



# The University of Massachusetts

*Amherst • Boston • Dartmouth • Lowell • Worcester • UMassOnline*



# FY2012 Annual R&D Expenditures Report (Expanded Version)

*Office of Institutional Research/AASAIR  
UMass President's Office  
August 2013*

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## PREFACE

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The *FY2012 Annual Research and Development Expenditures Report (Expanded Version)* presents data and information on the University of Massachusetts' Research and Development Expenditures activities, as reported to the NSF via the annual HERD (Higher Education Research and Development) surveys. This expanded version of the previously published abridged FY12 R&D Expenditures report includes additional highlights as well as national rankings and comparison data.

**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 2012 HERD Survey*

### Changes to Questions

- **Question 1.** Row d, Nonprofit organizations. An instruction has been added to specify that funds from your institution's 501(c)3 foundation be reported in row e1 (institutionally financed research).
- **Question 1.** Row e3, Unrecovered indirect costs. The wording has been modified to emphasize that only your externally funded R&D should be used to calculate these costs.
- **Questions 7 and 8.** Row a has been clarified to mean U.S. higher education institutions. Foreign institutions should be reported in row d.

### New Question

- **Question 1.1.** This question asks if four different types of institutionally financed R&D expenditures were included in Question 1, row e1, both on the current FY 2012 survey and on the FY 2011 survey.

Barbara Velardi  
Institutional Research Associate

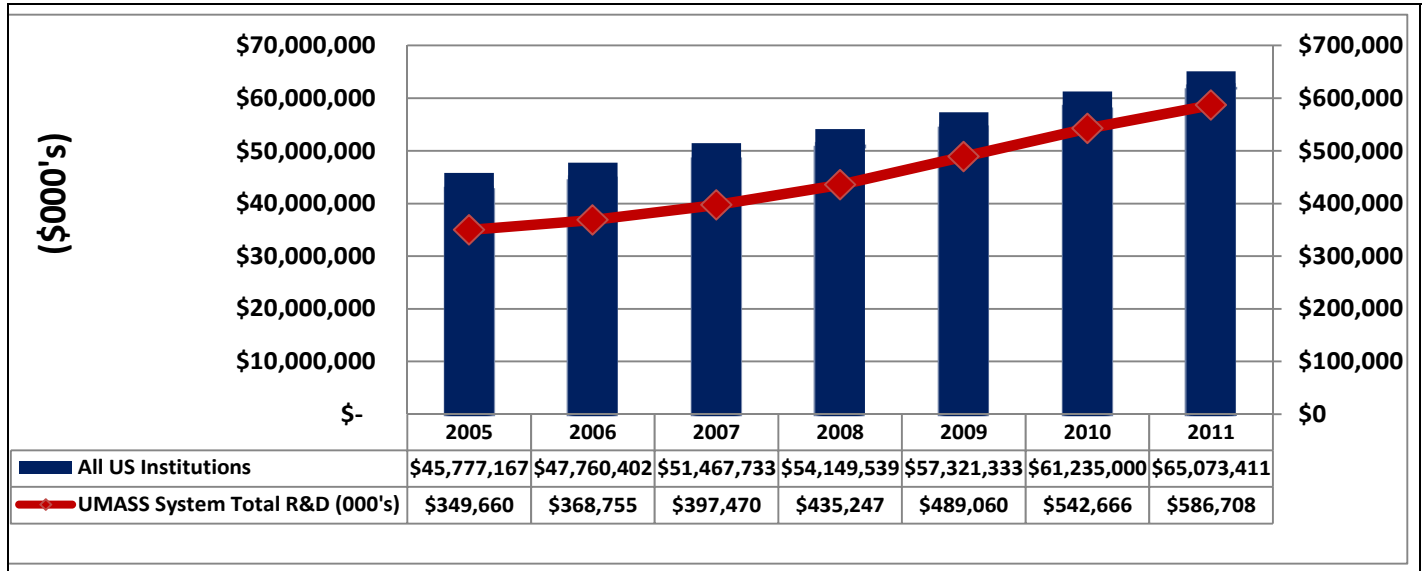
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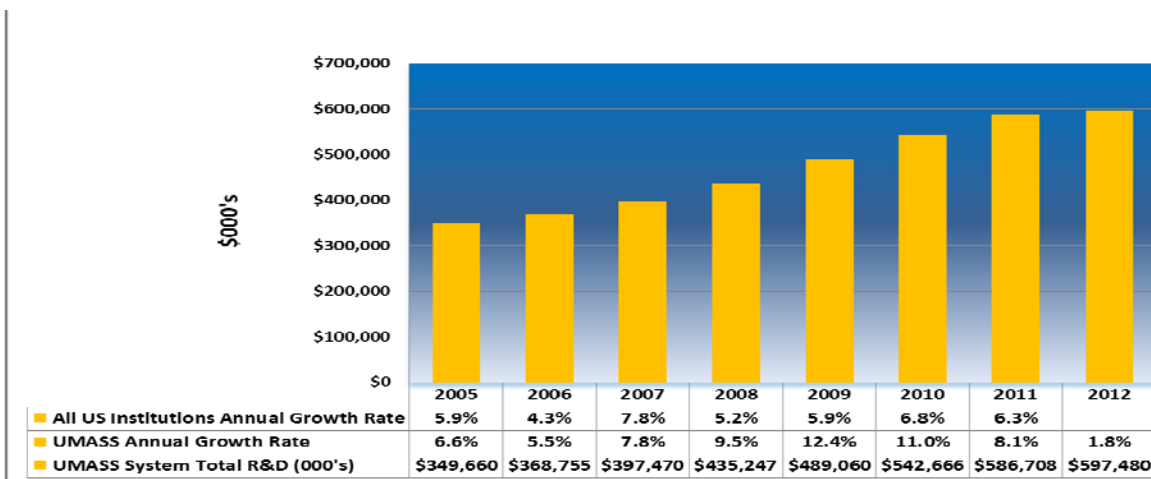
## EXECUTIVE SUMMARY

- UMASS Total R&D Expenditures** - Total FY2012 R&D Expenditures for the University of Massachusetts System was reported at \$597.5 million, which represents a two percent increase from the FY2011 total of \$586.7 million.
- UMASS versus All U.S. Institutions - Total R&D Expenditures and Growth** - Between FY2005-FY2011, the UMASS System showed higher annual growth rates in total R&D Expenditures in comparison to all U.S. Institutions for all years except FY2007, when the growth rate for both was the same.



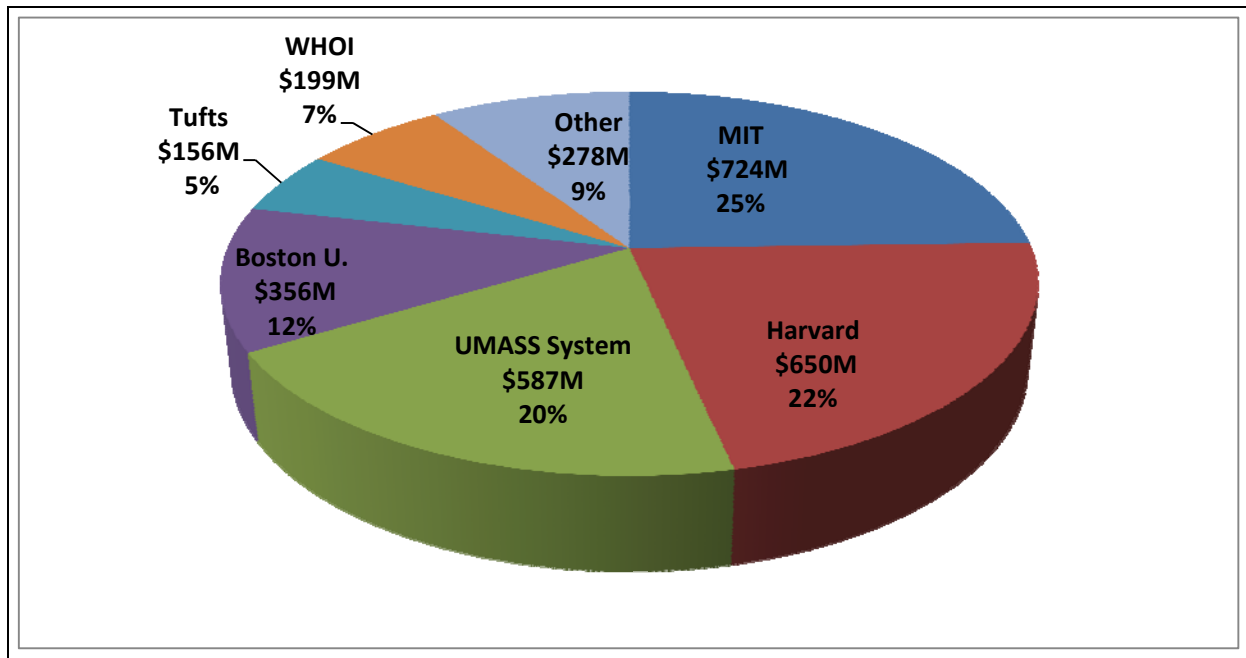
*Total R&D Expenditures: UMASS versus All U.S. Institutions  
As Percent of all MA Institutions, FY2005-FY2011*

The last year (FY 2012) saw a decline in the growth rate for UMASS, and it is expected that national trends will reflect a similar decline, due to major federal cuts in research spending. Despite these cuts, UMASS continued to grow, albeit at a slower pace.



