. NA = not available; institution was not surveyed separately. ne = not eligible; institution did not meet the criteria for inclusion.

<sup>a</sup> Johns Hopkins University includes Applied Physics Laboratory, with \$93,804 thousand in total and \$88,524 thousand in federally financed R&D expenditures in computer sciences in FY 2012.

<sup>b</sup> The majority of expenditures included under All other surveyed institutions for FY 2009 is accounted for by multi-campus institutions that reported a single amount prior to FY 2010.

NOTES: Institutions reporting zero expenditures in ranked total for FY 2012 are not listed in this table. Tied institutions are ranked alphabetically. Institutions ranked are geographically separate campuses headed by a campus-level president or chancellor. Some campuses are part of large multi-campus universities; some are part of state university systems. For a complete listing of campuses that belong to a larger university or system and their aggregate R&D expenditures, see table A-3.

SOURCE: National Science Foundation, National Center for Science and Engineering Statistics, Higher Education Research and Development Survey.

**Appendix G. Higher Education R&D Expenditures in Engineering Subfields, Ranked by all FY 2012 Engineering R&D: FYs 2010–12 and by Subfield for FY 2012 (Top 100 Institutions)**

(Dollars in thousands)

		2012								
Rank	Institution	All engineering	Aeronautical and astronautical engineering	Bioengineering and biomedical engineering	Chemical engineering	Civil engineering	Electrical engineering	Mechanical engineering	Metallurgical and materials engineering	Engineering, nec
	All institutions	10,302,305	662,221	878,633	908,969	1,234,326	2,314,842	1,550,936	756,843	1,995,535
1	Johns Hopkins U. <sup>a</sup>	859,561	98,981	25,535	18,522	13,061	247,242	174,204	1,666	280,350
2	GA Institute of Technology	482,758	52,790	36,042	45,678	29,049	176,713	78,191	26,848	37,447
3	MA Institute of Technology	365,199	25,061	40,452	36,287	18,976	65,726	55,392	34,107	89,198
4	PA State U., University Park and Hershey Medical Ctr.	298,811	20,969	2,859	13,620	23,132	86,324	78,158	73,749	0
5	SUNY, U. Albany, C. Nanoscale S&E	262,393	12,109	19,252	28,000	49,769	49,584	35,957	19,218	48,504
6	TX A&M U., College Station	256,102	17,950	13,163	17,437	73,639	22,941	34,133	3,608	73,231
7	U. MI, Ann Arbor	221,066	11,647	11,650	12,885	13,255	55,387	36,802	14,526	64,914
8	Purdue U., West Lafayette	216,037	12,272	10,009	15,015	42,422	39,485	49,545	5,906	41,383
9	U. TX, Austin	198,293	10,612	8,772	36,078	32,947	36,818	13,101	20,627	39,338
10	VA Polytechnic Institute and State U.	188,918	7,719	11,205	5,743	47,264	37,873	34,434	17,225	27,455
11	U. CA, Berkeley	172,433	0	871	7,698	30,885	95,838	360	66	36,715
12	OH State U.	149,341	623	1,499	9,720	13,690	29,616	56,932	24,329	12,932
13	U. IL, Urbana-Champaign	147,498	7,366	4,266	8,552	21,601	44,093	28,073	19,814	13,733
14	Stanford U.	132,180	11,068	18,273	14,825	12,134	37,022	27,349	4,462	7,047
15	U. CA, San Diego	126,107	0	23,455	0	0	75,918	15,632	0	11,102
16	NC State U.	122,735	4,237	9,633	25,359	11,605	19,693	6,889	18,943	26,376
17	U. MD, College Park	117,243	15,394	4,597	2,000	17,920	20,503	20,795	10,165	25,869
18	U. WI, Madison	113,742	0	8,556	12,330	14,187	10,487	7,760	5,866	54,556
19	U. WA, Seattle	104,196	7,078	24,277	7,906	14,057	31,927	8,957	5,370	4,624
20	AZ State U.	100,402	406	20,223	3,120	9,044	41,879	0	6,470	19,260
21	U. CA, Santa Barbara	100,297	0	20,926	7,741	1,773	37,281	7,667	24,905	4
22	U. Rochester	99,098	0	5,874	879	0	4,608	80,564	0	7,173
23	U. MN, Twin Cities	90,993	6,947	17,486	13,689	18,068	13,906	15,950	0	4,947
24	Carnegie Mellon U.	89,532	1,890	9,722	7,856	5,950	20,554	5,736	5,803	32,021
25	U. CO, Boulder	89,462	36,665	487	15,427	11,382	14,739	10,048	0	714
26	U. FL	87,878	10,082	12,137	4,993	14,014	16,286	6,181	10,009	14,176
27	Cornell U.	87,851	0	6,746	6,827	5,521	14,242	9,788	9,880	34,847
28	Princeton U.	84,468	2,557	0	9,857	10,654	17,161	8,825	33,614	1,800
29	U. UT	83,904	0	8,219	8,475	28,727	8,357	3,086	8,024	19,016
30	UT State U.	83,739	60,849	2,313	0	11,096	1,075	7,250	0	1,156
31	U. CA, Davis	83,140	0	19,308	11,521	29,160	9,032	11,046	0	3,073
32	Northwestern U.	80,250	0	11,453	14,154	3,410	6,106	9,099	17,982	18,046
33	U. Dayton	76,796	8,466	38	6,346	337	9,423	1,568	40,988	9,630
34	U. CA, Los Angeles	70,756	0	4,622	6,710	4,600	21,501	14,693	7,755	10,875
35	NM State U.	69,350	7,374	74	3,792	2,108	7,239	1,296	526	46,941
36	SUNY, U. Buffalo	65,395	556	11,521	6,643	15,519	5,536	5,938	86	19,596
37	U. Southern CA	63,193	1,744	15,363	7,709	3,097	22,812	3,759	1,861	6,848
38	IA State U.	63,085	3,605	0	5,232	15,670	9,561	2,900	4,131	21,986
39	U. VA, Charlottesville	63,008	0	8,874	3,087	4,188	7,841	14,636	13,406	10,976

**Appendix G. Higher Education R&D Expenditures in Engineering Subfields, Ranked by all FY 2012 Engineering R&D: FYs 2010–12 and by Subfield for FY 2012 (Top 100 Institutions)**

(Dollars in thousands)

		2012								
Rank	Institution	All engineering	Aeronautical and astronautical engineering	Bioengineering and biomedical engineering	Chemical engineering	Civil engineering	Electrical engineering	Mechanical engineering	Metallurgical and materials engineering	Engineering, nec
40	U. TN, Knoxville	62,903	11,442	1,744	4,589	11,448	9,374	0	12,702	11,604
41	U. AZ	62,605	1,840	4,073	5,270	2,118	18,675	16,869	6,397	7,363
42	Rutgers, State U. NJ, New Brunswick	61,123	3,220	8,790	7,024	22,453	6,505	3,087	4,609	5,435
43	OK State U., Stillwater	60,575	616	0	31,948	3,984	2,344	3,661	0	18,022
44	U. CA, Santa Cruz	60,396	0	0	0	0	4,753	0	0	55,643
45	Columbia U. in the City of New York	59,239	2,566	13,764	4,627	5,126	20,474	5,232	83	7,367
46	Rensselaer Polytechnic Institute	58,953	0	3,659	8,078	9,560	17,094	13,847	5,807	908
47	Duke U.	58,592	0	18,378	0	4,119	22,740	5,278	3,357	4,720
48	U. Notre Dame	56,709	13,769	0	10,617	7,980	17,835	0	3,853	2,655
49	U. KY	55,825	213	1,207	3,798	10,564	4,705	3,870	4,664	26,804
50	Vanderbilt U.	55,490	0	5,439	4,283	10,641	29,586	5,541	0	0
51	MS State U.	54,766	3,821	887	4,333	5,124	22,129	12,515	169	5,788
52	Clemson U.	54,513	0	11,721	0	9,584	5,659	5,017	13,480	9,052
53	U. DE	54,374	0	3,385	17,567	9,153	8,464	5,719	8,782	1,304
54	WA State U.	51,092	107	2,525	4,098	4,894	8,319	3,846	2,768	24,535
55	NJ Institute of Technology	50,675	0	4,457	4,402	8,574	3,183	2,379	0	27,680
56	Woods Hole Oceanographic Institution	50,667	0	0	0	0	0	0	0	50,667
57	Rice U.	48,379	0	17,219	4,993	5,428	14,542	5,517	7	673
58	Harvard U.	47,953	0	4,200	4,654	3,615	7,000	4,047	8,539	15,898
59	Drexel U.	46,895	0	9,533	3,428	3,953	8,243	6,172	7,464	8,102
60	U. IA	46,855	0	404	1,834	24,658	3,315	1,754	0	14,890
61	U. PA	45,841	0	10,896	4,497	0	15,126	6,037	7,579	1,706
62	U. Houston	45,791	981	8,308	7,305	5,787	7,100	4,894	5,713	5,703
63	MI State U.	45,582	0	752	11,790	5,829	12,599	9,871	0	4,741
64	Auburn U., Auburn	45,370	1,171	7,314	5,246	5,981	7,624	4,774	1,445	11,815
65	U. ND	45,141	0	0	3,402	2,467	67	789	0	38,416
66	Case Western Reserve U.	44,720	0	13,015	6,357	561	7,456	4,833	7,158	5,340
67	<b>U. MA, Amherst</b>	<b>44,699</b>	<b>0</b>	<b>0</b>	<b>15,679</b>	<b>8,283</b>	<b>13,683</b>	<b>6,808</b>	<b>121</b>	<b>125</b>
68	Wichita State U.	44,294	37,487	1,000	0	0	1,715	296	0	3,796
69	U. NH	43,067	0	0	583	5,778	32,604	3,240	583	279
70	U. CA, Irvine	42,051	0	5,601	2,509	8,043	14,137	11,690	0	71
71	CA Institute of Technology	41,871	6,843	1,695	7,111	0	4,672	5,235	0	16,315
72	FL State U.	41,684	693	630	1,284	1,641	13,349	19,834	3,723	530
73	MI Technological U.	40,891	0	2,146	2,495	5,218	9,891	13,981	3,627	3,533
74	U. AL, Huntsville	40,327	31,355	35	152	609	2,101	3,222	1,097	1,756
75	U. Cincinnati	39,668	5,727	3,696	7,422	257	7,238	6,687	38	8,603
76	U. NE, Lincoln	39,596	0	3,652	6,287	12,175	6,726	2,975	3,772	4,009
77	Boston U.	39,492	1,911	20,425	0	0	10,051	4,084	3,019	2
78	U. TX, Arlington	39,075	0	5,121	0	4,404	3,637	4,580	1,693	19,640



**Appendix G. Higher Education R&D Expenditures in Engineering Subfields, Ranked by all FY 2012 Engineering R&D: FYs 2010–12 and by Subfield for FY 2012 (Top 100 Institutions)**

(Dollars in thousands)

		2012								
Rank	Institution	All engineering	Aeronautical and astronautical engineering	Bioengineering and biomedical engineering	Chemical engineering	Civil engineering	Electrical engineering	Mechanical engineering	Metallurgical and materials engineering	Engineering, nec
79	U. Central FL	38,549	2,620	15,875	0	5,648	8,780	3,662	1,817	147
80	Northeastern U.	38,523	0	0	3,401	7,039	15,286	11,602	0	1,195
81	U. CT	38,052	0	0	7,945	8,520	6,893	5,595	7,393	1,706
82	WV U.	37,930	0	0	4,192	4,641	9,642	13,382	588	5,485
83	U. MO, Columbia	37,824	0	442	646	3,067	9,024	2,546	0	22,099
84	CO School of Mines	37,780	76	731	8,232	3,237	316	1,472	15,057	8,659
85	U. South FL, Tampa	37,629	0	2,769	2,088	21,116	5,403	4,511	0	1,742
86	U. SC, Columbia	37,565	0	0	9,478	3,316	6,206	11,125	0	7,440
87	LA State U., Baton Rouge	37,163	0	0	6,402	9,689	1,779	6,012	5,026	8,255
88	CO State U., Ft. Collins	36,821	0	0	2,854	10,800	14,408	7,324	0	1,435
89	U. TX, Dallas	36,244	0	2,043	0	0	24,778	724	8,234	465
90	U. NM	33,275	0	1,667	5,123	3,712	12,258	2,424	3,929	4,162
91	Yale U.	33,010	0	4,488	4,149	0	5,043	5,965	0	13,365
92	U. Akron	32,182	0	1,314	10,972	5,028	3,159	6,464	0	5,245
93	OR State U.	32,010	0	4,782	4,559	4,929	3,930	4,751	1,625	7,434
94	U. Pittsburgh, Pittsburgh	31,167	0	10,220	6,830	2,170	3,130	4,951	29	3,837
95	Old Dominion U.	30,218	0	0	0	4,465	15,895	9,858	0	0
96	TX Tech U.	29,783	0	0	4,685	5,260	9,053	3,805	0	6,980
97	CUNY, City C.	29,415	0	3,872	4,371	6,728	7,966	6,478	0	0
98	U. OK	29,402	0	0	10,774	5,371	7,296	2,764	0	3,197
99	Brown U.	28,928	19	7,616	892	0	10,434	4,564	3,189	2,214
100	U. AR, Fayetteville	27,388	0	1,162	1,831	3,661	11,049	1,892	0	7,793

i = imputed. NA = not available; institution was not surveyed separately. ne = not eligible; institution did not meet the criteria for inclusion.

nec = not elsewhere classified.

<sup>a</sup> Johns Hopkins University includes Applied Physics Laboratory, with \$793,042 thousand in total R&D expenditures in engineering in FY 2012.

<sup>b</sup> The majority of expenditures included under All other surveyed institutions for FY 2009 is accounted for by multi-campus institutions that reported a single amount prior to FY 2010.

NOTES: Institutions reporting zero expenditures in ranked total for FY 2012 are not listed in this table. Tied institutions are ranked alphabetically. Institutions ranked are geographically separate campuses headed by a campus-level president or chancellor. Some campuses are part of large multi-campus universities; some are part of state university systems. For a complete listing of campuses that belong to a larger university or system and their aggregate R&D expenditures, see table A-3.

SOURCE: National Science Foundation, National Center for Science and Engineering Statistics, Higher Education Research and Development Survey.

Appendix H. Higher Education R&D Expenditures in the Environmental Sciences, Ranked by all FY 2012 Environmental Sciences: FYs 2009–12 and by Subfield for FY 2012 (Top 100 Institutions)

(Dollars in thousands)

Rank	Institution	2012				
		All environmental sciences	Atmospheric sciences	Earth sciences	Oceanography	Environmental sciences, nec
	All institutions	3,172,613	476,210	1,166,960	1,021,715	507,728
1	U. WA, Seattle	161,274	23,051	6,662	71,261	60,300
2	Woods Hole Oceanographic Institution	153,685	0	0	153,685	0
3	U. CA, San Diego	149,669	18,454	31,064	100,151	0
4	CO State U., Ft. Collins	136,976	37,284	99,692	0	0
5	TX A&M U., College Station	106,883	5,570	4,753	87,619	8,941
6	U. CO, Boulder	97,316	33,494	51,826	408	11,588
7	Columbia U. in the City of New York	92,143	17,574	74,569	0	0
8	U. HI, Manoa	78,775	1,138	15,307	56,340	5,990
9	U. TX, Austin	66,811	0	56,444	8,751	1,616
10	U. NH	65,215	35,057	12,025	17,798	335
11	U. AK, Fairbanks	59,597	6,350	25,422	21,298	6,527
12	U. Miami	55,139	41,780	16	11,020	2,323
13	PA State U., University Park and Hershey Medical Ctr.	53,605	20,429	26,305	6,871	0
14	OR State U.	51,768	4,532	7,267	19,186	20,783
15	U. MD, Ctr. for Environmental Science	48,224	0	4,090	44,134	0
16	U. WI, Madison	48,186	29,359	7,569	3,452	7,806
17	U. RI	44,786	290	10,620	32,618	1,258
18	MA Institute of Technology	42,606	8,554	13,538	7,383	13,131
19	Johns Hopkins U. <sup>a</sup>	39,809 i	6,630 i	2,650 i	10,588 i	19,941 i
20	U. OK	38,089	27,173	10,916	0	0
21	U. AZ	32,540	3,166	17,177	0	12,197
22	LA State U., Baton Rouge	32,373	0	4,098	22,125	6,150
23	Desert Research Institute	30,941	10,361	20,580	0	0
24	SUNY, Stony Brook U.	30,659	691	5,412	24,501	55
25	U. MD, College Park	30,595	2,916	27,679	0	0
26	Rutgers, State U. NJ, New Brunswick	30,574	2,605	849	14,695	12,425
27	U. NC, Chapel Hill	30,195	0	19,376	8,471	2,348
28	U. CA, Santa Barbara	30,104	0	11,663	17,394	1,047
29	Stanford U.	29,208	0	11,621	4,005	13,582
30	U. WY	28,797	3,772	2,993	0	22,032
31	C. of William and Mary and VA Institute of Marine Science	28,037	0	278	27,299	460
32	AZ State U.	27,078	0	27,078	0	0
33	U. CA, Davis	26,149	1,370	4,394	3,592	16,793
34	Harvard U.	25,357	256	6,466	0	18,635
35	Princeton U.	24,901	7,340	8,412	0	9,149
36	FL State U.	22,395	9,158	4,410	7,439	1,388

Appendix H. Higher Education R&D Expenditures in the Environmental Sciences, Ranked by all FY 2012 Environmental Sciences: FYs 2009–12 and by Subfield for FY 2012 (Top 100 Institutions)

(Dollars in thousands)

Rank	Institution	2012				
		All environmental sciences	Atmospheric sciences	Earth sciences	Oceanography	Environmental sciences, nec
37	U. South FL, Tampa	20,857	0	2,808	18,049	0
38	U. CA, Santa Cruz	20,732	0	4,772	13,271	2,689
39	U. KS	20,630	706	19,174	286	464
40	U. DE	20,424	0	2,033	14,085	4,306
41	U. CA, Los Angeles	19,890	5,618	10,841	0	3,431
42	Duke U.	19,742	0	2,899	6,519	10,324
43	U. Southern CA	19,482	0	15,635	3,847	0
44	Cornell U.	19,175	0	7,754	223	11,198
45	NC State U.	18,603	6,631	0	3,110	8,862
46	U. ME	18,537	0	5,824	12,713	0
47	Naval Postgraduate School	18,326	8,267	0	9,982	77
48	U. MI, Ann Arbor	17,285	0	17,285	0	0
49	CA Institute of Technology	15,875	0	11,391	0	4,484
50	U. MD, Baltimore County	15,181	0	15,181	0	0
51	U. Central FL	15,107	15,107	0	0	0
52	GA Institute of Technology	14,856	7,828	227	0	6,801
53	U. MN, Duluth	14,636	0	413	2,981	11,242
54	U. Southern MS	14,131	0	4,823	7,184	2,124
55	U. MN, Twin Cities	14,111	0	12,033	0	2,078
56	U. SC, Columbia	13,649	958	12,691	0	0
57	MI Technological U.	13,572	0	1,064	0	12,508
58	U. GA	13,407	0	3,174	10,233	0
59	U. NV, Reno	13,006	575	10,274	88	2,069
60	TX Tech U.	12,392	716	3,453	0	8,223
61	MI State U.	12,198	0	12,066	0	132
62	U. ND	12,140	7,393	4,325	0	422
63	U. CA, Berkeley	11,996	3	11,993	0	0
64	Brown U.	11,977	244	8,546	1,034	2,153
65	TX A&M U., Corpus Christi	10,783	212	238	9,689	644
66	NM Institute of Mining and Technology	10,764	0	10,764	0	0
67	OH State U.	10,494	0	10,494	0	0
68	CO School of Mines	10,491	0	10,491	0	0
69	U. UT	10,431	4,443	5,988	0	0
70	U. WI, Milwaukee	9,799	1,839	631	5,121	2,208
71	San Jose State U.	9,724	678	282	8,585	179
72	U. NV, Las Vegas	9,723	0	7,674	0	2,049
73	MS State U.	9,698	2,777	3,984	2,937	0
74	U. FL	9,586	0	7,097	2,090	399
75	U. Pittsburgh, Pittsburgh	9,552	0	1,847	0	7,705
76	Old Dominion U.	9,526	0	0	9,526	0
77	<b>U. MA, Dartmouth</b>	<b>9,359</b>	<b>0</b>	<b>0</b>	<b>9,359</b>	<b>0</b>
78	MT State U., Bozeman	9,280	0	2,082	0	7,198

## Appendix H. Higher Education R&D Expenditures in the Environmental Sciences, Ranked by all FY 2012 Environmental Sciences: FYs 2009–12 and by Subfield for FY 2012 (Top 100 Institutions)

(Dollars in thousands)

Rank	Institution	2012				
		All environmental sciences	Atmospheric sciences	Earth sciences	Oceanography	Environmental sciences, nec
79	OR Health and Science U.	9,260	0	0	0	9,260
80	Washington U., St. Louis	9,250	0	6,265	0	2,985
81	Boston C.	8,938	8,103	835	0	0
82	U. CA, Riverside	8,889	193	2,763	0	5,933
83	George Mason U.	8,635	1,861	6,686	88	0
84	U. CT	8,601	0	223	8,378	0
85	U. IL, Urbana-Champaign	8,576	3,481	5,095	0	0
86	SUNY, C. of Environmental Science and Forestry	8,460 i	0 i	0 i	0 i	8,460 i
87	U. CA, Irvine	8,460	93	0	0	8,367
88	U. AL, Huntsville	8,138	7,592	546	0	0
89	VA Polytechnic Institute and State U.	7,998	0	7,998	0	0
90	U. NC, Wilmington	7,281	93	412	6,776	0
91	U. PR, Mayaguez	7,093	0	1,763	5,330	0
92	SUNY, U. Albany	6,994	4,698	2,111	0	185
93	WA State U.	6,939	895	4,141	37	1,866
94	MT Tech of U. MT	6,758	0	6,758	0	0
95	U. Chicago	6,561	0	6,561	0	0
96	U. Houston	6,524	0	6,524	0	0
97	Northern AZ U.	6,490	139	4,706	28	1,617
98	San Francisco State U.	6,453	66	847	5,239	301
99	U. ID	6,450	575	4,632	0	1,243
100	U. TN, Knoxville	6,389	0	2,480	0	3,909

i = imputed. NA = not available; institution was not surveyed separately. ne = not eligible; institution did not meet the criteria for inclusion.

nec = not elsewhere classified.

<sup>a</sup> Johns Hopkins University includes Applied Physics Laboratory, with \$18,113 thousand in total R&D expenditures in environmental sciences in FY 2012.

<sup>b</sup> The majority of expenditures included under All other surveyed institutions for FY 2009 is accounted for by multi-campus institutions that reported a single amount prior to FY 2010.

NOTES: Institutions reporting zero expenditures in ranked total for FY 2012 are not listed in this table. Tied institutions are ranked alphabetically. Institutions ranked are geographically separate campuses headed by a campus-level president or chancellor. Some campuses are part of large multi-campus universities; some are part of state university systems. For a complete listing of campuses that belong to a larger university or system and their aggregate R&D expenditures, see table A-3.

SOURCE: National Science Foundation, National Center for Science and Engineering Statistics, Higher Education Research and Development Survey.

Appendix I. Higher Education R&D Expenditures in the Life Sciences, Ranked by all FY 2012 Life Sciences: FYs 2009–12 and by Subfield for FY 2012 (Top 100 Institutions)

(Dollars in thousands)

Rank	Institution	2012				
		All life sciences	Agricultural sciences	Biological sciences	Medical sciences	Life sciences, nec
	All institutions	37,215,163	3,296,327	11,595,919	20,357,802	1,965,115
1	U. CA, San Francisco	1,018,481	0	31,737	986,744	0
2	Johns Hopkins U. <sup>a</sup>	851,776 i	0 i	219,304 i	575,575 i	56,897
3	Duke U.	851,289	0	229,026	602,521	19,742
4	U. MI, Ann Arbor	761,004	11,995	171,110	422,583	155,316
5	U. Pittsburgh, Pittsburgh	738,999	0	168,506	539,056	31,437
6	U. CA, Los Angeles	712,838	0	26,216	686,622	0
7	U. WI, Madison	691,337	51,507	213,485	419,807	6,538
8	U. WA, Seattle	687,230	11,487	149,492	410,518	115,733
9	U. PA	680,601	68	227,700	440,877	11,956
10	U. NC, Chapel Hill	650,816	0	208,078	338,435	104,303
11	Washington U., St. Louis	625,450	0	217,796	401,980	5,674
12	U. CA, San Diego	624,881	0	41,864	581,953	1,064
13	U. TX, M. D. Anderson Cancer Ctr.	614,604	0	221,846	392,758	0
14	Columbia U. in the City of New York	595,593	3,543	174,247	402,778	15,025
15	U. MN, Twin Cities	586,222	77,820	109,292	392,590	6,520
16	Yale U.	562,259	2,179	155,859	404,221	0
17	Stanford U.	538,626	0	153,736	327,353	57,537
18	Cornell U.	533,809	61,646	124,009	343,508	4,646
19	U. CA, Davis	517,086	126,845	157,278	232,963	0
20	U. FL	485,353	150,308	124,425	170,060	40,560
21	Harvard U.	480,482	3	311,791	162,165	6,523
22	Baylor C. of Medicine	474,700	0	249,410	225,290	0
23	U. TX, Southwestern Medical Ctr., Dallas	435,085	0	202,129	222,930	10,026
24	OH State U.	430,129	65,276	84,332	261,648	18,873
25	Vanderbilt U.	428,748	0	163,351	248,196	17,201
26	Northwestern U.	428,355	0	98,722	312,879	16,754
27	U. AL, Birmingham	419,424	0	110,704	304,495	4,225
28	U. CO, Denver and Anschutz Medical Campus	417,153	2	17,169	382,965	17,017
29	U. MD, Baltimore	406,110	0	137,176	251,374	17,560
30	Icahn School of Medicine at Mt. Sinai	400,680	0	167,718	232,962	0
31	Scripps Research Institute	398,673	0	398,673	0	0
32	Emory U.	392,242	4,519	139,720	227,058	20,945
33	Case Western Reserve U.	365,940	0	74,323	268,228	23,389
34	NY U.	362,393	0	116,639	213,792	31,962
35	U. Southern CA	361,149	0	27,152	318,068	15,929
36	U. Cincinnati	349,904	0	61,257	271,131	17,516
37	U. IA	338,959	0	95,454	217,552	25,953
38	U. South FL, Tampa	300,657	0	47,524	252,854	279

Appendix I. Higher Education R&D Expenditures in the Life Sciences, Ranked by all FY 2012 Life Sciences: FYs 2009–12 and by Subfield for FY 2012 (Top 100 Institutions)

(Dollars in thousands)