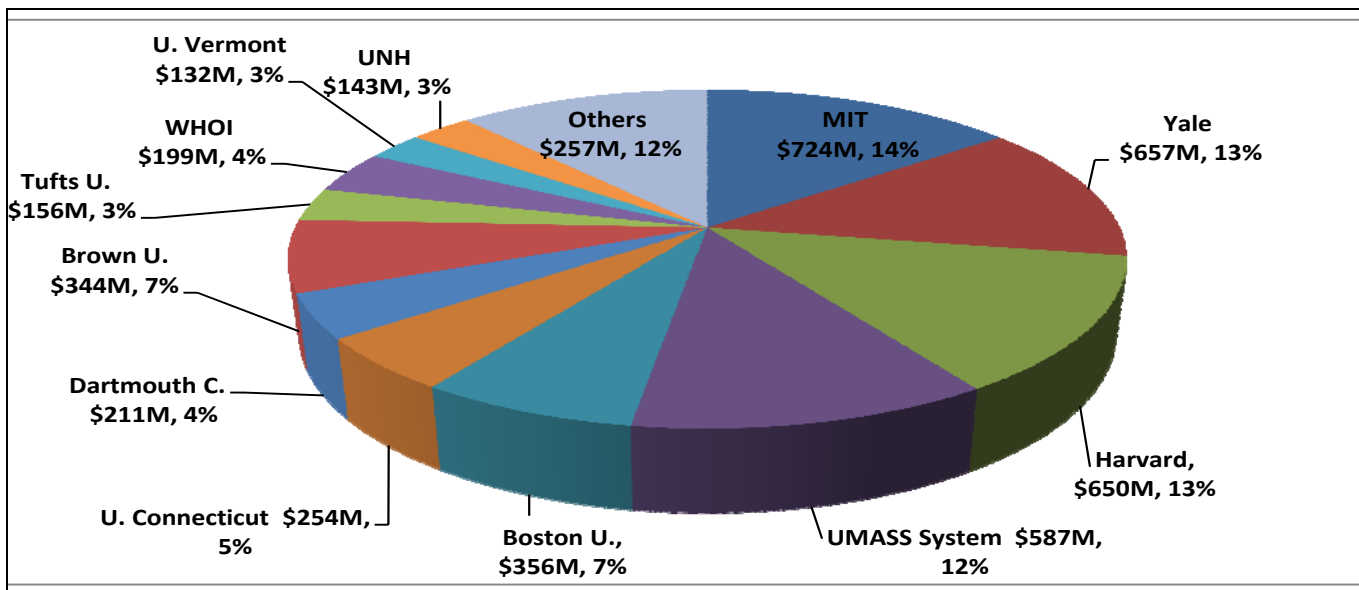
*Total R&D Expenditures: UMASS System (FY2005 – FY2012)  
With Comparative Annual Growth for UMASS and All U.S. Institutions (FY2005-FY2011)*

- UMASS Total R&D Expenditures as Percent of MA Institutions** - Based on FY 2011 data, the UMASS System comprised 20% 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 2011*

- 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 83% of the academic R&D Expenditures in the state. (Rankings based on FY 2011 data).
- UMASS Total R&D Expenditures as Percent of New England Institutions** – Based on FY 2011 data, the UMASS System comprises 12% 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 2011*

- **UMASS ranks 4<sup>th</sup> among all New England universities and colleges (FY 2011)** – 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 (\$587M) larger than the next three public university systems (UConn, UNH, and University of Vermont) combined (\$529M). Rankings based on FY2011 data.
- **UMASS R&D Expenditures by Funding Source (FY2012)** – In terms of funding sources, 65% is from the federal government, 25% is from institutional sources, 2% is from state and local government, 3% 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 FY2011-12, industry/business sponsorship dropped slightly from 9% to 7%, and institutional funding increased slightly from 24% to 25%. State and local government funding remained steady at 2% of all funds. Federal funding dropped slightly from 66% to 65% of all funds.
- **Life Sciences Continues to Comprise More Than Half of all R&D Expenditures at UMASS** - At \$341million, life sciences constitute more than half of UMass’s total R&D expenditures (57%). FY2012 distribution of R&D expenditures by field is:

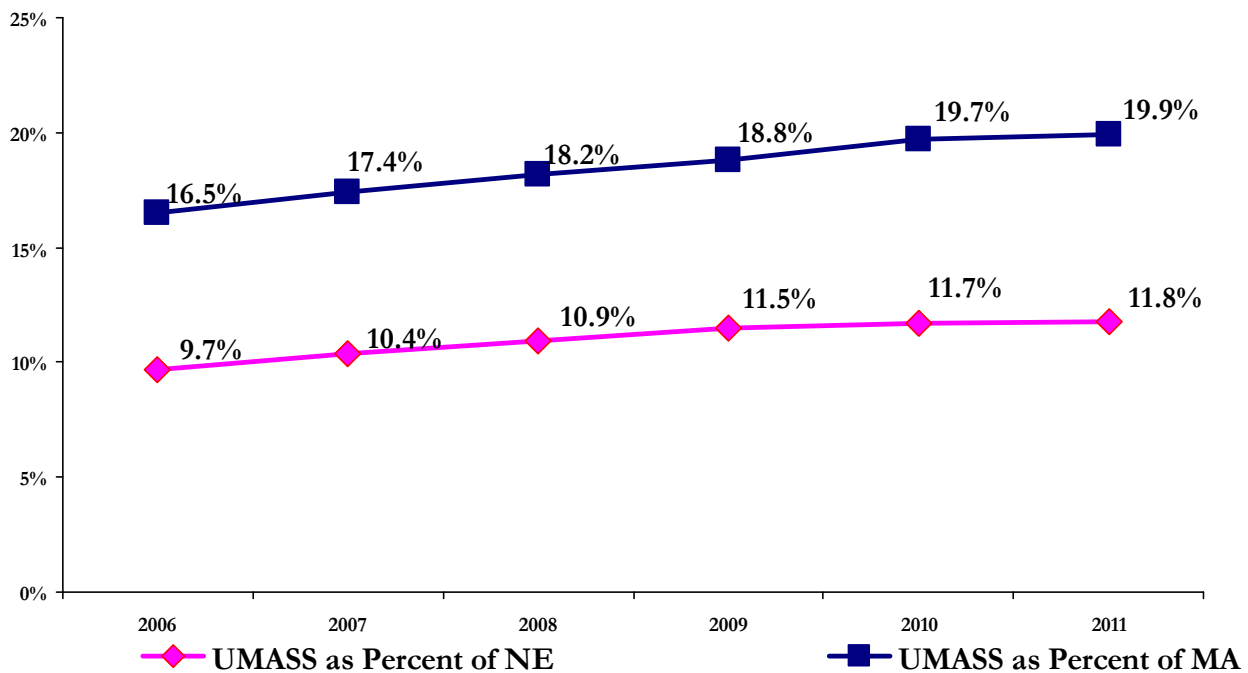
Life Sciences	57%	Social Sciences	3.0%
Physical Sciences	8.5%	Non Sciences/Engineering	1.3%
Engineering	11.5%	Psychology	1.9%
Computer Sciences	4.2%	Mathematical Sciences	0.7%
Environmental Sciences	2.9%	Other Sciences	0.5%



## 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 19.9% in FY 2011, reflecting a 3.4% increase in percentage points. *[Appendix A1]*.
- The University of Massachusetts R&D Expenditures continues to grow as a proportion of total Science and Engineering 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 11.8% in FY 2011. *[Appendix A1]*.



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

- When compared to the New England region, UMASS performance in R&D Expenditures varies by field. The top field in this arena has been Life Sciences, where UMass R&D Expenditures comprise 13.8% of all New England institutions' R&D Expenditures, followed by Psychology (13.4%), Social Sciences (13.0%), Physical Sciences (12.1%), Non-Science and Engineering (11.4%), and Engineering (9.3%). When compared to institutions in Massachusetts, the top performing fields for UMASS R&D Expenditures are Psychology (28.7%), Life Sciences (26.5%), Non-Science and Engineering (25.7%), Social Sciences (20.3%), and Physical Sciences (16.4%) *[Appendix A2]*.

## II. NSF Research and Development Expenditures Rankings Based on FY2011 and Past Trends

### UMASS System Ranking

- The University of Massachusetts System ranked 32<sup>nd</sup> nationally, with a total of \$586.7M in Total R&D Expenditures (Among the top 4% in rankings nationwide). [*Appendix B*].

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

- UMass Amherst ranked 107<sup>th</sup> nationally in total R&D Expenditures from a total of 912 institutions nationwide [FY2011, *Appendix B*].
- UMass Medical School ranked 78<sup>th</sup> nationally in total R&D Expenditures from a total of 912 institutions nationwide [FY2011, *Appendix B*].
- With \$60M in Total R&D Expenditures in FY 2011, UMass Lowell ranked 184<sup>th</sup> out of the 912 participating academic institutions in the NSF HERD Survey (Among the top 20% in rankings). [FY2011, *Appendix B*].
- With \$57M in Total R&D Expenditures in FY2011, UMass Boston ranked 191<sup>st</sup> out of 912 institutions (Among the top 21% in rankings). [FY2011, *Appendix B*].
- With \$26M in Total R&D Expenditures, UMass Dartmouth ranked 258<sup>th</sup> out of 912 institutions (Among the top 29% in rankings). [FY2011, *Appendix B*].

### UMass Campuses – Prominent Rankings

- UMass Amherst has consistently ranked among the top 20 universities and colleges nationwide in total R&D Expenditures in the Computer Science field. In FY 2011, UM Amherst ranked 21<sup>st</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 2011, UM Boston ranked 70<sup>th</sup>. [*Appendix M*].
- From FY 2005-FY2009, 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 2011, UMass Dartmouth ranked 66<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 2011, UMass Medical School improved its ranking to 47<sup>th</sup> from 60<sup>th</sup> in FY2009, among the first 150 institutions in this category. [*Appendix I*].