Rank	Institution	2012				
		All life sciences	Agricultural sciences	Biological sciences	Medical sciences	Life sciences, nec
39	U. Chicago	297,963	0	120,324	173,220	4,419
40	U. AZ	295,481	60,789	98,833	124,942	10,917
41	U. IL, Chicago	294,870	0	68,396	209,846	16,628
42	Yeshiva U.	287,889	0	198	287,691	0
43	U. Miami	281,586	0	92,869	184,910	3,807
44	IN U.-Purdue U., Indianapolis	279,797	0	65,097	205,346	9,354
45	Rockefeller U.	276,070	0	262,409	13,661	0
46	OR Health and Science U.	270,062	0	131,600	130,646	7,816
47	U. UT	269,486	0	46,348	158,774	64,364
48	PA State U., University Park and Hershey Medical Ctr.	259,347	91,689	57,157	110,501	0
<b>49</b>	<b>U. MA, Medical School</b>	<b>256,090</b>	<b>0</b>	<b>91,140</b>	<b>127,032</b>	<b>37,918</b>
50	MI State U.	254,670	101,445	95,934	49,415	7,876
51	U. Rochester	251,611	0	58,562	185,943	7,106
52	U. KY	247,506	58,601	66,374	114,735	7,796
53	U. VA, Charlottesville	239,197	0	68,379	167,818	3,000
54	Medical U. SC	236,586	0	80,831	96,084	59,671
55	U. TX, Health Science Ctr., Houston	236,250	0	42,480	86,192	107,578
56	SUNY, U. Buffalo	227,647	0	68,693	150,223	8,731
57	Boston U.	220,342	0	9,896	203,391	7,055
58	U. GA	218,239	72,861	121,019	20,885	3,474
59	TX A&M U., College Station	217,734	176,424	19,458	21,706	146
60	U. IL, Urbana-Champaign	213,570	133,968	63,164	15,133	1,305
61	Medical C. WI	209,040	0	54,603	154,437	0
62	U. CA, Berkeley	208,778	63,690	75,313	69,775	0
63	Purdue U., West Lafayette	207,781	117,210	32,266	44,424	13,881
64	U. CA, Irvine	207,237	0	88,202	119,035	0
65	U. of Medicine and Dentistry of NJ	206,504	0	102,084	104,420	0
66	VA Polytechnic Institute and State U.	200,747	101,565	61,290	31,446	6,446
67	Wake Forest U.	198,744	0	1,513	195,667	1,564
68	Rutgers, State U. NJ, New Brunswick	198,712	37,414	71,571	59,352	30,375
69	NC State U.	193,145	92,335	88,030	8	12,772
70	U. KS	191,761	3,373	97,524	79,035	11,829
71	U. TX, Health Science Ctr., San Antonio	184,298	0	53,467	124,849	5,982
72	Dartmouth C.	180,998	0	8,166	172,832	0
73	Wayne State U.	180,718	0	32,687	137,872	10,159
74	U. MO, Columbia	176,277	77,355	32,575	57,523	8,824
75	U. TX, Medical Branch	167,520	0	103,766	63,754	0
76	WA State U.	166,791	83,460	55,747	18,565	9,019

## Appendix I. Higher Education R&D Expenditures in the Life Sciences, Ranked by all FY 2012 Life Sciences: FYs 2009–12 and by Subfield for FY 2012 (Top 100 Institutions)

(Dollars in thousands)

Rank	Institution	2012				
		All life sciences	Agricultural sciences	Biological sciences	Medical sciences	Life sciences, nec
77	LA State U., Baton Rouge	155,302	72,206	78,623	3,792	681
78	U. CT	153,834	5,379	73,481	72,521	2,453
79	Georgetown U.	147,539	0	12,256	133,238	2,045
80	Uniformed Services U. of the Health Sciences	141,786	0	11,759	130,027	0
81	U. NE, Medical Ctr.	141,619	0	72,621	68,365	633
82	VA Commonwealth U.	137,040	0	48,248	70,050	18,742
83	Tulane U.	136,024	0	34,446	24,535	77,043
84	U. Louisville	134,091	6	37,100	79,587	17,398
85	IA State U.	129,652	48,694	64,435	13,048	3,475
86	U. AR for Medical Sciences	129,056	0	42,063	81,026	5,967
87	CO State U., Ft. Collins	127,206	35,404	31,252	59,601	949
88	OR State U.	126,408	77,181	42,614	4,585	2,028
89	U. NM	125,343	1	38,406	82,345	4,591
90	U. OK	124,597	0	48,843	73,947	1,807
91	George Washington U.	124,179	26	20,822	61,876	41,455
92	U. HI, Manoa	123,691	20,775	8,840	82,338	11,738
93	Tufts U.	121,122	0	87,916	33,206	0
94	MA Institute of Technology	119,712	0	82,415	19,977	17,320
95	U. NE, Lincoln	114,300	63,889	49,556	844	11
96	Brown U.	114,006	343	34,678	54,703	24,282
97	MS State U.	109,160	102,846	3,674	1,449	1,191
98	KS State U.	108,728	64,400	42,622	1,706	0
99	SUNY, U. Albany	103,368	0	98,900	4,457	11
100	U. SC, Columbia	102,242	5,523	36,831	51,570	8,318

i = imputed. NA = not available; institution was not surveyed separately. ne = not eligible; institution did not meet the criteria for inclusion.

nec = not elsewhere classified.

<sup>a</sup> Johns Hopkins University includes Applied Physics Laboratory, with \$17,097 thousand in total R&D expenditures in life sciences in FY 2012.

<sup>b</sup> The majority of expenditures included under All other surveyed institutions for FY 2009 is accounted for by multi-campus institutions that reported a single amount prior to FY 2010.

NOTES: Institutions reporting zero expenditures in ranked total for FY 2012 are not listed in this table. Tied institutions are ranked alphabetically. Institutions ranked are geographically separate campuses headed by a campus-level president or chancellor. Some campuses are part of large multi-campus universities; some are part of state university systems. For a complete listing of campuses that belong to a larger university or system and their aggregate R&D expenditures, see table A-3.

SOURCE: National Science Foundation, National Center for Science and Engineering Statistics, Higher Education Research and Development Survey.

## Appendix J. Total and Federally Financed Higher Education R&D Expenditures in the Mathematical Sciences, Ranked by FY 2012 Total: FYs 2009–12 (Top 100 Institutions)

(Dollars in thousands)

Rank	Institution	Total	Federally financed
		2012	2012
	All institutions	674,932	490,576
1	Johns Hopkins U. <sup>a</sup>	40,467 i	39,022
2	U. WA, Seattle	34,632	33,271
3	U. TX, M. D. Anderson Cancer Ctr.	21,258	5,985
4	NC State U.	20,846	11,843
5	U. TX, Austin	19,058	11,508
6	Rutgers, State U. NJ, New Brunswick	17,184	12,582
7	Brown U.	14,599	9,765
8	U. MI, Ann Arbor	14,142	7,030
9	TX A&M U., College Station	12,378	6,274
10	PA State U., University Park and Hershey Medical Ctr.	12,042	9,570
11	IA State U.	11,736	5,639
12	Princeton U.	11,695	8,742
13	Duke U.	10,532	9,026
14	U. MN, Twin Cities	10,469	7,772
15	NY U.	10,001	9,475
16	CA Institute of Technology	9,779	9,227
17	Harvard U.	9,573	9,185
18	Stanford U.	9,525	8,687
19	SUNY, Stony Brook U.	9,242	4,332
20	MA Institute of Technology	8,883	7,374
21	OH State U.	8,826	7,575
22	U. CA, Los Angeles	8,640	7,381
23	U. NE, Lincoln	8,139	4,576
24	Naval Postgraduate School	7,725	7,554
25	Purdue U., West Lafayette	7,349	5,129
26	U. MD, College Park	7,218	5,814
27	U. WI, Madison	6,942	5,393
28	GA Institute of Technology	6,876	3,007
29	MI State U.	6,540	4,823
30	U. CA, Berkeley	6,139	5,247
31	Rice U.	5,873	4,435
32	FL State U.	5,221	3,554
33	U. GA	5,078	1,347
34	Columbia U. in the City of New York	5,022	4,399
35	AZ State U.	4,921	3,782
36	U. NC, Chapel Hill	4,846	4,214
37	Air Force Institute of Technology	4,739	3,586
38	TX Tech U.	4,588	1,977
39	Carnegie Mellon U.	4,581	3,884
40	U. Chicago	4,575	3,713
41	U. CA, Irvine	4,466	3,657
42	U. CA, San Diego	4,450	3,380
43	NJ Institute of Technology	4,098	2,122



## Appendix J. Total and Federally Financed Higher Education R&D Expenditures in the Mathematical Sciences, Ranked by FY 2012 Total: FYs 2009–12 (Top 100 Institutions)

(Dollars in thousands)

Rank	Institution	Total	Federally financed
		2012	2012
44	U. AZ	4,006	2,440
45	U. Pittsburgh, Pittsburgh	3,886	2,782
46	U. IL, Urbana-Champaign	3,881	3,203
47	Cornell U.	3,727	3,335
48	U. CA, Davis	3,704	2,932
49	U. UT	3,691	2,906
50	U. Southern CA	3,585	3,052
51	Boston U.	3,486	2,952
52	VA Polytechnic Institute and State U.	3,358	1,563
53	U. PA	3,337	3,042
54	San Diego State U.	3,329	1,694
<b>55</b>	<b>U. MA, Amherst</b>	<b>3,254</b>	<b>2,174</b>
56	CO State U., Ft. Collins	3,207	2,631
57	U. FL	3,158	1,931
58	U. IL, Chicago	2,854	2,203
59	Northwestern U.	2,849	2,157
60	U. SC, Columbia	2,734	1,826
61	Rensselaer Polytechnic Institute	2,715	2,337
62	Yale U.	2,653	2,173
63	VA Commonwealth U.	2,572	2,493
64	LA State U., Baton Rouge	2,490	1,464
65	Elizabeth City State U.	2,455	2,436
66	OK State U., Stillwater	2,429	209
67	U. CO, Boulder	2,426	2,415
68	U. TX, Arlington	2,385	1,194
69	NM State U.	2,384	2,241
70	IN U., Bloomington	2,373	1,497
71	U. DE	2,349	1,946
72	U. Notre Dame	2,320	1,686
73	Old Dominion U.	2,298	609
74	Western MI U.	2,281	1,745
75	U. MD, Baltimore County	2,177	985
76	SUNY, Binghamton U.	2,169	301
77	CA State U., San Bernardino	2,161	1,854
78	U. KY	2,035	1,499
79	Dartmouth C.	2,023	1,320
80	George Mason U.	2,014	1,728
81	U. Houston	2,003	1,124
82	U. MO, Columbia	2,003	1,911
83	Tufts U.	1,895	1,832
84	U. NM	1,892	1,783
85	Tulane U.	1,882	909
86	FL Atlantic U.	1,868	331
87	Clemson U.	1,853	834
88	San Francisco State U.	1,833	1,263

## Appendix J. Total and Federally Financed Higher Education R&D Expenditures in the Mathematical Sciences, Ranked by FY 2012 Total: FYs 2009–12 (Top 100 Institutions)

(Dollars in thousands)

Rank	Institution	Total	Federally financed
		2012	2012
89	Emory U.	1,706	1,487
90	U. LA, Lafayette	1,667	575
91	MI Technological U.	1,645	77
92	U. IA	1,561	1,438
93	U. TX, Dallas	1,559	823
94	George Washington U.	1,554	779
95	Wayne State U.	1,491	559
96	U. TX, El Paso	1,477	648
97	Syracuse U.	1,461	1,145
98	WA State U.	1,448	1,116
99	DE State U.	1,418	1,410
100	U. Cincinnati	1,342	413

i = imputed. NA = not available; institution was not surveyed separately. ne = not eligible; institution did not meet the criteria for inclusion.

<sup>a</sup> Johns Hopkins University includes Applied Physics Laboratory, with \$38,176 thousand in total and \$37,134 thousand in federally financed R&D expenditures in mathematical sciences in FY 2012.

<sup>b</sup> The majority of expenditures included under All other surveyed institutions for FY 2009 is accounted for by multi-campus institutions that reported a single amount prior to FY 2010.

NOTES: Institutions reporting zero expenditures in ranked total for FY 2012 are not listed in this table. Tied institutions are ranked alphabetically. Institutions ranked are geographically separate campuses headed by a campus-level president or chancellor. Some campuses are part of large multi-campus universities; some are part of state university systems. For a complete listing of campuses that belong to a larger university or system and their aggregate R&D expenditures, see table A-3.

SOURCE: National Science Foundation, National Center for Science and Engineering Statistics, Higher Education Research and Development Survey.

**Appendix K. Federally Financed Higher Education R&D Expenditures in the Physical Sciences, Ranked by all FY 2012 Physical Sciences: FYs 2009–12 and by Subfield for FY 2012 (Top 100 Institutions)**

(Dollars in thousands)

Rank	Institution	2012				
		All physical sciences	Astronomy	Chemistry	Physics	Physical sciences, nec
	All institutions	3,483,328	534,547	1,212,583	1,543,999	192,199
1	CA Institute of Technology	205,562	113,786	46,118	42,383	3,275
2	Johns Hopkins U. <sup>a</sup>	158,244	32,713	18,605	81,436	25,490
3	U. AZ	116,120	85,305	13,296	17,519	0
4	MA Institute of Technology	100,380	21,892	18,680	53,987	5,821
5	Cornell U.	91,036	22,581	17,653	36,597	14,205
6	U. CO, Boulder	84,763	38,439	15,250	28,797	2,277
7	U. MD, College Park	83,078	21,888	8,257	52,933	0
8	Stanford U.	71,008	0	17,033	5,862	48,113
9	U. CA, Berkeley	70,314	39,229	16,718	14,295	72
10	U. WI, Madison	60,867	3,198	10,864	31,398	15,407
11	MI State U.	60,303	0	7,424	52,879	0
12	U. TX, Austin	59,334	4,173	15,093	39,981	87
13	Harvard U.	57,469	10,313	23,487	23,090	579
14	U. CA, Los Angeles	57,106	0	14,341	42,765	0
15	U. Chicago	51,467	14,474	14,944	11,438	10,611
16	U. CA, San Diego	50,830	0	22,794	26,929	1,107
17	U. IL, Urbana-Champaign	49,725	2,368	22,767	24,590	0
18	U. WA, Seattle	45,080	5,803	21,329	17,948	0
19	PA State U., University Park and Hershey Medical Ctr.	43,790	5,717	12,831	25,242	0
20	Rutgers, State U. NJ, New Brunswick	43,609	1,149	32,334	9,534	592
21	Columbia U. in the City of New York	43,386	7,294	10,084	26,008	0
22	GA Institute of Technology	37,163	0	25,135	12,028	0
23	FL State U.	36,699	48	9,883	26,768	0
24	U. MI, Ann Arbor	33,291	4,594	15,606	13,091	0
25	Northwestern U.	32,505	0	24,222	6,283	2,000
26	Princeton U.	30,974	4,529	9,385	17,060	0
27	U. Notre Dame	28,724	0	16,023	12,701	0
28	U. CA, Santa Barbara	28,611	2,006	7,273	19,266	66
29	U. MN, Twin Cities	27,486	1,152	8,721	17,613	0
30	Boston U.	26,850	1,457	8,775	16,240	378
31	OH State U.	26,633	2,643	9,879	14,111	0
32	U. HI, Manoa	26,414	19,886	1,857	3,202	1,469
33	U. PA	25,456	0	12,494	12,962	0
34	U. NC, Chapel Hill	25,260	0	17,305	7,955	0
35	U. CA, Irvine	25,064	0	13,975	11,089	0
36	Yale U.	24,959	2,211	9,543	13,205	0
37	Purdue U., West Lafayette	23,604	0	14,144	9,460	0
38	TX A&M U., College Station	23,586	30	9,819	12,894	843
39	Vanderbilt U.	22,677	0	14,333	8,344	0
40	<b>U. MA, Amherst</b>	<b>21,754</b>	<b>3,616</b>	<b>13,446</b>	<b>4,692</b>	<b>0</b>

**Appendix K. Federally Financed Higher Education R&D Expenditures in the Physical Sciences, Ranked by all FY 2012 Physical Sciences: FYs 2009–12 and by Subfield for FY 2012 (Top 100 Institutions)**

(Dollars in thousands)

Rank	Institution	2012				
		All physical sciences	Astronomy	Chemistry	Physics	Physical sciences, nec
41	U. CA, Davis	21,315	0	10,777	6,378	4,160
42	AZ State U.	20,843	1,034	11,592	8,217	0
43	U. VA, Charlottesville	20,612	2,485	8,319	9,808	0
44	U. FL	20,431	1,836	7,458	11,102	35
45	IN U., Bloomington	20,002	641	7,760	11,601	0
46	SUNY, Stony Brook U.	19,931	1,145	8,829	9,957	0
47	U. IA	19,910	1,447	3,836	14,627	0
48	Rice U.	19,510	0	7,845	11,665	0
49	MT State U., Bozeman	18,547	0	11,751	6,742	54
50	Duke U.	17,399	0	5,546	11,853	0
51	U. OR	17,281	0	5,980	10,555	746
52	U. UT	16,014	0	9,174	6,840	0
53	U. Pittsburgh, Pittsburgh	15,979	768	10,200	5,011	0
54	U. NE, Lincoln	15,830	0	2,641	13,189	0
55	U. DE	15,614	2,477	6,573	6,564	0
56	U. CA, Santa Cruz	15,358	4,319	4,819	6,220	0
57	WA State U.	15,208	0	5,370	9,773	65
58	Brown U.	14,960	112	4,714	4,303	5,831
59	Jackson State U.	14,393	0	3,789	2,749	7,855
60	AL A&M U.	i 14,316 i	0 i	5 i	14,238 i	73 i
61	U. TN, Knoxville	14,137	0	5,280	8,857	0
62	U. Central FL	14,087	0	3,333	10,754	0
63	U. KS	13,841	461	9,714	3,666	0
64	Northeastern U.	13,767	0	6,500	7,267	0
65	NY U.	13,739	0	9,407	4,332	0
66	Washington U., St. Louis	13,732	0	5,200	8,532	0
67	LA State U., Baton Rouge	13,088	0	5,343	7,745	0
68	Catholic U. America	12,888	0	515	6,712	5,661
69	U. CA, Riverside	12,815	0	6,569	6,246	0
70	U. Rochester	12,550	0	5,432	7,118	0
71	NC State U.	12,064	0	6,074	5,990	0
72	U. MS and U. MS Medical Ctr.	11,471	0	1,433	10,038	0
73	IA State U.	11,380	0	7,845	3,535	0
74	ND State U.	11,333	0	4,875	330	6,128
75	U. Southern CA	10,931	814	8,317	1,800	0
76	U. CA, San Francisco	10,930	0	10,930	0	0
77	Carnegie Mellon U.	10,924	24	3,200	5,998	1,702
78	NM State U.	10,787	2,654	6,434	1,562	137
79	Naval Postgraduate School	10,781	0	0	10,781	0
80	U. PR, Rio Piedras	10,543	0	7,331	2,826	386
81	U. NM	10,526	0	2,321	7,001	1,204
82	U. IL, Chicago	10,383	0	4,311	6,072	0
83	VA Polytechnic Institute and State U.	10,320	0	6,511	3,770	39
84	U. OK	10,296	0	6,075	4,221	0
85	SUNY, U. Buffalo	9,943	0	6,156	3,787	0

**Appendix K. Federally Financed Higher Education R&D Expenditures in the Physical Sciences, Ranked by all FY 2012 Physical Sciences: FYs 2009–12 and by Subfield for FY 2012 (Top 100 Institutions)**

(Dollars in thousands)

Rank	Institution	2012				
		All physical sciences	Astronomy	Chemistry	Physics	Physical sciences, nec
86	KS State U.	9,791	0	2,658	7,133	0
87	Emory U.	9,703	0	8,069	1,634	0
88	Wayne State U.	9,575	0	6,458	3,117	0
89	CO State U., Ft. Collins	9,493	0	6,050	3,443	0
90	NJ Institute of Technology	9,153	0	715	8,438	0
91	Rensselaer Polytechnic Institute	9,113	0	2,840	6,273	0
92	Hampton U.	9,101	0	111	8,990	0
93	CUNY, City C.	8,702	0	5,254	3,448	0
<b>94</b>	<b>U. MA, Lowell</b>	<b>8,668</b>	<b>0</b>	<b>1,331</b>	<b>7,337</b>	<b>0</b>
95	U. Southern MS	8,534	0	8,054	480	0
96	Portland State U.	8,040	0	4,253	3,787	0
97	U. AK, Fairbanks	7,965	7,950	15	0	0
98	U. TX, Dallas	7,890	3,961	2,121	965	843
99	U. TX, M. D. Anderson Cancer Ctr.	7,643	0	7,643	0	0
100	U. SC, Columbia	7,611	0	3,913	3,698	0

i = imputed. NA = not available; institution was not surveyed separately. ne = not eligible; institution did not meet the criteria for inclusion.

nec = not elsewhere classified.

<sup>a</sup> Johns Hopkins University includes Applied Physics Laboratory, with \$133,851 thousand in federally financed R&D expenditures in physical sciences in FY 2012.

<sup>b</sup> The majority of expenditures included under All other surveyed institutions for FY 2009 is accounted for by multi-campus institutions that reported a single amount prior to FY 2010.

NOTES: Institutions reporting zero expenditures in ranked total for FY 2012 are not listed in this table. Tied institutions are ranked alphabetically. Institutions ranked are geographically separate campuses headed by a campus-level president or chancellor. Some campuses are part of large multi-campus universities; some are part of state university systems. For a complete listing of campuses that belong to a larger university or system and their aggregate R&D expenditures, see table A-3.

SOURCE: National Science Foundation, National Center for Science and Engineering Statistics, Higher Education Research and Development Survey.

**Appendix L. Total and Federally Financed Higher Education R&D Expenditures in Psychology, Ranked by FY 2012 Total: FYs 2009–12 (Top 100 Institutions)**

(Dollars in thousands)

Rank	Institution	Total	Federally financed
		2012	2012
	All institutions	1,187,582	866,254
1	U. NC, Chapel Hill	44,595	27,203
2	Emory U.	i 43,662	41,545
3	PA State U., University Park and Hershey Medical Ctr.	31,056	22,737
4	U. CA, San Diego	25,447	17,392
5	U. MI, Ann Arbor	24,914	15,451
6	U. CT	24,290	18,011
7	U. TX, M. D. Anderson Cancer Ctr.	22,921	7,803
8	U. MN, Twin Cities	21,661	16,633
9	FL State U.	21,396	15,055
10	U. GA	21,072	13,271
11	NY U.	20,726	18,043
12	U. Rochester	17,991	15,411
13	Duke U.	17,778	15,583
14	U. CO, Boulder	17,584	15,214
15	U. IL, Urbana-Champaign	16,546	10,255
16	San Diego State U.	14,677	11,384
17	U. South FL, Tampa	14,624	8,792
18	San Jose State U.	14,284	13,648
19	Vanderbilt U.	14,234	12,223
20	U. CA, Los Angeles	13,961	8,987
21	U. NE, Lincoln	13,690	9,150
22	U. NM	13,487	11,720
23	U. IL, Chicago	13,430	9,140
24	Rutgers, State U. NJ, New Brunswick	12,779	7,668
25	Boston U.	12,700	11,585
26	OH State U.	12,683	10,551
27	AZ State U.	12,419	10,383
28	IN U., Bloomington	11,884	7,298
29	Stanford U.	11,713	8,260
30	U. Miami	11,559	8,671
31	SUNY, Binghamton U.	11,384	4,720
32	Temple U.	11,090	8,921
33	U. KY	11,048	8,773
34	U. Houston	10,876	8,700
35	Carnegie Mellon U.	10,812	9,068
36	U. Southern CA	10,488	8,249
37	U. PA	10,321	8,892
38	U. Chicago	9,947	9,797
39	U. Pittsburgh, Pittsburgh	9,905	8,421
40	Princeton U.	9,810	5,534
41	Uniformed Services U. of the Health Sciences	9,606	8,401
42	U. TX, Austin	9,429	7,245

**Appendix L. Total and Federally Financed Higher Education R&D Expenditures in Psychology, Ranked by FY 2012 Total: FYs 2009–12 (Top 100 Institutions)**

(Dollars in thousands)

Rank	Institution	Total	Federally financed
		2012	2012
43	CUNY, Hunter C.	9,421	6,794
44	U. OR	9,010	8,225
45	U. CA, Irvine	8,947	6,429
46	U. IA	8,906	6,791
47	MI State U.	8,894	6,827
48	U. VA, Charlottesville	8,626	6,715
49	U. CA, Berkeley	8,568	5,364
50	U. WA, Seattle	8,395	7,850
51	UT State U.	8,353	6,310
52	Cornell U.	8,079	3,435
53	Yale U.	7,912	4,286
54	U. SC, Columbia	7,467	4,476
55	U. MD, College Park	7,203	5,519
56	Washington U., St. Louis	7,169	4,779
57	Dartmouth C.	6,859	4,309
58	U. CA, Santa Barbara	6,837	5,673
59	Columbia U. in the City of New York	6,633	5,868
60	U. Memphis	6,586	2,964
61	U. FL	6,522	4,160
62	GA Institute of Technology	6,249	4,312
63	George Mason U.	6,160	5,146
64	SUNY, Stony Brook U.	6,089	3,458
65	Purdue U., West Lafayette	5,817	4,879
66	U. WI, Madison	5,678	3,591
67	Teachers C., Columbia U.	5,532	5,078
68	Johns Hopkins U. <sup>a</sup>	5,493	4,900
69	GA State U.	5,486	3,240
<b>70</b>	<b>U. MA, Boston</b>	<b>5,478</b>	<b>3,751</b>
71	Wayne State U.	5,370	3,888
72	Tufts U.	5,362	2,220
73	SUNY, U. Buffalo	5,076	3,477
74	U. TX, El Paso	5,013	2,916
<b>75</b>	<b>U. MA, Amherst</b>	<b>4,865</b>	<b>3,300</b>
76	VA Commonwealth U.	4,759	4,184
77	Brown U.	4,358	3,373
78	Harvard U.	4,247	3,649
79	Northwestern U.	4,184	2,980
80	U. Notre Dame	4,160	2,548
81	FL Atlantic U.	4,119	1,972
82	CO State U., Ft. Collins	4,057	3,272
83	CA State U., Northridge	3,939	3,878
84	U. DE	3,872	3,377
85	VA Polytechnic Institute and State U.	3,634	2,091
86	Rutgers, State U. NJ, Newark	3,554	2,823

## Appendix L. Total and Federally Financed Higher Education R&D Expenditures in Psychology, Ranked by FY 2012 Total: FYs 2009–12 (Top 100 Institutions)

(Dollars in thousands)

Rank	Institution	Total	Federally financed
		2012	2012
87	U. CA, Davis	3,473	2,014
88	U. Denver	3,464	2,873
89	U. AZ	3,461	1,979
90	FL International U.	3,459	2,557
91	U. WI, Milwaukee	3,455	2,829
92	Drexel U.	3,345	2,584
93	George Washington U.	3,321	2,448
94	TX A&M U., College Station	3,282	2,330
95	Rensselaer Polytechnic Institute	3,271	3,016
96	ND State U.	3,261	2,964
97	Rush U.	3,248	2,180
98	Northeastern U.	3,209	2,530
99	Old Dominion U.	3,178	1,184
100	U. TX, Dallas	3,168	966

i = imputed. NA = not available; institution was not surveyed separately. ne = not eligible; institution did not meet the criteria for inclusion.

<sup>a</sup> Johns Hopkins University includes Applied Physics Laboratory, with \$0 in both total and federally financed R&D expenditures in psychology in FY 2012.

<sup>b</sup> The majority of expenditures included under All other surveyed institutions for FY 2009 is accounted for by multi-campus institutions that reported a single amount prior to FY 2010.

NOTES: Institutions reporting zero expenditures in ranked total for FY 2012 are not listed in this table. Tied institutions are ranked alphabetically. Institutions ranked are geographically separate campuses headed by a campus-level president or chancellor. Some campuses are part of large multi-campus universities; some are part of state university systems. For a complete listing of campuses that belong to a larger university or system and their aggregate R&D expenditures, see table A-3.

SOURCE: National Science Foundation, National Center for Science and Engineering Statistics, Higher Education Research and Development Survey.