## **Additional Rankings**

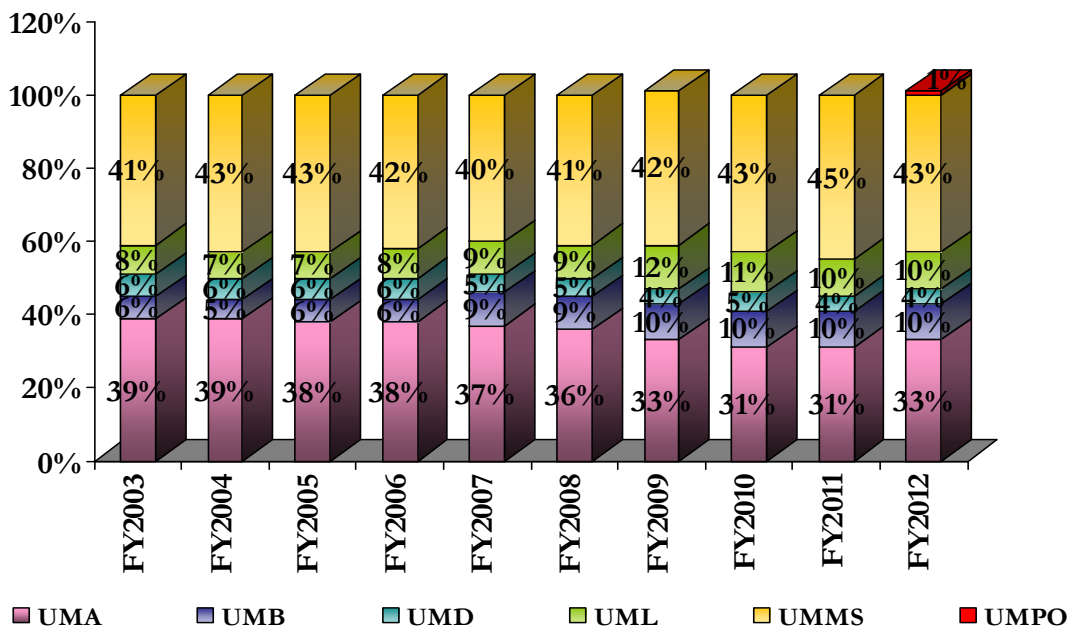
- UMass Amherst has consistently ranked among the first 100 universities and colleges in R&D Expenditures in Engineering over the past five years. UM Amherst's ranked 60th in Engineering in FY2011. *[Appendix G]*.
- UMass Amherst has consistently ranked among the first 100 universities and colleges for R&D Expenditures in Mathematical Sciences. In FY 2011, UMass Amherst ranked 63rd. *[Appendix J]*.
- UMass Amherst has consistently ranked among the first 100 institutions for R&D Expenditures in the Physical Sciences. In FY 2011, UM Amherst ranked 37th, an improvement from its FY2009 ranking of 56th among the top 100 institutions. *[Appendix K]*.
- In FY 2011, UMass Boston ranked 59th and UMass Amherst ranked 71st among the first 100 universities and colleges in R&D Expenditures in Psychology. *[Appendix L]*.

**A. TOTAL R&D EXPENDITURES**

## A. TOTAL R&D EXPENDITURES - FY2012

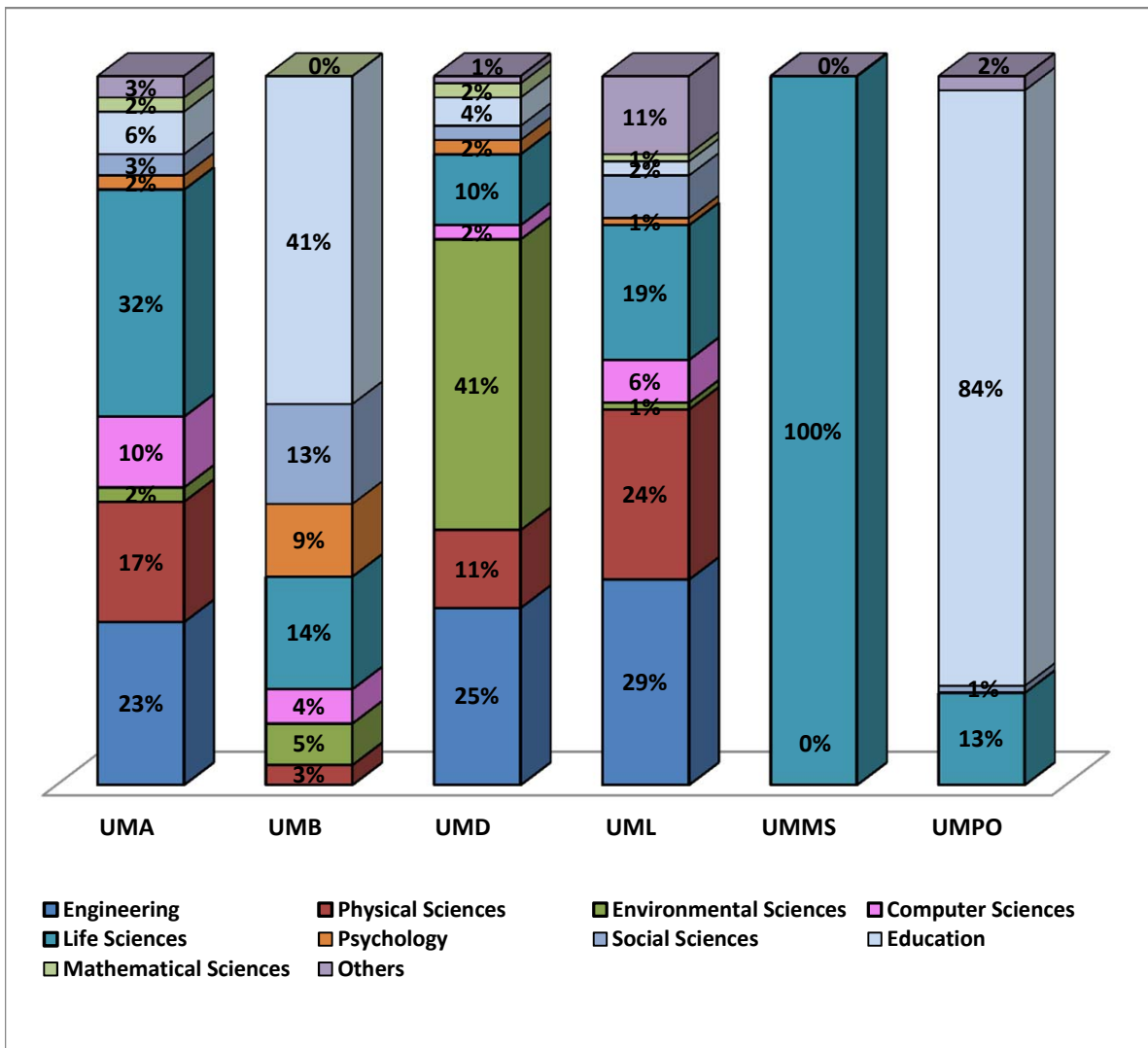
1. Total FY2012 R&D Expenditures for the University of Massachusetts System was reported at \$597.5 million, which represents a 2% increase from the FY2011 total of \$586.7 million.
2. All of UMass Campuses reported an increase in growth between FY2011-FY2012.
3. Within the UMass System, a little over two-fifths (43%) of the total R&D Expenditures is attributed to the UMass Medical School and approximately one-third (33%) 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% to 24% (FY2003-FY2012).
5. The UMass President's Office reporting R&D Expenditures to NSF for the first time in FY2012, and contributed \$3.173 million dollars to the University's Total R&D monies.

### 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 (23%), and Physical Sciences (17%), UMass Boston's concentration was primarily in Education (41%), Life Sciences (14%), the Social Sciences (13%), and Psychology (9%). UMass Dartmouth's major areas of concentration were in the fields of Environmental Sciences (41%) and Engineering (25%), and for UMass Lowell, Engineering (29%) and Physical Sciences (24%). 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 (84%) and Life Sciences (13%).