**Appendix M. Higher Education R&D Expenditures in the Social Sciences, Ranked by all FY 2012 Social Sciences: FYs 2009–12 and by Subfield for FY 2012 (Top 100 Institutions)**

(Dollars in thousands)

Rank	Institution	2009	2010	2011	2012				
					All social sciences	Economics	Political sciences	Sociology	Social sciences, nec
	All institutions	2,080,953	1,996,708	2,063,212	2,055,807	383,224	391,714	459,757	821,112
1	U. MI, Ann Arbor	NA	115,268	141,559	153,279	25,664	23,530	26,028	78,057
2	U. MD, College Park	88,658	93,689	92,005	87,641	5,772	11,906	3,046	66,917
3	U. NC, Chapel Hill	61,946	59,530	74,858	84,837	74	3,341	66,595	14,827
4	U. WI, Madison	65,910	39,060	48,203	51,313	12,991	3,522	13,341	21,459
5	Harvard U.	24,503	25,653	28,472	47,182	2,586	16,917	1,630	26,049
6	U. CA, Berkeley	56,157	46,595	47,310	43,292	20,093	4,802	4,334	14,063
7	Rutgers, State U. NJ, New Brunswick	NA	47,094	48,706	38,782	2,344	6,585	1,665	28,188
8	AZ State U.	25,793	28,041	36,198	35,223	2,397	8,272	15,677	8,877
9	MI State U.	32,026	33,864	33,975	34,601	15,728	3,487	2,577	12,809
10	U. CA, Los Angeles	39,781	33,698	32,680	33,654	389	1,051	5,289	26,925
11	IN U., Bloomington	NA	28,362	29,909	30,759	3,480	8,880	6,284	12,115
12	WA State U.	56,081	51,740	39,959	30,674	4,579	1,696	1,526	22,873
13	Purdue U., West Lafayette	NA	29,995	29,972	30,134	10,828	471	11,475	7,360
14	U. MN, Twin Cities	NA	26,208	28,457	29,866	7,282	6,966	13,650	1,968
15	George Washington U.	1,610	26,688	29,373	29,100	1,789	13,226	1,308	12,777
16	Cornell U.	24,838	28,051	30,114	28,813	15,560	98	10,166	2,989
17	PA State U., University Park and Hershey Medical Ctr.	NA	29,630	28,099	27,422	3,807	3,573	20,042	0
18	U. CA, Davis	25,020	22,719	23,258	25,931	6,621	1,836	1,171	16,303
19	Princeton U.	22,802	27,688	18,766	24,701	2,145	20,533	1,400	623
20	U. AZ	16,327	18,709	20,195	23,138	7,792	1,673	7,969	5,704
21	George Mason U.	32,871	26,514	24,837	23,063	9,689	5,319	2,466	5,589
22	Duke U.	26,200	22,506	21,157	21,499	4,299	9,975	5,692	1,533
23	Columbia U. in the City of New York	14,314	19,334	22,484	21,059	957	5,993	7,298	6,811
24	MS State U.	13,695	16,037	18,131	20,529	1,670	1,027	1,189	16,643
25	U. PA	26,820	22,790	20,083	20,183	838	2,426	6,676	10,243
26	OH State U.	37,339	20,630	22,713	20,030	4,599	4,980	2,923	7,528
27	Stanford U.	19,560	22,903	22,741	19,141	4,397	5,322	2,469	6,953
28	U. FL	16,585	17,314	19,838	18,075	6,299	205	4,348	7,223
29	U. TX, Austin	25,041	24,444	17,350	18,040	95	505	8,454	8,986
30	U. CO, Boulder	6,297	7,670	14,946	17,894	653	936	12,867	3,438
31	U. GA	42,399	14,454	18,430	17,577	5,778	3,921	3,559	4,319
32	Brandeis U.	14,053	14,495	16,618	17,526	4	79	17,443	0
33	Brown U.	13,639	17,951	18,210	17,215	4,899	2,253	3,131	6,932
34	U. Southern CA	10,672	12,680	12,132	15,911	758	592	1,143	13,418
35	Georgetown U.	10,450	16,420	13,307	15,778	123	14,920	92	643
36	MA Institute of Technology	7,934	8,788	11,345	15,227	7,523	5,309	13	2,382
37	U. NE, Lincoln	15,133	10,487	12,903	15,200	5,658	3,419	2,304	3,819
38	U. CA, San Diego	12,830	14,025	14,826	14,807	2,112	7,912	2,294	2,489
39	IA State U.	15,465	13,734	16,302	14,347	4,038	468	9,743	98
40	SUNY, U. Albany	9,697	11,195	12,707	14,286	377	4,636	6,843	2,430

## Appendix M. Higher Education R&D Expenditures in the Social Sciences, Ranked by all FY 2012 Social Sciences: FYs 2009–12 and by Subfield for FY 2012 (Top 100 Institutions)

(Dollars in thousands)

Rank	Institution	2009	2010	2011	2012				
					All social sciences	Economics	Political sciences	Sociology	Social sciences, nec
41	American U.	12,373	11,958	12,845	13,855	1,741	4,521	1,705	5,888
42	ND State U.	13,597	13,880	14,118	13,761	4,349	50	137	9,225
43	Northwestern U.	14,886	12,248	12,185	13,366	1,636	9,872	1,200	658
44	SUNY, Binghamton U.	12,055	12,395	11,200	12,657	1,482	3,024	4,019	4,132
45	Teachers C., Columbia U.	10,207	9,449	10,399	12,537	10,094	0	0	2,443
46	U. CA, Santa Barbara	9,599	9,189	13,602	12,508	608	19	617	11,264
47	TX Tech U.	7,309	10,700	14,078	12,483	2,865	671	0	8,947
48	Naval Postgraduate School	6,487	8,062	7,518	12,063	0	9,560	9	2,494
49	Portland State U.	7,870	9,872	13,019	11,899	392	631	2,470	8,406
50	U. TX, M. D. Anderson Cancer Ctr.	9,677	12,260	12,536	11,549	0	0	11,549	0
51	NC State U.	16,258	10,363	11,133	11,020	5,394	176	474	4,976
52	U. IL, Chicago	12,762	9,598	10,103	10,614	229	672	471	9,242
53	U. MD, Baltimore County	7,519	9,957	10,638	10,555	0	10,001	554	0
54	U. IL, Urbana-Champaign	23,459	15,827	15,108	10,540	526	6,765	947	2,302
55	GA State U.	11,737	10,427	11,423	10,453	6,269	2,168	1,154	862
56	U. CA, Irvine	12,335	10,432	10,823	10,310	473	4,022	1,969	3,846
57	TX A&M U., College Station	16,112	15,549	13,040	10,024	1,783	1,134	1,026	6,081
58	U. KY	9,691	10,078	10,751	9,894	3,616	1,747	1,532	2,999
59	GA Institute of Technology	15,762	12,960	14,500	9,609	5,757	3,029	0	823
60	IN U.-Purdue U., Indianapolis	NA	6,292	7,119	9,237	28	4,664	1,227	3,318
61	U. South FL, Tampa	NA	8,574	8,643	8,632	459	886	2,230	5,057
62	U. VA, Charlottesville	NA	813	9,555	8,574	945	4,358	2,456	815
63	U. SC, Columbia	NA	581	4,802	8,457	488	708	4,021	3,240
64	U. DE	7,947	10,382	10,610	8,410	2,248	303	1,565	4,294
65	VA Polytechnic Institute and State U.	11,491	10,530	10,535	8,387	1,260	1,958	151	5,018
66	Syracuse U.	5,115	11,951	10,916	8,325	2,211	3,604	1,089	1,421
67	U. NM	9,665	7,996	7,425	8,275	517	125	2,281	5,352
68	LA State U., Baton Rouge	7,284	8,817	8,597	8,159	5,050	233	693	2,183
69	NY U.	10,082	11,552	7,542	8,008	1,609	3,780	501	2,118
70	U. TN, Knoxville	NA	7,408 i	5,794	7,947	5,515	354	1,376	702
71	Johns Hopkins U. <sup>a</sup>	9,182	9,156	8,026	7,926 i	814 i	51 i	5,331 i	1,730 i
72	FL State U.	18,505	16,116	9,624	7,630	1,141	2,106	1,118	3,265
<b>73</b>	<b>U. MA, Boston</b>	<b>10,544</b>	<b>10,524</b>	<b>7,845</b>	<b>7,524</b>	<b>340</b>	<b>2,757</b>	<b>1,706</b>	<b>2,721</b>
74	U. IA	8,765	14,187	8,386	7,372	105	3,604	164	3,499
75	U. WA, Seattle	NA	9,283	8,521	7,363	0	2,137	3,910	1,316
76	Rutgers, State U. NJ, Newark	NA	3,425	9,615	7,231	3,371	1,850	55	1,955
77	U. TN, Institute of Agriculture	NA	4,776 i	5,604	6,970	6,970	0	0	0
78	U. NH	6,023	5,541	7,292	6,922	61	1	6,615	245
79	U. MO, Columbia	13,085	5,044	3,998	6,845	4,134	650	610	1,451
80	U. OK	5,835	6,356	7,288	6,743	397	2,177	945	3,224
81	U. Memphis	7,943	6,472	5,590	6,622	2,221	840	860	2,701
82	U. Cincinnati	6,554	5,227	7,121	6,540	0	1,112	549	4,879
83	CO State U., Ft. Collins	6,004	6,426	6,984	6,438	2,104	155	2,549	1,630
84	U. CA, Santa Cruz	5,095	5,099	5,942	6,373	678	288	974	4,433

## Appendix M. Higher Education R&D Expenditures in the Social Sciences, Ranked by all FY 2012 Social Sciences: FYs 2009–12 and by Subfield for FY 2012 (Top 100 Institutions)

(Dollars in thousands)

Rank	Institution	2009	2010	2011	2012				Social sciences, nec
					All social sciences	Economics	Political sciences	Sociology	
85	KS State U.	5,648	5,691	5,420	6,236	4,455	0	262	1,519
86	OK State U., Stillwater	NA	6,292	6,973	6,196	3,567	0	147	2,482
<b>87</b>	<b>U. MA, Amherst</b>	<b>4,592</b>	<b>5,624</b>	<b>5,123</b>	<b>6,163</b>	<b>2,576</b>	<b>1,130</b>	<b>1,610</b>	<b>847</b>
88	Yale U.	3,227	4,067	7,155	5,877	3,428	147	27	2,275
89	Claremont Graduate U.	4,259 i	5,048	850	5,800	0	0	0	5,800
90	San Diego State U.	5,214	5,299	7,164	5,739	411	863	1,582	2,883
91	CUNY, Graduate Ctr.	5,184	3,299	3,822	5,690	104	2,021	1,054	2,511
92	Vanderbilt U.	3,836	4,271	5,055	5,677	254	3,967	1,309	147
93	Carnegie Mellon U.	5,135	4,820	6,016	5,672	1,082	1,365	261	2,964
94	U. CT	4,456	5,116	5,134	5,573	2,339	579	1,155	1,500
95	U. HI, Manoa	7,501	9,222	7,833	5,378	0	0	566	4,812
96	OR State U.	3,394	4,222	4,716	5,102	2,472	0	1,619	1,011
97	U. OR	7,369	7,609	7,010	4,943	463	3,249	270	961
98	Case Western Reserve U.	6,968	5,583	2,743	4,758	322	140	1,875	2,421
99	Boston U.	1,295	3,568	3,054	4,623	1,180	87	518	2,838
100	Clemson U.	11,840	7,033	6,796	4,552	1,382	867	420	1,883

i = imputed. NA = not available; institution was not surveyed separately. ne = not eligible; institution did not meet the criteria for inclusion.

nec = not elsewhere classified.

<sup>a</sup> Johns Hopkins University includes Applied Physics Laboratory, with \$5,107 thousand in total R&D expenditures in social sciences in FY 2012.

<sup>b</sup> The majority of expenditures included under All other surveyed institutions for FY 2009 is accounted for by multi-campus institutions that reported a single amount prior to FY 2010.

NOTES: Institutions reporting zero expenditures in ranked total for FY 2012 are not listed in this table. Tied institutions are ranked alphabetically. Institutions ranked are geographically separate campuses headed by a campus-level president or chancellor. Some campuses are part of large multi-campus universities; some are part of state university systems. For a complete listing of campuses that belong to a larger university or system and their aggregate R&D expenditures, see table A-3.

SOURCE: National Science Foundation, National Center for Science and Engineering Statistics, Higher Education Research and Development Survey.

**Appendix N. Higher Education R&D Expenditures in Non-Science and Engineering fields, Ranked by all FY 2012 Non-S&E fields: FYs 2010–12 and by Subfield for FY 2012 (Top 100 Institutions)**

(Dollars in thousands)

		2012								
Rank	Institution	All non-S&E fields	Business and management	Communication, journalism, and library science	Education	Humanities	Law	Social work	Visual and performing arts	Other
	All institutions	3,508,441	441,705	159,436	1,229,101	340,628	131,662	199,097	85,037	921,775
1	U. WI, Madison	139,174	65,959	2,768	35,769	14,350	3,093	1,214	1,462	14,559
2	Brown U.	130,214	2,021	857	12,776	15,515	0	0	3,345	95,700
3	Emory U.	78,170	1,649	94	642	4,572	548	0	0	70,665
4	U. MI, Ann Arbor	75,031	13,204	2,063	18,664	21,315	3,947	5,183	1,962	8,693
5	Purdue U., West Lafayette	74,361	10,042	1,097	4,884	4,059	0	0	520	53,759
6	U. TX, Austin	72,226	9,563	4,979	30,657	1,630	135	4,762	334	20,166
7	MA Institute of Technology	53,763	13,134	0	18,701	1,984	0	0	935	19,009
8	Stanford U.	48,658	787	693	45,755	519	565	0	0	339
9	U. South FL, Tampa	48,512	5,537	7,377	16,484	1,562	0	1,782	1,578	14,192
10	WA State U.	47,237	7,439	3,899	8,962	500	0	3,496	189	22,752
11	U. FL	46,997	2,172	2,129	9,350	950	208	29	755	31,404
12	OH State U.	46,431	2,135	2,560	38,789	1,157	0	488	603	699
13	Harvard U.	45,459	42	4,166	34,993	3,136	2,877	0	245	0
14	U. WA, Seattle	43,594	1,289	374	19,542	2,533	671	17,335	314	1,536
15	Columbia U. in the City of New York	41,678	2,250	6,498	926	7,728	8,890	9,077	548	5,761
16	AZ State U.	41,348	3,101	2,119	11,506	5,499	718	3,045	297	15,063
17	CO State U., Ft. Collins	40,583	1,747	879	920	103	0	0	142	36,792
18	U. GA	39,897	8,119	2,320	10,143	7,820	5,346	793	4,203	1,153
19	U. AK, Fairbanks	38,767	500	24	1,587	198	0	0	5	36,453
20	MI State U.	35,441	3,009	3,042	20,006	1,441	0	785	175	6,983
21	FL International U.	34,419	2,354	655	7,981	13,272	93	3,338	402	6,324
22	U. PA	33,867	12,192	4,671	7,705	4,482	1,478	2,301	1,038	0
23	U. CA, Los Angeles	33,693	6,403	215	18,430	6,090	1,366	0	1,189	0
24	NY U.	33,602	1,510	0	20,679	2,696	3,225	3,318	676	1,498
25	U. CA, Berkeley	33,444	3,322	2,127	14,307	3,418	9,821	0	449	0
26	IN U., Bloomington	33,246	4,583	5,788	8,474	1,124	610	0	1,330	11,337
27	TX Tech U.	32,879	6,575	14,106	7,750	2,167	164	659	1,458	0
28	Clemson U.	31,603	46	0	3,417	240	0	0	56	27,844
29	U. Louisville	31,523	742	208	11,001	368	396	4,019	110	14,679
<b>30</b>	<b>U. MA, Boston</b>	<b>31,217</b>	<b>698</b>	<b>0</b>	<b>24,655</b>	<b>1,147</b>	<b>0</b>	<b>0</b>	<b>40</b>	<b>4,677</b>
31	U. Southern CA	30,541	1,524	7,175	6,455	5,943	2,156	3,854	3,132	302
32	U. KS	29,952	108	113	20,740	1,171	25	7,511	214	70
33	Syracuse U.	29,457	3,737	1,896	9,224	925	9,464	659	841	2,711
34	GA State U.	28,960	4,387	43	11,966	719	1,734	475	175	9,461
35	Northwestern U.	28,627	8,342	4,128	8,656	2,058	1,708	0	760	2,975
36	U. SC, Columbia	28,342	1,509	1,282	18,969	2,958	7	3,101	0	516
37	U. Pittsburgh, Pittsburgh	26,845	1,076	33	10,405	122	216	9,431	28	5,534
38	Vanderbilt U.	26,588	9	6,772	17,731	797	1,266	0	13	0
39	U. IL, Urbana-Champaign	25,732	4,018	3,803	5,810	3,579	1,116	3,152	297	3,957
40	U. Cincinnati	25,374	1,708	112	3,616	3,061	970	423	4,546	10,938
41	Old Dominion U.	25,274	5,665	0	15,571	1,970	0	0	1,283	785
42	American U.	25,122	3,283	4,192	2,127	1,560	12,661	0	479	820