### UMass Campuses: Total R&D Expenditures by Field (FY2012)

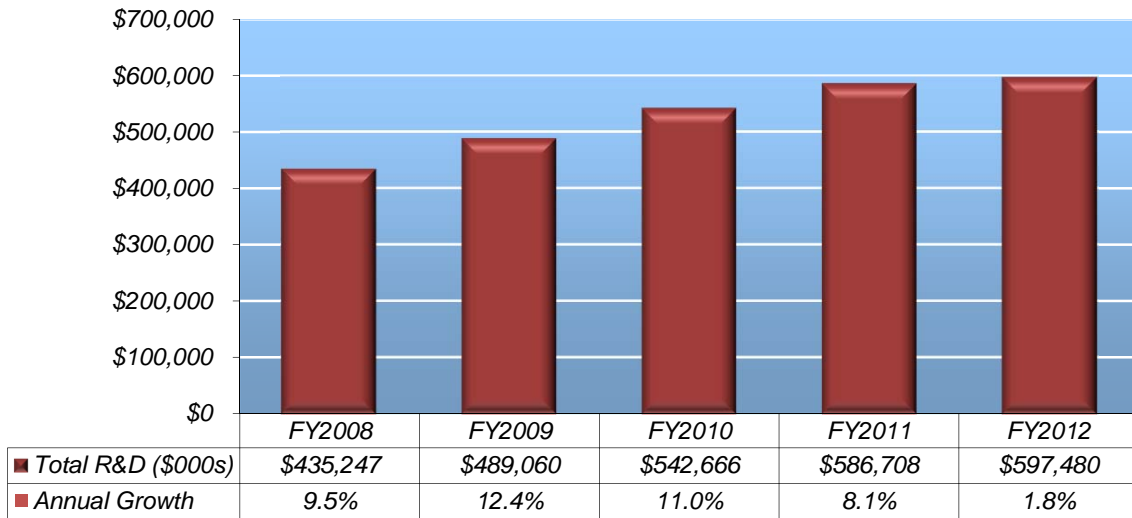


## **A. TOTAL R&D EXPENDITURES**

### **DATA AND CHARTS**

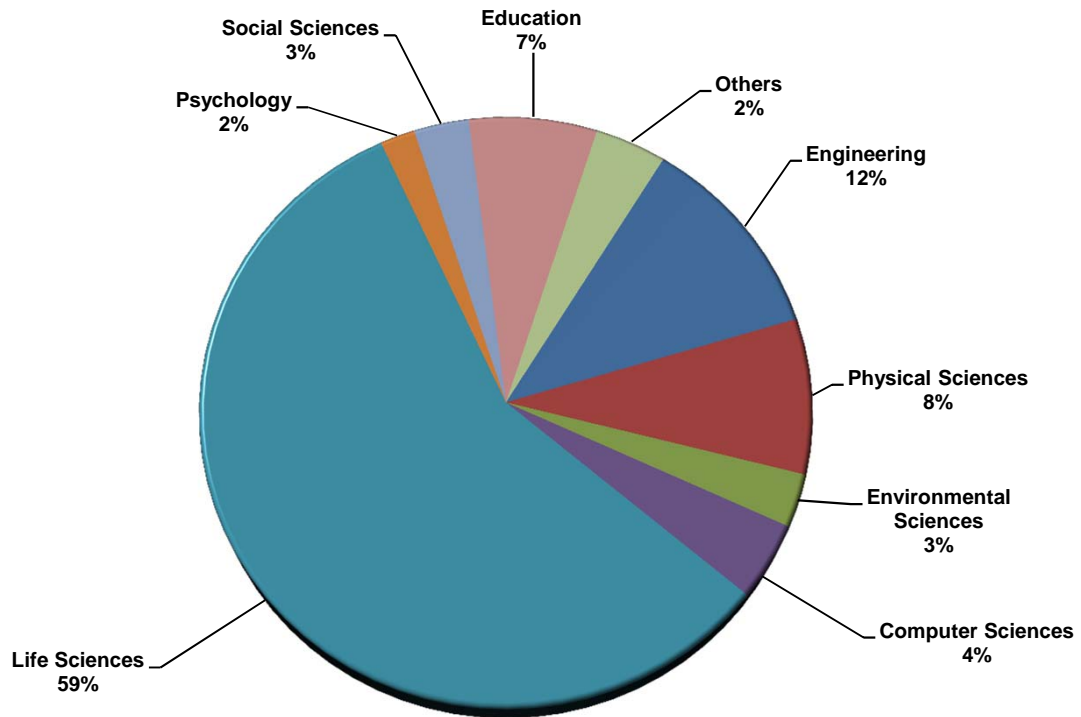
# UMASS System

Total R&D Expenditures FY2008 - FY2012



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

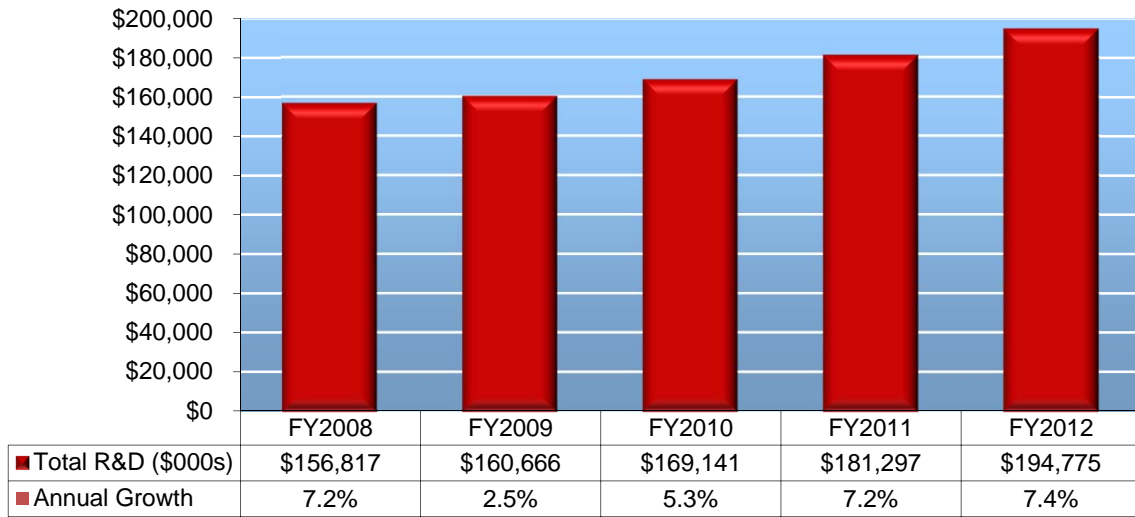
Total R&D Expenditures FY2012





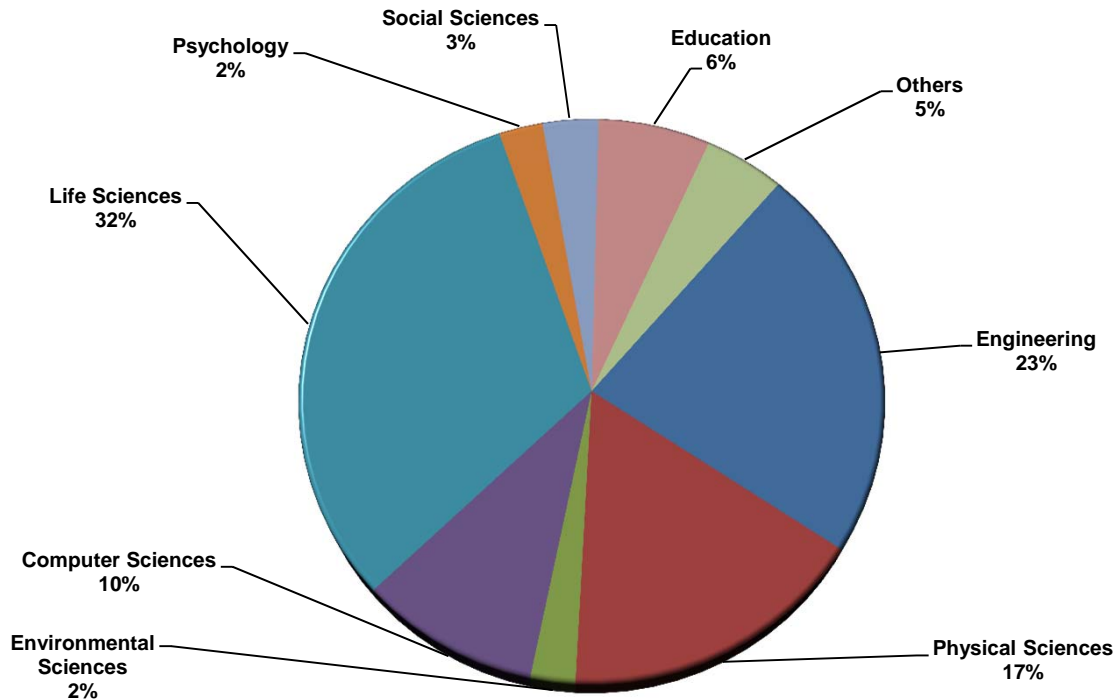
# Amherst

## Total R&D Expenditures FY2008 – FY2012



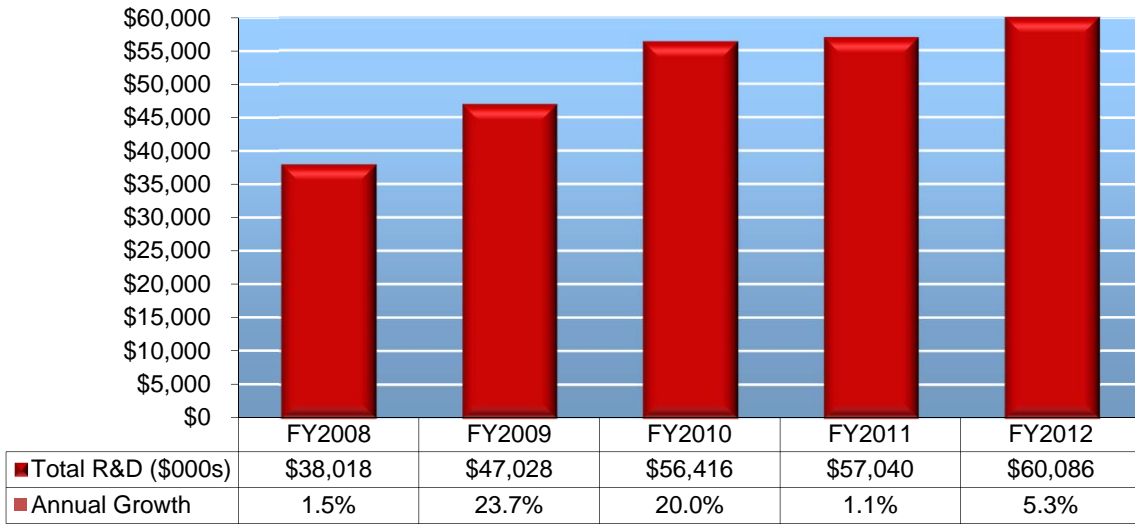
Note: UMA FY2010 figures have been revised since the FY2010 R&D Report publication.

## Total R&D Expenditures FY2012

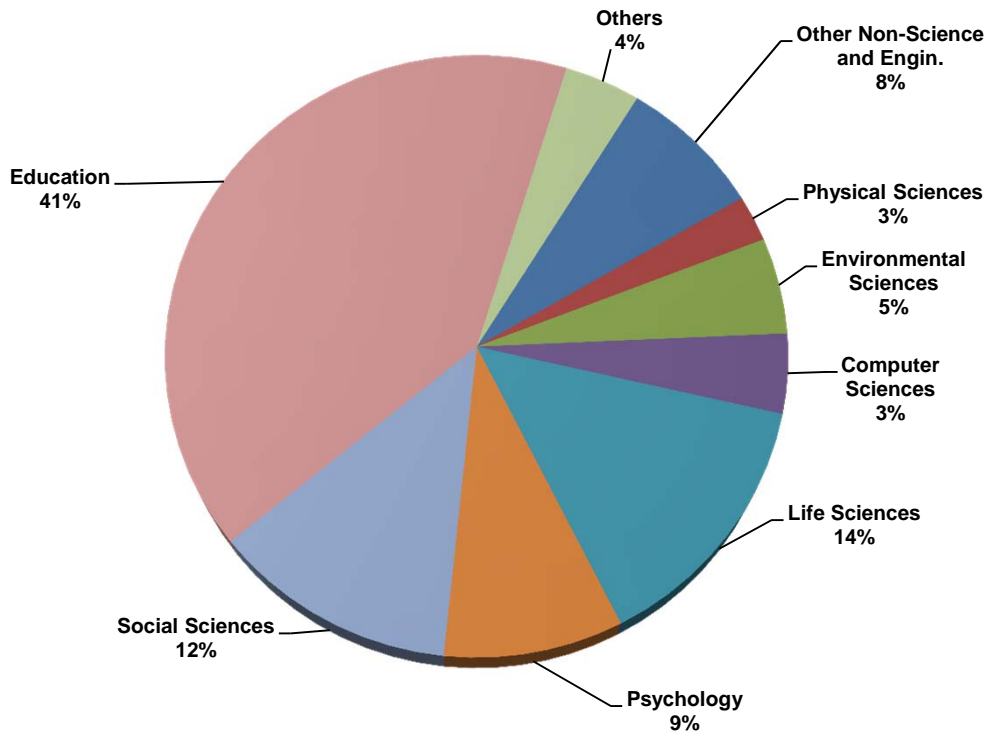


# Boston

## Total R&D Expenditures FY2008 – FY2012



## Total R&D Expenditures FY2012

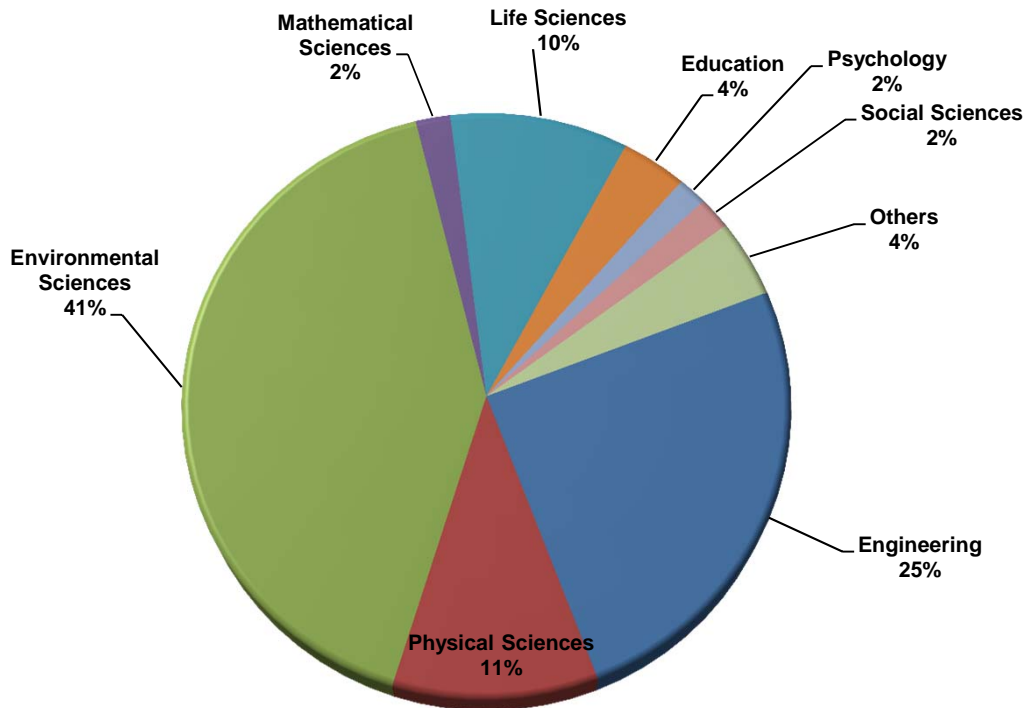


# Dartmouth

## Total R&D Expenditures FY2008 – FY2012

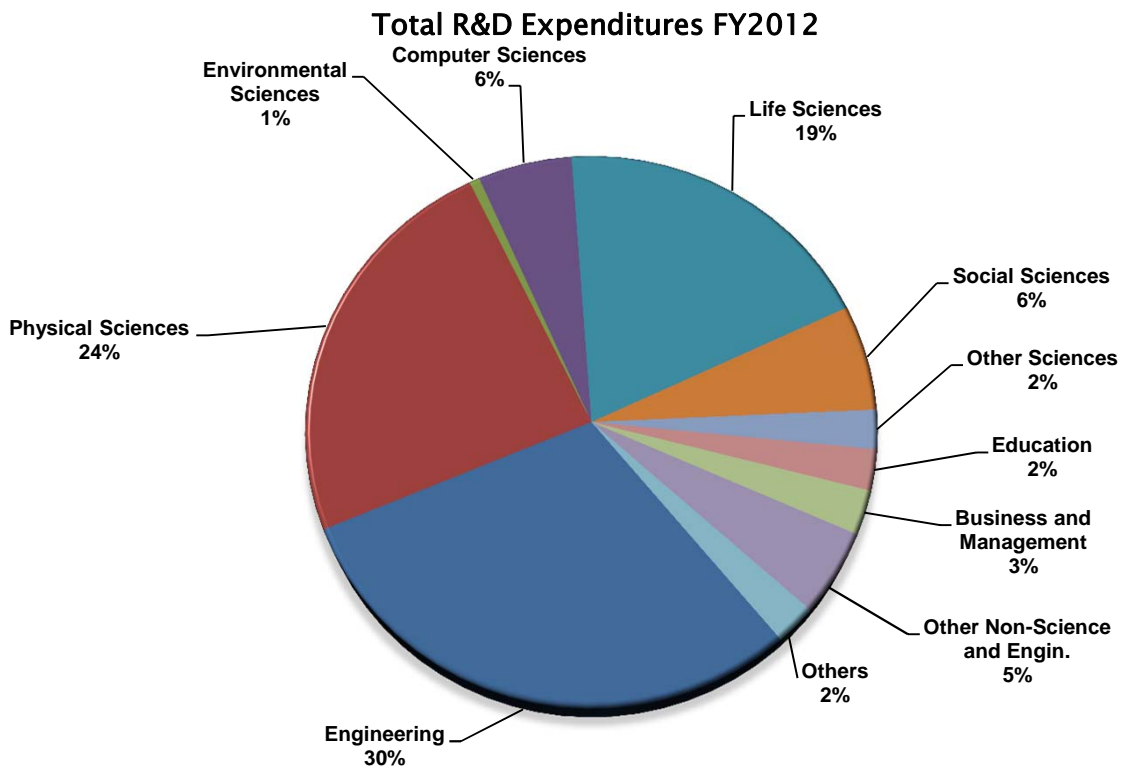
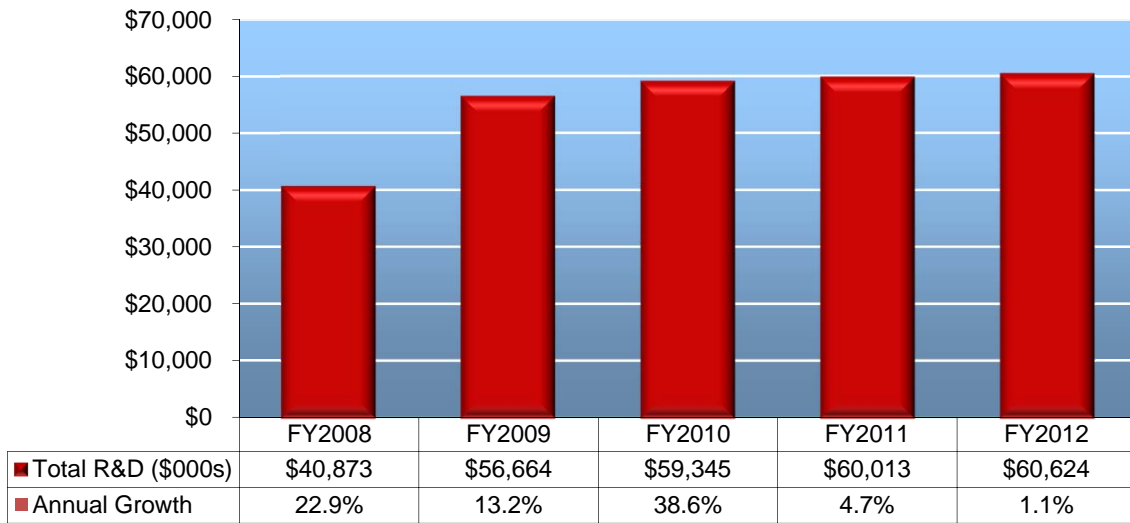