**Appendix N. Higher Education R&D Expenditures in Non-Science and Engineering fields, Ranked by all FY 2012 Non-S&E fields: FYs 2010–12 and by Subfield for FY 2012 (Top 100 Institutions)**

(Dollars in thousands)

		2012								
Rank	Institution	All non-S&E fields	Business and management	Communication, journalism, and library science	Education	Humanities	Law	Social work	Visual and performing arts	Other
43	U. OK	23,797	508	2,072	9,719	677	0	107	3	10,711
44	TX A&M U., College Station	23,453	5,188	0	14,738	2,125	699	0	0	703
45	VA Commonwealth U.	22,056	138	5	16,909	134	0	1,083	1,589	2,198
46	Boston C.	21,006	7,031	84	11,703	300	11	1,681	15	181
47	FL A&M U.	20,888	641	1,406	2,055	154	214	133	0	16,285
48	U. NC, Chapel Hill	20,043	1,955	4,924	162	4,115	481	4,855	888	2,663
49	U. VA, Charlottesville	19,790	97	690	13,579	4,462	895	0	67	0
50	U. MN, Twin Cities	19,341	5,063	369	7,135	1,685	1,456	561	981	2,091
51	SUNY, U. Buffalo	19,296	964	924	14,726	1,129	299	1,098	106	50
52	FL Atlantic U.	18,595	5,867	985	4,089	750	0	43	1,370	5,491
53	U. CO, Boulder	18,492	4,085	255	9,851	795	2,459	995	52	0
54	U. MD, Baltimore	18,474	0	115	0	0	564	13,919	0	3,876
55	Portland State U.	17,550	205	220	3,519	215	0	13,386	5	0
56	Washington U., St. Louis	17,375	454	0	364	76	29	16,371	0	81
57	U. OR	17,374	0	240	16,731	326	76	0	0	1
58	FL State U.	17,373	1,126	937	11,632	498	169	530	528	1,953
59	San Diego State U.	17,197	4,216	2,950	3,188	712	20	1,310	3,556	1,245
<b>60</b>	<b>U. MA, Amherst</b>	<b>16,568</b>	<b>1,420</b>	<b>990</b>	<b>12,402</b>	<b>1,328</b>	<b>4</b>	<b>0</b>	<b>424</b>	<b>0</b>
61	U. RI	16,478	10	0	9,848	59	0	269	0	6,292
62	U. NE, Lincoln	14,849	2,462	816	2,536	4,968	1,882	0	2,185	0
63	OH U.	14,405	423	244	672	120	0	0	220	12,726
64	U. Notre Dame	14,363	984	0	0	8,810	1	0	96	4,472
65	U. Central FL	14,329	10,385	14	3,230	142	0	46	497	15
66	Rutgers, State U. NJ, New Brunswick	14,164	486	340	8,046	3,636	207	19	109	1,321
67	U. CA, Irvine	14,156	787	0	4,070	9,057	64	0	178	0
68	Fayetteville State U.	13,948	2,073	745	9,300	240	0	628	149	813
69	CA State U., Northridge	13,872	1,336	0	8,515	643	0	1,372	0	2,006
70	U. TX, Arlington	13,872	807	483	837	316	19	3,350	65	7,995
71	PA State U., University Park and Hershey Medical Ctr.	13,785	4,157	323	5,864	2,602	533	0	306	0
72	Fordham U.	13,687	2,140	1,110	3,633	1,637	2,488	1,811	445	423
73	U. West FL	13,662	8,871	147	3,546	31	0	767	4	296
74	U. TN, Knoxville	13,544	7,341	372	1,654	1,029	193	279	49	2,627
75	U. IA	13,449	1,389	790	4,952	2,704	120	648	301	2,545
76	U. LA, Lafayette	13,402	1,654	247	9,262	1,800	0	0	439	0
77	Johns Hopkins U. <sup>a</sup>	13,186	0	2,565	0	10,621	0	0	0	0
78	IL State U.	12,908	1,099	8	11,141	56	0	170	20	414
79	U. NH	12,880	1,067	1	10,827	128	0	842	15	0
80	U.S. Air Force Academy	12,532	18	0	7,291	0	0	0	0	5,223
81	TX State U., San Marcos	12,379	411	0	5,864	380	4,969	0	0	755
82	U. MS and U. MS Medical Ctr.	11,834	26	78	290	148	2,834	0	25	8,433
83	U. AR, Fayetteville	11,697	4,534	9	2,160	1,032	372	671	51	2,868
84	NJ Institute of Technology	11,444	492	0	4,293	54	0	0	0	6,605

**Appendix N. Higher Education R&D Expenditures in Non-Science and Engineering fields, Ranked by all FY 2012 Non-S&E fields: FYs 2010–12 and by Subfield for FY 2012 (Top 100 Institutions)**

(Dollars in thousands)

		2012								
Rank	Institution	All non-S&E fields	Business and management	Communication, journalism, and library science	Education	Humanities	Law	Social work	Visual and performing arts	Other
85	Purdue U., Calumet	11,416	493	1	2,353	130	0	0	3,794	4,645
86	FL Gulf Coast U.	11,203	806	1,985	8,329	0	0	2	0	81
87	Wichita State U.	11,171	829	12	5,942	9	0	33	3	4,343
88	CA State U., Fullerton	11,128	3,848	58	4,768	24	5	1,686	537	202
89	MT State U., Bozeman	10,993	103	243	4,549	36	0	0	40	6,022
90	U. CA, Santa Barbara	10,967	6,041	517	2,162	1,335	12	0	900	0
91	MS State U.	10,877	1,067	245	2,016	2,064	0	0	242	5,243
92	Princeton U.	10,686	0	249	1,247	7,000	0	0	2,152	38
93	U. Houston	10,444	1,119	0	1,748	430	364	0	0	6,783
94	George Mason U.	10,285	206	173	5,341	4,354	100	50	61	0
95	Tulane U.	10,177	383	134	0	1,039	2,339	0	425	5,857
96	U. AZ	9,931	282	626	6,519	2,317	73	0	114	0
97	U. WI, Milwaukee	9,500	3,236	580	1,025	853	0	225	4	3,577
98	Temple U.	9,377	703	6	2,516	468	2,059	2,570	997	58
99	U. MD, Baltimore County	9,365	694	0	517	2,029	0	231	1,146	4,748
100	U. Memphis	9,353	1,868	85	4,244	794	0	423	593	1,346

i = imputed. NA = not available; institution was not surveyed separately. ne = not eligible; institution did not meet the criteria for inclusion.

S&E = science and engineering.

<sup>a</sup> Johns Hopkins University includes Applied Physics Laboratory, with \$0 in total non-S&E R&D expenditures in FY 2012.

<sup>b</sup> The majority of expenditures included under All other surveyed institutions for FY 2009 is accounted for by multi-campus institutions that reported a single amount prior to FY 2010.

NOTES: Institutions reporting zero expenditures in ranked total for FY 2012 are not listed in this table. Tied institutions are ranked alphabetically. Institutions ranked are geographically separate campuses headed by a campus-level president or chancellor. Some campuses are part of large multi-campus universities; some are part of state university systems. For a complete listing of campuses that belong to a larger university or system and their aggregate R&D expenditures, see table A-3.

SOURCE: National Science Foundation, National Center for Science and Engineering Statistics, Higher Education Research and Development Survey.

## Appendix O: Federally Financed Higher Education R&D Expenditures, Ranked by Total Federal R&D Expenditures, by Federal Agency: FY 2012 (Top 300 Institutions)

(Dollars in thousands)

Rank	Institution	All federal R&D expenditures	DOD	DOE	HHS	NASA	NSF	USDA	Other <sup>a</sup>
	All institutions	40,130,460	4,923,713	1,952,698	21,895,249	1,330,780	5,270,564	1,093,571	3,663,885
1	Johns Hopkins U. <sup>b</sup>	1,857,580	603,031	9,975	660,651	175,283	34,026	3,759	370,855
2	U. WA, Seattle	909,652	67,956	28,015	601,455	14,518	133,658	7,224	56,826
3	U. MI, Ann Arbor	791,729	67,123	38,041	545,883	17,622	79,415	1,444	42,201
4	U. PA	669,970	48,541	11,411	548,652	5,029	36,636	1,476	18,225
5	U. CA, San Diego	656,891	69,462	21,374	424,894	6,502	106,376	415	27,868
6	Columbia U. in the City of New York	645,573	33,444	21,112	435,407	19,114	102,089	1,554	32,853
7	U. Pittsburgh, Pittsburgh	637,857	38,776	8,105	543,269	1,023	26,898	262	19,524
8	Stanford U.	636,348	84,193	22,810	411,949	20,962	81,879	145	14,410
9	U. NC, Chapel Hill	606,348	11,573	10,331	479,757	426	32,578	904	70,779
10	Harvard U.	589,860	43,346	13,241	456,775	11,391	49,650	64	15,393
11	Duke U.	587,268	47,779	11,445	473,701	2,769	39,032	642	11,900
12	U. WI, Madison	580,661	25,271	73,743	304,530	11,903	93,676	20,390	51,148
13	U. CA, San Francisco	559,329	8,992	605	537,601	838	3,731	0	7,562
14	U. CA, Los Angeles	539,054	39,877	24,208	375,683	16,317	62,154	200	20,615
15	PA State U., University Park and Hershey Medical Ctr.	531,421	210,104	49,108	132,813	16,230	61,633	24,010	37,523
16	Yale U.	518,184	26,375	10,836	442,226	2,288	29,515	806	6,138
17	MA Institute of Technology	496,132	120,476	91,435	135,661	31,139	97,138	0	20,283
18	U. MN, Twin Cities	485,462	16,154	21,948	332,912	6,010	67,781	23,131	17,526
19	GA Institute of Technology	484,212	293,767	25,171	40,265	13,340	68,359	571	42,739
20	Cornell U.	472,673	30,425	20,304	232,665	12,278	129,995	32,945	14,061
21	Vanderbilt U.	448,948	29,986	9,981	368,428	1,804	19,792	37	18,920
22	OH State U.	445,635	38,435	23,022	226,791	5,591	57,267	29,192	65,337
23	U. Southern CA	443,842	83,987	13,273	278,763	4,492	43,686	105	19,536
24	Washington U., St. Louis	441,406	7,259	8,722	399,272	8,333	16,150	59	1,611
25	Northwestern U.	393,074	31,046	24,162	278,113	1,827	45,020	165	12,741
26	Emory U.	361,165	5,749	1,378	336,782	3,051	6,566	1,298	6,341
27	U. IL, Urbana-Champaign	359,989	47,472	52,049	80,104	4,885	126,947	24,118	24,414
28	Case Western Reserve U.	359,000	11,778	3,692	323,061	2,986	16,463	60	960
29	U. CA, Davis	358,577	14,741	13,747	202,958	2,982	46,944	34,126	43,079
30	U. TX, Austin	354,873	122,300	43,857	70,512	13,357	70,989	564	33,294
31	U. MD, College Park	340,180	96,068	15,644	44,866	47,418	58,522	17,514	60,148
32	U. CA, Berkeley	338,759	35,216	16,493	126,496	28,423	103,310	3,978	24,843
33	U. Chicago	336,125	12,285	11,274	238,234	5,177	64,529	123	4,503
34	U. AZ	331,578	31,825	9,829	115,865	78,092	67,531	9,985	18,451
35	U. CO, Boulder	330,089	23,196	18,413	57,477	100,147	72,854	778	57,224
36	CA Institute of Technology	326,701	30,402	38,088	67,696	67,169	117,147	0	6,199
37	NY U.	316,208	14,367	3,320	260,609	2,068	27,985	0	7,859
38	U. CO, Denver and Anschutz Medical Campus	315,685	10,121	6	238,905	52	2,977	283	63,341
39	Scripps Research Institute	309,471	3,023	1,582	280,371	857	2,904	0	20,734
40	U. Rochester	308,115	12,506	76,689	201,963	1,107	13,340	54	2,456
41	U. AL, Birmingham	306,210	13,007	1,504	270,393	7,677	6,276	94	7,259
42	U. FL	305,067	19,030	11,172	162,217	4,075	37,998	29,406	41,169
43	Rutgers, State U. NJ, New Brunswick	279,161	24,772	11,273	102,860	2,937	57,445	40,470	39,404