## Total R&D Expenditures FY2012



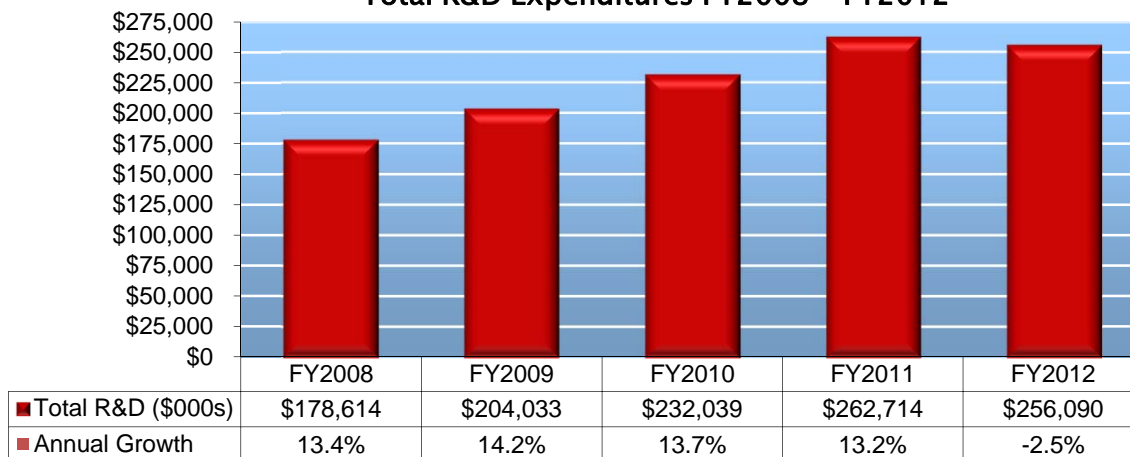
# Lowell

## Total R&D Expenditures FY2008 – FY2012



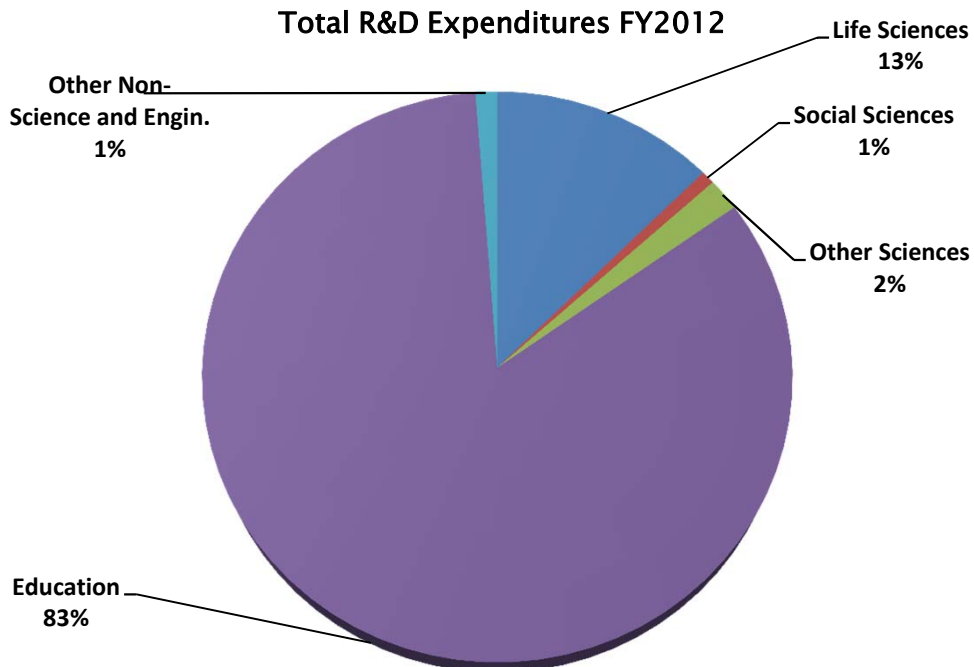
## Worcester

### Total R&D Expenditures FY2008 – FY2012



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

## UMass President's Office



*Note: UMPO started reporting R&D data to NSF in FY2012. That is why there is no historical data available for UMPO, prior to FY2012.*

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

**FY 2012 Total R&D Expenditures by Field (Federal and Non-Federal)**

FIELD	UMA					UMB					UMD				
	Federal	Non-Federal	UMA Total	% of UMA Total	% of Field	Federal	Non-Federal	UMB Total	% of UMB Total	% of Field	Federal	Non-Federal	UMD Total	% of UMD Total	% of Field
<b>Engineering (Total)</b>	\$ 24,580	\$20,119	\$ 44,699	22.9%	65.1%	\$ 155	\$ 43	\$ 198	0.3%	0.3%	\$ 2,376	\$ 3,315	\$ 5,691	25.0%	8.3%
Aeronautical & Astronomical	\$ 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%	\$ 101	\$ 133	\$ 234	1.0%	36.1%
Chemical	\$ 9,244	\$6,435	\$15,679	8.0%	66.5%	\$ 0	\$ -	\$ -	0.0%	0.0%	\$ -	\$ -	\$ -	0.0%	0.0%
Civil	\$ 3,075	\$5,208	\$8,283	4.3%	74.9%	\$ -	\$ -	\$ -	0.0%	0.0%	\$ 949	\$ 472	\$ 1,421	6.3%	12.9%
Electrical	\$ 8,403	\$5,280	\$ 13,683	7.0%	72.0%	\$ 155	\$ 43	\$ 198	0.3%	1.0%	\$ 963	\$ 487	\$ 1,450	6.4%	7.6%
Mechanical	\$ 3,737	\$3,071	\$6,808	3.5%	67.6%	\$ -	\$ -	\$ -	0.0%	0.0%	\$ 192	\$ 407	\$ 599	2.6%	5.9%
Metallurgical & Materials	\$121	\$ 0	\$121	0.1%	27.7%	\$ -	\$ -	\$ -	0.0%	0.0%	\$ 80	\$ 236	\$ 316	1.4%	72.3%
Other	\$ -	\$125	\$125	0.06%	3.2%	\$ -	\$ -	\$ -	0.0%	0.0%	\$ 91	\$ 1,580	\$ 1,671	7.4%	43.4%
<b>Physical Sciences (Total)</b>	\$ 21,754	\$10,485	\$ 32,239	16.6%	63.6%	\$ 1,196	\$ 310	\$ 1,506	2.5%	3.0%	\$ 953	\$ 1,463	\$ 2,416	10.6%	4.8%
Astronomy	\$ 3,616	\$1,314	\$4,930	2.5%	100.0%	\$ 0	\$ -	\$ 0	0.0%	0.0%	\$ -	\$ -	\$ -	0.0%	0.0%
Chemistry	\$ 13,446	\$6,547	\$19,993	10.3%	77.6%	\$ 587	\$ 140	\$ 727	1.2%	2.8%	\$ 467	\$ 1,125	\$ 1,592	7.0%	6.2%
Physics	\$ 4,692	\$2,624	\$ 7,316	3.8%	36.6%	\$ 609	\$ 170	\$ 779	1.3%	3.9%	\$ 486	\$ 338	\$ 824	3.6%	4.1%
Other	\$ 0	\$ 0	\$ 0	0.0%	0.0%	\$ 0	\$ -	\$ 0	0.0%	0.0%	\$ -	\$ -	\$ 0	0.0%	0.0%
<b>Environmental Sciences (Total)</b>	\$ 3,113	\$1,600	\$ 4,713	2.4%	26.9%	\$ 1,729	\$ 1,367	\$ 3,096	5.2%	17.6%	\$ 4,958	\$ 4,401	\$ 9,359	41.2%	53.3%
Atmospheric	\$ 0	\$ 0	\$ 0	0.0%	0.0%	\$ 0	\$ -	\$ 0	0.0%	0.0%	\$ -	\$ -	\$ 0	0.0%	0.0%
Earth Sciences	\$ 2,879	\$1,168	\$4,047	2.1%	91.3%	\$ 0	\$ -	\$ -	0.0%	0.0%	\$ -	\$ -	\$ -	0.0%	0.0%
Oceanography	\$ -	\$ 0	\$ -	0.0%	0.0%	\$ 1,680	\$ 1,032	\$2,712	4.5%	22.5%	\$ 4,958	\$ 4,401	\$ 9,359	41.2%	77.5%
Other	\$ 234	\$432	\$ 666	0.3%	63.4%	\$49	\$ 335	\$384	0.6%	36.6%	\$ -	\$ -	\$ -	0.0%	0.0%
<b>Mathematical Sciences (Total)</b>	\$ 2,174	\$1,080	\$3,254	1.7%	78.7%	\$ 47	\$ 8	\$ 55	0.1%	1.3%	\$ 188	\$ 255	\$ 443	1.9%	10.7%
<b>Computer Sciences (Total)</b>	\$ 12,617	\$6,181	\$ 18,798	9.7%	74.6%	\$ 1,923	\$ 646	\$ 2,569	4.3%	10.2%	\$ 357	\$ 146	\$ 503	2.2%	2.0%
<b>Life Sciences (Total)</b>	\$ 36,579	\$25,420	\$ 61,999	31.8%	18.2%	\$ 5,999	\$ 2,444	\$ 8,443	14.1%	2.5%	\$ 1,240	\$ 989	\$ 2,229	9.8%	0.7%
Agricultural	\$ 16,924	\$12,957	\$29,881	15.3%	96.2%	\$ -	\$ -	\$ 0	0.0%	0.0%	\$ 777	\$ 393	\$ 1,170	5.1%	3.8%
Biological	\$ 15,765	\$9,316	\$ 25,081	12.9%	20.6%	\$ 1,947	\$ 826	\$ 2,773	4.6%	2.3%	\$ 457	\$ 481	\$ 938	4.1%	0.8%
Medical	\$ 3,459	\$2,817	\$ 6,276	3.2%	4.6%	\$3,093	\$ 1,252	\$ 4,345	7.2%	3.2%	\$ -	\$ -	\$ -	0.0%	0.0%
Other	\$ 431	\$330	\$ 761	0.4%	1.5%	\$ 959	\$ 366	\$ 1,325	2.2%	2.7%	\$ 6	\$ 115	\$ 121	0.5%	0.2%
<b>Psychology (Total)</b>	\$ 3,300	\$1,565	\$ 4,865	2.5%	43.7%	\$ 3,751	\$ 1,727	\$ 5,478	9.1%	49.2%	\$ 253	\$ 105	\$ 358	1.6%	3.2%
<b>Social Sciences (Total)</b>	\$ 1,745	\$4,418	\$ 6,163	3.2%	34.5%	\$ 2,849	\$ 4,675	\$ 7,524	12.5%	42.1%	\$ 4	\$ 395	\$ 399	1.8%	2.2%
Economics	\$ 830	\$1,746	\$ 2,576	1.3%	69.8%	\$ 186	\$ 154	\$ 340	0.6%	9.2%	\$ -	\$ 65	\$ 65	0.3%	1.8%
Political Science	\$ 439	\$691	\$ 1,130	0.6%	26.4%	\$ 1,042	\$ 1,715	\$ 2,757	4.6%	64.3%	\$ 4	\$ 329	\$ 333	1.5%	7.8%
Sociology	\$ 281	\$1,329	\$ 1,610	0.8%	45.4%	\$ 780	\$ 926	\$ 1,706	2.8%	48.1%	\$ -	\$ 1	\$ 1	0.0%	0.0%
Other	\$ 195	\$652	\$ 847	0.4%	13.4%	\$ 841	\$ 1,880	\$ 2,721	4.5%	42.9%	\$ -	\$ -	\$ -	0.0%	0.0%
<b>Other Sciences (Total)</b>	\$ 608	\$869	\$1,477	0.8%	47.6%	\$ -	\$ -	\$ -	0.0%	0.0%	\$ -	\$ 158	\$ 158	0.7%	5.1%
<b>TOTAL, SCI &amp; ENG FIELDS</b>	\$ 106,470	\$71,737	\$ 178,207	91.5%	33.1%	\$ 17,649	\$ 11,220	\$ 28,869	48.0%	5.4%	\$ 10,329	\$ 11,227	\$ 21,556	94.8%	4.0%
FIELD	% of UMA					% of UMB					% of UMD				
FIELD	Federal	Non-Federal	UMA Total	Total	% of Field	Federal	Non-Federal	UMB Total	Total	% of Field	Federal	Non-Federal	UMD Total	Total	% of Field
Education	\$ 8,284	\$4,118	\$ 12,402	6.4%	29.5%	\$ 14,614	\$ 10,041	\$ 24,655	41.0%	58.7%	\$ 650	\$ 177	\$ 827	3.6%	2.0%
Law	\$ -	\$ 4	\$ 4	0.0%	100.0%	\$ 0	\$ -	\$ 0	0.0%	0.0%	\$ -	\$ -	\$ -	0.0%	0.0%
Humanities	\$ 36	\$1,292	\$ 1,328	0.7%	42.1%	\$ 1,012	\$ 135	\$ 1,147	1.9%	36.3%	\$ -	\$ 139	\$ 139	0.6%	4.4%
Visual and Performing Arts	\$ 12	\$412	\$ 424	0.2%	84.8%	\$ -	\$ 40	\$ 40	0.1%	8.0%	\$ -	\$ 4	\$ 4	0.0%	0.8%
Business and Management	\$ 370	\$1,050	\$ 1,420	0.7%	37.6%	\$ 0	\$ 698	\$ 698	1.2%	18.5%	\$ -	\$ 101	\$ 101	0.4%	2.7%
Comm., Journalism & Library Sci	\$ 108	\$882	\$990	0.5%	96.7%	\$ 0	\$ -	\$ -	0.0%	0.0%	\$ -	\$ 6	\$ 6	0.0%	0.6%
Social Work	\$ 0	\$ 0	\$ 0	0.0%	0.0%	\$ 0	\$ -	\$ 0	0.0%	0.0%	\$ -	\$ -	\$ 0	0.0%	0.0%
Other Non-Science and Engin.	\$ -	\$ 0	\$ -	0.0%	0.0%	\$ -	\$ 4,677	\$ 4,677	7.8%	59.8%	\$ -	\$ 99	\$ 99	0.4%	1.3%
<b>TOTAL, NON-SCI &amp; ENG FIELDS</b>	\$ 8,810	\$7,758	\$ 16,568	8.5%	28.4%	\$ 15,626	\$ 15,591	\$ 31,217	52.0%	53.6%	\$ 650	\$ 526	\$ 1,176	5.2%	2.0%
<b>TOTAL, SCI &amp; ENG FIELDS</b>	\$ 106,470	\$71,737	\$ 178,207	91.5%	33.1%	\$ 17,649	\$ 11,220	\$ 28,869	48.0%	5.4%	\$ 10,329	\$ 11,227	\$ 21,556	94.8%	4.0%
<b>GRAND TOTAL</b>	\$ 115,280	\$79,495	\$ 194,775	100.0%	32.6%	\$ 33,275	\$ 26,811	\$ 60,086	100.0%	10.1%	\$ 10,979	\$ 11,753	\$ 22,732	100.0%	3.8%