## Appendix O: Federally Financed Higher Education R&D Expenditures, Ranked by Total Federal R&D Expenditures, by Federal Agency: FY 2012 (Top 300 Institutions)

(Dollars in thousands)

Rank	Institution	All federal R&D expenditures	DOD	DOE	HHS	NASA	NSF	USDA	Other <sup>a</sup>
44	Boston U.	277,436	20,025	5,543	206,934	5,215	31,149	91	8,479
45	U. UT	273,150	14,679	31,058	188,132	1,972	28,448	433	8,428
46	Icahn School of Medicine at Mt. Sinai	271,722	3,650	0	265,206	542	260	0	2,064
47	Purdue U., West Lafayette	270,655	33,976	28,067	52,166	5,939	92,177	22,470	35,860
48	U. IA	269,734	14,247	2,973	217,099	10,782	10,363	1,187	13,083
49	TX A&M U., College Station	269,460	31,377	29,780	29,705	4,810	98,963	30,453	44,372
50	MI State U.	268,952	10,008	42,252	62,111	1,687	82,442	29,122	41,330
51	Baylor C. of Medicine	268,753	11,787	0	226,475	13,341	1,739	15,262	149
52	U. Cincinnati	267,691	11,986	3,019	236,697	780	9,052	46	6,111
53	CO State U., Ft. Collins	252,286	36,696	9,857	52,316	8,672	38,648	47,566	58,531
54	U. IL, Chicago	246,128	16,560	3,915	178,727	423	23,512	894	22,097
55	OR Health and Science U.	242,337	4,708	1,829	225,335	1,104	6,526	0	2,835
56	U. VA, Charlottesville	240,254	27,338	11,001	151,378	4,531	24,143	135	21,728
57	U. South FL, Tampa	236,148	17,165	1,972	151,243	1,893	13,428	117	50,330
58	U. MD, Baltimore	231,886	13,484	663	213,997	507	1,740	123	1,372
59	U. Miami	224,172	24,072	1,380	153,390	3,661	16,922	404	24,343
60	Carnegie Mellon U.	209,522	69,718	12,902	33,501	5,547	70,770	2,187	14,897
61	U. TX, Southwestern Medical Ctr., Dallas	207,513	5,243	1,395	194,649	4,511	991	82	642
62	U. CA, Irvine	206,985	13,954	10,717	140,386	4,786	31,830	61	5,251
<b>63</b>	<b>U. MA, Medical School</b>	<b>202,149</b>	<b>4,883</b>	<b>0</b>	<b>194,717</b>	<b>0</b>	<b>980</b>	<b>62</b>	<b>1,507</b>
64	Yeshiva U.	201,397	879	242	199,183	0	837	256	0
65	U. TX, M. D. Anderson Cancer Ctr.	196,753	8,659	0	187,784	0	211	0	99
66	AZ State U.	194,376	34,589	17,982	53,445	19,881	49,111	1,679	17,689
67	U. HI, Manoa	193,722	39,362	10,559	57,737	14,642	34,452	6,474	30,496
68	SUNY, U. Buffalo	193,613	35,315	2,958	113,061	2,753	24,212	138	15,176
69	VA Polytechnic Institute and State U.	184,175	24,580	13,140	45,670	1,544	35,956	20,584	42,701
70	NC State U.	174,758	15,042	12,315	20,337	2,238	45,963	15,805	63,058
71	Wake Forest U.	172,779	8,073	207	160,613	56	2,294	104	1,432
72	U. KS	171,043	4,958	5,074	108,819	2,631	24,372	1,610	23,579
73	IN U.-Purdue U., Indianapolis	166,825	7,291	301	151,861	572	2,989	317	3,494
74	Princeton U.	161,591	29,366	19,170	47,235	5,952	51,989	206	7,673
75	Woods Hole Oceanographic Institution	161,115	30,747	117	1,423	4,156	99,014	5	25,653
76	U. NM	160,895	19,619	11,057	89,812	2,103	32,534	394	5,376
77	U. KY	159,678	6,806	8,037	99,852	2,642	15,452	11,515	15,374
78	OR State U.	156,446	16,948	12,517	24,366	5,923	41,931	28,589	26,172
79	U. CT	153,264	12,634	7,867	87,595	1,314	21,215	5,871	16,768
80	U. TX, Health Science Ctr., Houston	146,424	9,852	10	128,363	679	694	252	6,574
81	VA Commonwealth U.	142,053	7,619	2,553	109,029	386	6,677	1,149	14,640
82	FL State U.	140,419	20,587	7,527	23,581	2,183	58,722	2,590	25,229
83	U. GA	137,710	3,020	14,021	57,694	1,242	26,202	22,693	12,838
84	Medical U. SC	136,907	6,415	4,970	117,908	0	314	0	7,300
85	U. CA, Santa Barbara	136,352	47,306	10,073	18,096	3,795	50,982	352	5,748
86	U. OK	133,841	10,847	9,025	62,605	3,045	20,904	624	26,791
87	Brown U.	131,994	9,557	6,399	77,181	5,455	29,314	0	4,088
88	WA State U.	129,255	8,473	11,092	21,178	322	19,125	34,137	34,928



## Appendix O: Federally Financed Higher Education R&D Expenditures, Ranked by Total Federal R&D Expenditures, by Federal Agency: FY 2012 (Top 300 Institutions)

(Dollars in thousands)

Rank	Institution	All federal R&D expenditures	DOD	DOE	HHS	NASA	NSF	USDA	Other <sup>a</sup>
89	Naval Postgraduate School	127,049	116,550	1,341	0	307	5,366	0	3,485
90	Wayne State U.	126,915	7,127	2,423	100,144	290	8,740	193	7,998
91	Dartmouth C.	126,676	6,775	785	97,262	3,094	12,755	285	5,720
92	Medical C. WI	125,325	1,951	0	119,570	0	532	28	3,244
93	SUNY, Stony Brook U.	123,383	8,356	13,499	68,130	3,350	24,630	192	5,226
94	Tufts U.	121,512	6,842	2,195	77,488	1,064	9,954	16,597	7,372
95	U. NH	119,451	1,559	3,143	9,288	32,553	15,311	6,312	51,285
96	IA State U.	118,242	9,444	7,868	20,559	1,715	33,213	28,541	16,902
97	U. DE	117,072	19,105	13,843	25,719	3,302	33,154	6,503	15,446
<b>98</b>	<b>U. MA, Amherst</b>	<b>115,280</b>	<b>10,545</b>	<b>13,474</b>	<b>21,089</b>	<b>2,954</b>	<b>41,407</b>	<b>9,677</b>	<b>16,134</b>
99	Georgetown U.	115,197	18,628	819	78,955	800	5,987	324	9,684
100	U. MO, Columbia	114,345	14,681	5,925	53,228	154	18,657	12,270	9,430
101	SUNY, U. Albany	112,989	1,215	787	94,010	650	5,614	137	10,576
102	U. TN, Knoxville	112,471	14,001	33,250	6,074	2,793	40,540	765	15,048
103	George Washington U.	112,110	8,947	2,225	72,755	1,276	7,199	148	19,560
104	U. of Medicine and Dentistry of NJ	110,595	3,856	0	103,651	163	1,410	0	1,515
105	Uniformed Services U. of the Health Sciences	110,276	90,977	0	19,203	0	0	0	96
106	U. TX, Medical Branch	109,867	6,133	967	97,016	3,726	406	68	1,551
107	UT State U.	108,501	51,355	11,219	10,080	4,384	6,357	12,105	13,001
108	U. TX, Health Science Ctr., San Antonio	106,177	10,432	183	92,197	100	125	0	3,140
109	U. NE, Lincoln	104,579	13,070	7,098	20,821	1,815	31,399	7,666	22,710
110	Tulane U.	101,360	5,685	1,716	79,884	201	6,200	462	7,212
111	U. AK, Fairbanks	99,674	10,829	5,147	10,578	16,712	24,563	4,459	27,386
112	U. SC, Columbia	98,836	11,712	13,891	43,975	1,556	17,558	569	9,575
113	MS State U.	96,689	20,612	15,012	3,285	1,625	10,221	22,511	23,423
114	U. CA, Santa Cruz	94,222	3,462	4,216	26,267	29,917	23,260	663	6,437
115	LA State U., Baton Rouge	92,551	5,384	6,265	34,025	2,569	18,042	11,349	14,917
116	NM State U.	90,722	23,580	7,702	8,908	29,236	10,385	7,219	3,692
117	U. Louisville	89,976	5,914	4,109	60,765	1,459	4,425	370	12,934
118	Temple U.	89,963	3,213	1,640	69,183	199	9,534	584	5,610
119	Drexel U.	87,860	11,637	1,442	41,131	945	18,101	594	14,010
120	U. VT	87,843	1,845	2,211	63,423	2,296	8,368	5,747	3,953
121	MT State U., Bozeman	86,511	7,946	10,124	26,824	7,294	17,204	6,420	10,699
122	U. OR	86,316	12,694	4,956	29,913	131	19,312	606	18,704
123	OK State U., Stillwater	85,876	44,553	2,740	7,363	539	9,267	11,458	9,956
124	Rockefeller U.	84,616	7,339	524	75,503	2	1,248	0	0
125	U. NE, Medical Ctr.	84,196	10,088	686	70,892	585	401	237	1,307
126	U. RI	83,754	6,813	4,904	19,680	724	20,359	7,637	23,637
127	U. Notre Dame	83,295	15,567	15,167	20,029	1,210	25,291	183	5,848
128	WV U.	82,149	6,551	14,533	26,191	4,137	9,098	8,987	12,652
129	IN U., Bloomington	79,727	4,486	6,676	33,503	1,851	28,234	140	4,837
130	U. AL, Huntsville	78,528	53,143	1,265	465	18,260	3,085	587	1,723
131	U. Central FL	78,411	24,348	15,912	13,561	2,297	11,055	406	10,832
132	KS State U.	77,689	14,301	6,802	11,914	719	14,961	19,168	9,824

## Appendix O: Federally Financed Higher Education R&D Expenditures, Ranked by Total Federal R&D Expenditures, by Federal Agency: FY 2012 (Top 300 Institutions)

(Dollars in thousands)

Rank	Institution	All federal R&D expenditures	DOD	DOE	HHS	NASA	NSF	USDA	Other <sup>a</sup>
133	Northeastern U.	77,667	9,426	4,222	33,160	493	20,579	0	9,787
134	Rice U.	76,964	19,078	7,554	19,521	3,181	25,692	97	1,841
135	U. MS and U. MS Medical Ctr.	74,955	9,290	4,864	41,727	2,193	4,597	6,043	6,241
136	U. AR for Medical Sciences	69,883	2,299	0	65,595	0	66	0	1,923
137	FL International U.	69,402	4,732	5,808	19,988	1,299	13,294	439	23,842
138	Thomas Jefferson U.	68,976	1,780	0	65,216	614	406	41	919
139	U. Dayton	65,169	60,185	1,125	744	248	670	0	2,197
140	U. CA, Riverside	63,821	7,150	5,103	16,317	547	22,340	6,759	5,605
141	George Mason U.	63,786	18,260	1,583	9,001	7,310	7,912	238	19,482
142	Rensselaer Polytechnic Institute	62,341	13,107	8,784	11,121	848	24,284	49	4,148
143	NJ Institute of Technology	59,398	6,908	1,528	9,753	3,047	9,012	17	29,133
144	Rush U.	57,512	2,189	247	54,361	0	301	0	414
145	U. WY	57,441	2,165	12,475	7,584	1,466	12,037	3,186	18,528
146	San Diego State U.	56,797	7,194	996	35,946	937	9,644	282	1,798
147	U. Houston	55,812	5,174	6,325	18,586	2,569	13,758	0	9,400
148	Auburn U., Auburn	55,557	11,556	3,693	9,148	1,275	8,718	11,772	9,395
149	U. NV, Reno	55,437	3,152	12,048	17,056	735	7,776	3,695	10,975
150	U. ID	55,115	3,105	6,450	9,242	2,866	10,694	15,105	7,653
151	GA Health Sciences U.	55,106	1,140	192	53,302	190	282	0	0
152	U. ND	54,476	5,855	26,476	8,900	5,851	3,312	2,254	1,828
153	Clemson U.	51,764	6,949	2,403	6,557	685	12,444	3,916	18,810
154	U. TN, Health Science Ctr.	48,473	3,095	160	44,790	0	131	9	288
155	Cleveland State U.	46,645	2,100	547	40,374	1,085	1,352	0	1,187
156	ND State U.	46,490	8,339	4,422	7,126	165	7,301	11,671	7,466
157	U. MD, Baltimore County	45,014	5,174	283	13,855	16,217	5,070	445	3,970
158	Brandeis U.	44,532	802	1,440	34,030	0	5,758	84	2,418
159	Cold Spring Harbor Lab.	43,874	2,575	622	32,730	0	7,666	281	0
160	U.S. Air Force Academy	43,431	40,419	30	0	354	0	0	2,628
161	FL A&M U.	42,937	3,294	1,463	4,959	401	4,036	9,069	19,715
162	Portland State U.	42,662	4,978	2,129	16,092	975	6,220	880	11,388
163	SD State U.	41,975	4,817	5,995	5,326	3,340	8,392	9,895	4,210
164	U. Toledo	41,072	4,535	1,298	21,180	3,576	5,931	2,086	2,466
165	LA State U., Health Sciences Ctr., New Orleans	40,637	375	0	38,696	17	32	31	1,486
166	U. TX, El Paso	40,024	4,949	2,374	11,909	2,274	10,474	729	7,315
167	U. ME	39,661	4,000	3,635	2,759	1,442	11,577	9,127	7,121
168	CUNY, City C.	39,572	3,593	2,605	13,949	1,690	8,696	100	8,939
169	Jackson State U.	39,511	5,908	1,724	11,520	543	7,406	368	12,042
170	Old Dominion U.	38,555	8,332	3,216	3,246	4,267	7,763	12	11,719
171	Howard U.	37,690	2,340	467	20,950	1,376	7,824	22	4,711
172	U. Southern MS	37,524	8,272	1,105	4,803	2,311	4,549	1,694	14,790
173	U. MT, Missoula	35,984	2,743	557	11,768	1,730	7,772	6,456	4,958
174	St. Louis U.	35,873	2,431	0	30,242	169	730	0	2,301
175	U. TX, Dallas	35,297	10,638	2,905	10,415	1,570	8,126	0	1,643
176	U. PR, Medical Sciences Campus	35,173	357	0	34,413	0	403	0	0
177	SUNY, Health Science Ctr. Brooklyn	34,884	4,052	2	30,830	0	0	0	0