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.

FY 2012 Total R&D Expenditures by Field (Federal and Non-Federal)

FIELD	UML					UMW					UMPO					UMass System			
	Federal	Non-Federal	UML Total	% of UML Total	% of Field	Federal	Non-Federal	UMW Total	% of UMW Total	% of Field	Federal	Non-Federal	UMPO Total	% of UMPO Total	% of Field	Federal	Non-Federal	System Total	% of System
<b>Engineering (Total)</b>	\$ 7,149	\$ 10,924	\$ 18,073	29.8%	26.3%	\$ -	\$ -	\$ -	0.0%	0.0%	\$ -	\$ -	\$ -	0.0%	0.0%	\$ 34,260	\$ 34,401	\$ 68,661	11.5%
Aeronautical & Astronomical	\$ -	\$ -	\$ -	0.0%	0.0%	\$ -	\$ -	\$ -	0.0%	0.0%	\$ -	\$ -	\$ -	0.0%	0.0%	\$ -	\$ -	\$ -	0.0%
Bioengineering/Biomedical	\$ -	\$ 415	\$ 415	0.7%	63.9%	\$ -	\$ -	\$ -	0.0%	0.0%	\$ -	\$ -	\$ -	0.0%	0.0%	\$ 101	\$ 548	\$ 649	0.1%
Chemical	\$ 3,286	\$ 4,627	\$ 7,913	13.1%	33.5%	\$ -	\$ -	\$ -	0.0%	0.0%	\$ -	\$ -	\$ -	0.0%	0.0%	\$ 12,530	\$ 11,062	\$ 23,592	3.9%
Civil	\$ 827	\$ 523	\$ 1,350	2.2%	12.2%	\$ -	\$ -	\$ -	0.0%	0.0%	\$ -	\$ -	\$ -	0.0%	0.0%	\$ 4,851	\$ 6,203	\$ 11,054	1.9%
Electrical	\$ 1,629	\$ 2,046	\$ 3,675	6.1%	19.3%	\$ -	\$ -	\$ -	0.0%	0.0%	\$ -	\$ -	\$ -	0.0%	0.0%	\$ 11,150	\$ 7,856	\$ 19,006	3.2%
Mechanical	\$ 1,407	\$ 1,255	\$ 2,662	4.4%	26.4%	\$ -	\$ -	\$ -	0.0%	0.0%	\$ -	\$ -	\$ -	0.0%	0.0%	\$ 5,336	\$ 4,733	\$ 10,069	1.7%
Metallurgical & Materials	\$ -	\$ -	\$ -	0.0%	0.0%	\$ -	\$ -	\$ -	0.0%	0.0%	\$ -	\$ -	\$ -	0.0%	0.0%	\$ 201	\$ 236	\$ 437	0.1%
Other	\$ -	\$ 2,058	\$ 2,058	3.4%	53.4%	\$ -	\$ -	\$ -	0.0%	0.0%	\$ -	\$ -	\$ -	0.0%	0.0%	\$ 91	\$ 3,763	\$ 3,854	0.6%
<b>Physical Sciences (Total)</b>	\$ 8,668	\$ 5,895	\$ 14,563	24.0%	28.7%	\$ -	\$ -	\$ -	0.0%	0.0%	\$ -	\$ -	\$ -	0.0%	0.0%	\$ 32,571	\$ 18,153	\$ 50,724	8.5%
Astronomy	\$ -	\$ -	\$ -	0.0%	0.0%	\$ -	\$ -	\$ -	0.0%	0.0%	\$ -	\$ -	\$ -	0.0%	0.0%	\$ 3,616	\$ 1,314	\$ 4,930	0.8%
Chemistry	\$ 1,331	\$ 2,135	\$ 3,466	5.7%	13.4%	\$ -	\$ -	\$ -	0.0%	0.0%	\$ -	\$ -	\$ -	0.0%	0.0%	\$ 15,831	\$ 9,947	\$ 25,778	4.3%
Physics	\$ 7,337	\$ 3,760	\$ 11,097	18.3%	55.4%	\$ -	\$ -	\$ -	0.0%	0.0%	\$ -	\$ -	\$ -	0.0%	0.0%	\$ 13,124	\$ 6,892	\$ 20,016	3.4%
Other	\$ -	\$ -	\$ -	0.0%	0.0%	\$ -	\$ -	\$ -	0.0%	0.0%	\$ -	\$ -	\$ -	0.0%	0.0%	\$ -	\$ -	\$ -	0.0%
<b>Environmental Sciences (Total)</b>	\$ 200	\$ 184	\$ 384	0.6%	2.2%	\$ -	\$ -	\$ -	0.0%	0.0%	\$ -	\$ -	\$ -	0.0%	0.0%	\$ 10,000	\$ 7,552	\$ 17,552	2.9%
Atmospheric	\$ -	\$ -	\$ -	0.0%	0.0%	\$ -	\$ -	\$ -	0.0%	0.0%	\$ -	\$ -	\$ -	0.0%	0.0%	\$ -	\$ -	\$ -	0.0%
Earth Sciences	\$ 200	\$ 184	\$ 384	0.6%	8.7%	\$ -	\$ -	\$ -	0.0%	0.0%	\$ -	\$ -	\$ -	0.0%	0.0%	\$ 3,079	\$ 1,352	\$ 4,431	0.7%
Oceanography	\$ -	\$ -	\$ -	0.0%	0.0%	\$ -	\$ -	\$ -	0.0%	0.0%	\$ -	\$ -	\$ -	0.0%	0.0%	\$ 6,638	\$ 5,433	\$ 12,071	2.0%
Other	\$ -	\$ -	\$ -	0.0%	0.0%	\$ -	\$ -	\$ -	0.0%	0.0%	\$ -	\$ -	\$ -	0.0%	0.0%	\$ 283	\$ 767	\$ 1,050	0.2%
<b>Mathematical Sciences (Total)</b>	\$ 50	\$ 334	\$ 384	0.6%	9.3%	\$ -	\$ -	\$ -	0.0%	0.0%	\$ -	\$ -	\$ -	0.0%	0.0%	\$ 2,459	\$ 1,677	\$ 4,136	0.7%
<b>Computer Sciences (Total)</b>	\$ 1,890	\$ 1,437	\$ 3,327	5.5%	13.2%	\$ -	\$ -	\$ -	0.0%	0.0%	\$ -	\$ -	\$ -	0.0%	0.0%	\$ 16,787	\$ 8,410	\$ 25,197	4.2%
<b>Life Sciences (Total)</b>	\$ 6,171	\$ 5,474	\$ 11,645	19.2%	3.4%	\$ 202,149	\$ 53,941	\$ 256,090	100.0%	75.1%	\$ 402	\$ -	\$ 402	12.7%	0.1%	\$ 252,540	\$ 88,268	\$ 340,808	57.0%
Agricultural	\$ -	\$ -	\$ -	0.0%	0.0%	\$ -	\$ -	\$ -	0.0%	0.0%	\$ -	\$ -	\$ -	0.0%	0.0%	\$ 17,701	\$ 13,350	\$ 31,051	5.2%
Biological	\$ 1,064	\$ 935	\$ 1,999	3.3%	1.6%	\$ 74,579	\$ 16,561	\$ 91,140	35.6%	74.7%	\$ -	\$ -	\$ -	0.0%	0.0%	\$ 93,812	\$ 28,119	\$ 121,931	20.4%
Medical	\$ -	\$ -	\$ -	0.0%	0.0%	\$ 98,105	\$ 28,927	\$ 127,032	49.6%	92.1%	\$ 263	\$ -	\$ 263	8.3%	0.2%	\$ 104,920	\$ 32,996	\$ 137,916	23.1%
Other	\$ 5,107	\$ 4,539	\$ 9,646	15.9%	19.3%	\$ 29,465	\$ 8,453	\$ 37,918	14.8%	76.0%	\$ 139	\$ -	\$ 139	4.4%	0.3%	\$ 36,107	\$ 13,803	\$ 49,910	8.4%
<b>Psychology (Total)</b>	\$ 23	\$ 417	\$ 440	0.7%	3.9%	\$ -	\$ -	\$ -	0.0%	0.0%	\$ -	\$ -	\$ -	0.0%	0.0%	\$ 7,327	\$ 3,814	\$ 11,141	1.9%
<b>Social Sciences (Total)</b>	\$ 1,519	\$ 2,233	\$ 3,752	6.2%	21.0%	\$ -	\$ -	\$ -	0.0%	0.0%	\$ 24	\$ -	\$ 24	0.8%	0.1%	\$ 6,141	\$ 11,721	\$ 17,862	3.0%
Economics	\$ 277	\$ 427	\$ 704	1.2%	19.1%	\$ -	\$ -	\$ -	0.0%	0.0%	\$ 7	\$ -	\$ 7	0.2%	0.2%	\$ 1,300	\$ 2,392	\$ 3,692	0.6%
Political Science	\$ 38	\$ 27	\$ 65	0.1%	1.5%	\$ -	\$ -	\$ -	0.0%	0.0%	\$ -	\$ -	\$ -	0.0%	0.0%	\$ 1,523	\$ 2,762	\$ 4,285	0.7%
Sociology	\$ -	\$ 211	\$ 211	0.3%	6.0%	\$ -	\$ -	\$ -	0.0%	0.0%	\$ 17	\$ -	\$ 17	0.5%	0.5%	\$ 1,078	\$ 2,467	\$ 3,545	0.6%
Other	\$ 1,204	\$ 1,568	\$ 2,772	4.6%	43.7%	\$ -	\$ -	\$ -	0.0%	0.0%	\$ -	\$ -	\$ -	0.0%	0.0%	\$ 2,240	\$ 4,100	\$ 6,340	1.1%
<b>Other Sciences (Total)</b>	\$ -	\$ 1,412	\$ 1,412	2.3%	45.5%	\$ -	\$ -	\$ -	0.0%	0.0%	\$ 59	\$ -	\$ 59	1.9%	1.9%	\$ 667	\$ 2,439	\$ 3,106	0.5%
<b>TOTAL, SCI &amp; ENG FIELDS</b>	\$ 25,670	\$ 28,310	\$ 53,980	89.0%	10.0%	\$ 202,149	\$ 53,941	\$ 256,090	100.0%	47.5%	\$ 485	\$ -	\$ 485	15.3%	0.1%	\$ 362,752	\$ 176,435	\$ 539,187	90.2%
FIELD	Federal	Non-Federal	UML Total	% of UML Total	% of Field	Federal	Non-Federal	UMW Total	% of UMW Total	% of Field	Federal	Non-Federal	UMPO Total	% of UMPO Total	% of Field	Federal	Non-Federal	System Total	% of System
Education	\$ 431	\$ 1,049	\$ 1,480	2.4%	3.5%	\$ -	\$ -	\$ -	0.0%	0.0%	\$ 1,131	\$ 1,518	\$ 2,649	83.5%	6.3%	\$ 25,110	\$ 16,903	\$ 42,013	7.0%
Law	\$ -	\$ -	\$ -	0.0%	0.0%	\$ -	\$ -	\$ -	0.0%	0.0%	\$ -	\$ -	\$ -	0.0%	0.0%	\$ -	\$ 4	\$ 4	0.0%
Humanities	\$ -	\$ 542	\$ 542	0.9%	17.2%	\$ -	\$ -	\$ -	0.0%	0.0%	\$ -	\$ -	\$ -	0.0%	0.0%	\$ 1,048	\$ 2,108	\$ 3,156	0.5%
Visual and Performing Arts	\$ -	\$ 32	\$ 32	0.1%	6.4%	\$ -	\$ -	\$ -	0.0%	0.0%	\$ -	\$ -	\$ -	0.0%	0.0%	\$ 12	\$ 488	\$ 500	0.1%
Business and Management	\$ 111	\$ 1,448	\$ 1,559	2.6%	41.3%	\$ -	\$ -	\$ -	0.0%	0.0%	\$ -	\$ -	\$ -	0.0%	0.0%	\$ 481	\$ 3,297	\$ 3,778	0.6%
Comm., Journalism & Library Sci	\$ 19	\$ 9	\$ 28	0.0%	2.7%	\$ -	\$ -	\$ -	0.0%	0.0%	\$ -	\$ -	\$ -	0.0%	0.0%	\$ 127	\$ 897	\$ 1,024	0.2%
Social Work	\$ -	\$ -	\$ -	0.0%	0.0%	\$ -	\$ -	\$ -	0.0%	0.0%	\$ -	\$ -	\$ -	0.0%	0.0%	\$ -	\$ -	\$ -	0.0%
Other Non-Science and Engin.	\$ 555	\$ 2,448	\$ 3,003	5.0%	38.4%	\$ -	\$ -	\$ -	0.0%	0.0%	\$ 39	\$ -	\$ 39	1.2%	0.5%	\$ 594	\$ 7,224	\$ 7,818	1.3%
<b>TOTAL, NON-SCI &amp; ENG FIELDS</b>	\$ 1,116	\$ 5,528	\$ 6,644	11.0%	11.4%	\$ -	\$ -	\$ -	0.0%	0.0%	\$ 1,170	\$ 1,518	\$ 2,688	84.7%	4.6%	\$ 27,372	\$ 30,921	\$ 58,293	9.8%
<b>TOTAL, SCI &amp; ENG FIELDS</b>	\$ 25,670	\$ 28,310	\$ 53,980	89.0%	10.0%	\$ 202,149	\$ 53,941	\$ 256,090	100.0%	47.5%	\$ 485	\$ -	\$ 485	15.3%	0.1%	\$ 362,752	\$ 176,435	\$ 539,187	90.2%
<b>GRAND TOTAL</b>	\$ 26,786	\$ 33,838	\$ 60,624	100.0%	10.1%	\$ 202,149	\$ 53,941	\$ 256,090	100.0%	42.9%	\$ 1,655	\$ 1,518	\$ 3,173	100.0%	0.5%	\$ 390,124	\$ 207,356	\$ 597,480	100.0%