## Appendix O: Federally Financed Higher Education R&D Expenditures, Ranked by Total Federal R&D Expenditures, by Federal Agency: FY 2012 (Top 300 Institutions)

(Dollars in thousands)

Rank	Institution	All federal R&D expenditures	DOD	DOE	HHS	NASA	NSF	USDA	Other <sup>a</sup>
178	U. AR, Fayetteville	34,189	2,798	3,214	3,140	587	10,112	11,629	2,709
179	GA State U.	34,075	956	692	18,653	525	6,242	276	6,731
180	CO School of Mines	33,481	5,206	11,835	1,980	747	12,579	114	1,020
<b>181</b>	<b>U. MA, Boston</b>	<b>33,275</b>	<b>558</b>	<b>897</b>	<b>12,332</b>	<b>365</b>	<b>5,349</b>	<b>47</b>	<b>13,727</b>
182	MI Technological U.	33,189	12,093	4,390	1,422	1,920	6,368	2,498	4,498
183	Syracuse U.	33,156	3,856	2,021	4,750	371	12,243	46	9,869
184	U. TX, Arlington	33,150	6,141	2,468	7,076	1,105	9,119	84	7,157
185	U. AL, Tuscaloosa	33,023	2,701	8,815	4,566	1,265	9,689	233	5,754
186	U. TX, San Antonio	32,672	3,743	526	15,447	757	5,107	86	7,006
187	C. of William and Mary and VA Institute of Marine Science	32,526	3,664	2,443	2,128	1,152	7,685	70	15,384
188	Morehouse School of Medicine	31,786	794	0	30,790	0	202	0	0
189	Boston C.	30,855	8,249	1,494	9,529	383	5,323	0	5,877
190	TX A&M Health Science Ctr.	30,739	1,684	0	27,610	0	457	183	805
191	TX Tech U.	29,969	4,718	3,743	3,060	875	9,022	3,702	4,849
192	NM Institute of Mining and Technology	29,894	9,865	5,195	14	486	7,101	0	7,233
193	U. WI, Milwaukee	28,862	1,463	1,193	12,181	52	9,665	343	3,965
194	Loyola U., Chicago	28,530	2,714	98	22,188	35	2,136	25	1,334
195	IL Institute of Technology	27,767	2,550	8,571	9,506	275	4,880	863	1,122
196	Stevens Institute of Technology	27,420	14,086	395	531	827	6,563	0	5,018
197	Desert Research Institute	27,294	5,806	10,677	136	1,130	5,064	769	3,712
198	SUNY, Upstate Medical U.	27,013	50	0	22,480	0	16	0	4,467
<b>199</b>	<b>U. MA, Lowell</b>	<b>26,786</b>	<b>9,638</b>	<b>1,257</b>	<b>6,135</b>	<b>347</b>	<b>5,336</b>	<b>0</b>	<b>4,073</b>
200	U. North TX, Health Science Ctr.	26,627	1,706	0	19,049	0	0	0	5,872
201	Wright State U.	25,552	10,280	436	10,675	511	2,880	43	727
202	U. PR, Rio Piedras	25,407	905	499	11,323	2,228	9,402	226	824
203	U. NV, Las Vegas	25,068	1,201	12,190	2,502	924	3,886	279	4,086
204	Loma Linda U.	24,884	5,640	340	14,713	3,187	10	660	334
205	CA State U., Northridge	24,837	1,158	162	7,064	368	4,558	118	11,409
206	Eastern VA Medical School	24,694	490	0	2,912	317	3	0	20,972
207	CUNY, Hunter C.	24,265	401	1,022	18,588	174	2,147	0	1,933
208	San Jose State U.	24,153	214	156	1,125	14,387	2,641	82	5,548
209	AL A&M U.	23,778	12,883	0	856	392	3,376	3,220	3,051
210	MO U. of Science and Technology	23,731	9,767	3,635	766	267	5,065	148	4,083
211	Meharry Medical C.	23,467	488	0	22,790	0	0	46	143
212	Lehigh U.	23,312	3,944	2,864	2,214	607	10,475	0	3,208
213	U. of the VI	22,605	0	0	3,116	0	3,293	2,708	13,488
214	NC Agricultural and Technical State U.	22,477	3,149	706	1,881	1,270	7,416	5,505	2,550
215	U. Memphis	22,142	3,742	233	4,273	298	3,929	3	9,664
216	Brigham Young U., Provo	22,069	4,342	1,436	3,956	1,189	5,800	1,255	4,091
217	Southern IL U., Carbondale	22,055	2,198	879	11,237	57	2,954	871	3,859
218	SUNY, Binghamton U.	21,162	5,734	1,201	7,349	172	3,819	0	2,887
219	OH U.	20,780	2,388	2,847	4,308	981	5,680	234	4,342
220	U. HI, Hilo	20,726	365	0	7,151	1,597	3,818	1,136	6,659
221	Rutgers, State U. NJ, Newark	20,588	1,203	403	9,295	222	5,466	53	3,946
222	Boise State U.	20,070	5,050	4,312	2,947	1,012	4,758	216	1,775

**Appendix O: Federally Financed Higher Education R&D Expenditures, Ranked by Total Federal R&D Expenditures, by Federal Agency: FY 2012 (Top 300 Institutions)**

(Dollars in thousands)

Rank	Institution	All federal R&D expenditures	DOD	DOE	HHS	NASA	NSF	USDA	Other <sup>a</sup>
223	Mercer U.	19,963	17,688	5	2,238	15	17	0	0
224	U. PR, Mayaguez	19,949	1,622	807	2,670	98	5,760	791	8,201
225	Charles R. Drew U. of Medicine and Science	19,733	2,822	0	16,911	0	0	0	0
226	Air Force Institute of Technology	19,579	18,656	407	0	22	143	0	351
227	Rochester Institute of Technology	19,394	6,405	1,801	1,125	1,848	5,978	128	2,109
228	U. NC, Charlotte	19,230	2,806	815	2,633	70	8,802	272	3,832
229	Wichita State U.	19,078	5,473	887	5,999	1,281	1,189	0	4,249
230	U. North TX, Denton	18,043	4,390	2,681	1,202	61	7,861	85	1,763
231	East Carolina U.	17,838	1,347	0	12,670	134	2,226	66	1,395
232	U. TN, Institute of Agriculture	17,786	919	2,796	2,832	0	431	7,500	3,308
233	Catholic U. America	17,608	1,344	5,559	1,868	6,392	1,976	0	469
234	U. MO, Kansas City	17,522	2,554	356	11,784	141	2,197	158	332
235	SUNY, U. Albany, C. Nanoscale S&E	17,290	5,527	6,245	1,939	80	1,999	0	1,500
236	FL Atlantic U.	17,226	3,086	1,802	5,204	397	1,745	172	4,820
237	San Francisco State U.	17,075	427	370	8,104	279	4,322	0	3,573
238	U. Akron	16,768	5,835	2,330	1,258	1,429	3,979	190	1,747
239	Southern Methodist U.	16,640	6,593	3,389	2,813	30	2,629	52	1,134
240	U. NC, Greensboro	16,530	217	11	7,956	0	2,650	355	5,341
241	NY Medical C.	16,471	0	0	16,471	0	0	0	0
242	ID State U.	16,095	1,553	7,874	1,841	21	3,352	98	1,356
243	U. MD, Ctr. for Environmental Science	16,081	241	0	242	108	4,736	61	10,693
244	Northern AZ U.	16,015	1,959	922	2,650	644	2,919	1,237	5,684
245	Morgan State U.	15,408	555	696	1,635	9,621	696	10	2,195
246	Hampton U.	15,356	4,140	1,631	1,461	3,712	3,545	0	867
247	CUNY, Queens C.	14,897	111	7,563	4,595	0	2,156	54	418
248	Kent State U.	14,882	1,493	1,240	5,329	25	4,705	55	2,035
249	U. New Orleans	14,521	6,395	273	1,093	380	1,752	257	4,371
250	SD School of Mines and Technology	14,480	3,895	3,836	4	1,926	4,146	250	423
251	Western MI U.	14,378	551	1,925	1,940	289	4,337	316	5,020
252	Creighton U.	14,270	430	466	12,944	35	226	6	163
253	U. SD	14,088	864	2,132	6,906	190	2,980	0	1,016
254	Embry-Riddle Aeronautical U.	14,048	48	107	0	287	1,549	134	11,923
255	TX Tech U., Health Sciences Ctr.	13,944	531	0	13,214	22	28	0	149
256	U. LA, Lafayette	13,848	1,104	1,128	7,687	325	1,736	35	1,833
257	U. South AL	13,816	130	121	10,171	207	1,641	0	1,546
258	CA State U., Long Beach	13,690	4,207	127	3,303	1,244	1,941	215	2,653
259	AL State U.	13,607	0	0	1,224	0	11,771	612	0
260	LA State U., Medical Ctr., Shreveport	13,504	675	0	12,504	0	201	118	6
261	Miami U.	13,418	987	395	4,332	469	5,518	134	1,583
262	Marshall U.	13,154	3,693	975	4,724	304	1,655	223	1,580
263	Worcester Polytechnic Institute	12,968	2,228	1,576	1,781	176	5,284	120	1,803
264	Northern IL U.	12,861	4,587	3,142	899	61	2,649	284	1,239
265	U. West FL	12,858	558	0	539	0	124	11	11,626
266	Polytechnic Institute of NY U.	12,687	2,650	671	284	15	7,498	0	1,569
267	Tuskegee U.	12,633	222	152	4,189	817	63	3,636	3,554

## Appendix O: Federally Financed Higher Education R&D Expenditures, Ranked by Total Federal R&D Expenditures, by Federal Agency: FY 2012 (Top 300 Institutions)

(Dollars in thousands)

Rank	Institution	All federal R&D expenditures	DOD	DOE	HHS	NASA	NSF	USDA	Other <sup>a</sup>
268	CA State U., Fullerton	12,440	1,031	98	3,702	205	2,262	78	5,064
269	U.S. Military Academy	12,227	12,227	0	0	0	0	0	0
270	TX State U., San Marcos	11,950	1,520	10	3,565	0	1,996	1,300	3,559
271	Albany Medical C.	11,845	713	0	11,122	0	10	0	0
272	U. Denver	11,779	319	682	5,793	367	1,957	13	2,648
273	U. NC, Wilmington	11,571	772	736	1,192	80	2,242	259	6,290
274	DE State U.	11,305	852	413	2,006	742	3,031	2,881	1,380
275	Fayetteville State U.	11,187	473	0	465	0	654	0	9,595
276	NC Central U.	11,076	479	350	8,019	150	1,525	50	503
277	U. CA, Merced	11,052	665	1,052	2,401	44	5,510	376	1,004
<b>278</b>	<b>U. MA, Dartmouth</b>	<b>10,979</b>	<b>1,577</b>	<b>731</b>	<b>426</b>	<b>42</b>	<b>2,303</b>	<b>189</b>	<b>5,711</b>
279	SC State U.	10,926	52	1,811	399	23	1,662	2,920	4,059
280	U. AK, Anchorage	10,760	121	265	4,621	354	1,970	291	3,138
281	Prairie View A&M U.	10,569	388	1,092	226	1,336	1,686	5,609	232
282	Ponce School of Medicine and Health Sciences	10,486	0	0	10,486	0	0	0	0
283	TN State U.	10,240	766	476	435	8	1,899	6,254	402
284	Teachers C., Columbia U.	10,173	0	0	3,514	0	660	231	5,768
285	CA Polytechnic State U., San Luis Obispo	10,125	2,240	280	949	2,203	2,420	1,440	593
286	Rosalind Franklin U. of Medicine and Science	10,084	760	0	9,324	0	0	0	0
287	Marquette U.	9,968	553	51	4,863	32	2,192	33	2,244
288	Purdue U., Calumet	9,917	259	6,742	193	16	544	163	2,000
289	LA Tech U.	9,835	1,923	546	1,265	300	2,215	307	3,279
290	U. MO, St. Louis	9,650	368	332	3,772	120	3,568	0	1,490
291	AR State U., Jonesboro	9,645	5,726	1,068	317	152	1,619	325	438
292	SUNY, C. of Environmental Science and Forestry	9,560	270	1,311	27	331	2,222	2,159	3,240 i
293	U.S. Naval Academy	9,322	7,592	371	0	670	689	0	0
294	Oakland U.	9,185	2,479	383	2,995	13	1,579	630	1,106
295	Morehouse C.	9,063	0	0	0	11	1,497	0	7,555
296	RI C.	9,060	30	0	2,492	0	1,360	0	5,178
297	Claremont Graduate U.	8,875	300	0	5,300	0	350	250	2,675
298	Alcorn State U.	8,598	316	211	676	4	86	6,453	852
299	Clark Atlanta U.	8,447	1,091	83	3,709	142	2,851	60	511
300	U. AR, Little Rock	8,104	1,499	744	622	1,839	2,517	2	881
All Other Institutions		781,102	82,854	36,939	192,096	32,561	206,377	68,483	161,792

i = imputed.

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.

<sup>a</sup> Includes all other agencies reported.

<sup>b</sup> Johns Hopkins University includes Applied Physics Laboratory, with \$1,085,637 thousand in federally financed R&D expenditures in FY 2012.

NOTES: Agency-specific rankings available in eTables. Institutions reporting zero federal expenditures for FY 2012 are not listed in this table. Tied institutions are ranked alphabetically. Institutions ranked are geographically separate campuses headed by a campus-level president or chancellor. Some campuses are part of large multi-campus universities; some are part of state university systems. For a complete listing of campuses that belong to a larger university or system and their aggregate R&D expenditures, see table A-3.