Source: Campus NSF surveys. All dollars:

Note: Percent of Total is the percentage of

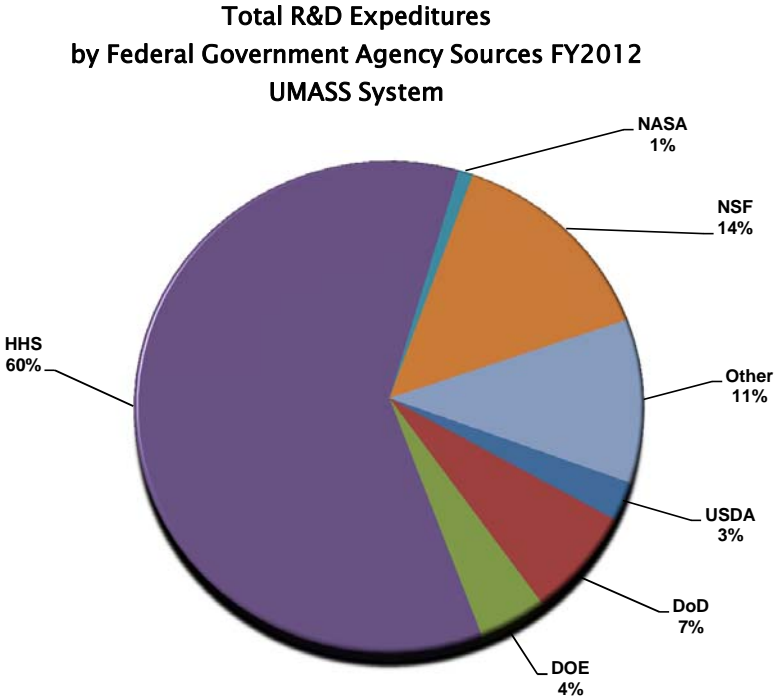


## **B. R&D EXPENDITURES BY FIELD - ADDITIONAL CAMPUS DETAILS**

1. There has been consistent growth in R&D Expenditures over the past five years on a majority of UMass campuses. Overall, growth has ranged from 9% to over 58% between FY2008-FY2012. UMass Lowell and UMass Boston reflected a growth of 48% and 58% respectively over this five-year period. The UMass Medical School grew by over 43%, and the UMass System as a whole reflected an overall growth of 37% 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 75% of the entire UMass System's R&D expenditures in this field, at almost \$19M. In FY2011, UMass Amherst ranked 21st 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 FY2012, UMass Boston R&D Expenditures in Psychology and Education comprised 49% and 59% (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 41%, or \$9.4M 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 FY2011, UMass Dartmouth ranked 66th in this field (Appendix H).
6. Over half (55%) of UMass Lowell's R&D Expenditures in FY2012 were in the fields of Engineering, Computer Science, and Physical Science. At \$18M, over one-fourth of the University's R&D Expenditures in Engineering are sourced to the UMass Lowell campus. Well over one-fourth (28.7% or \$15M) 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 \$256M, this comprises three-fourth's (75.1%) of the System total R&D Expenditures in the Life Sciences.

**B. 3. TOTAL R&D EXPENDITURES BY FEDERAL GOVERNMENT AGENCY SOURCES  
(FY 2012)**

- 1. In FY2012, total Federal R&D expenditures for the UMASS System was at \$390.12 million.
- 2. This comprises 65% of all R&D Expenditures for the UMASS System in FY2012.
- 3. In FY2012, 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 (14%), Department of Defense (7%), Department of Energy (4%), Department of Agriculture (3%), NASA (1%). All Other federal sources comprised 11% of total federal R&D expenditures for UMASS.

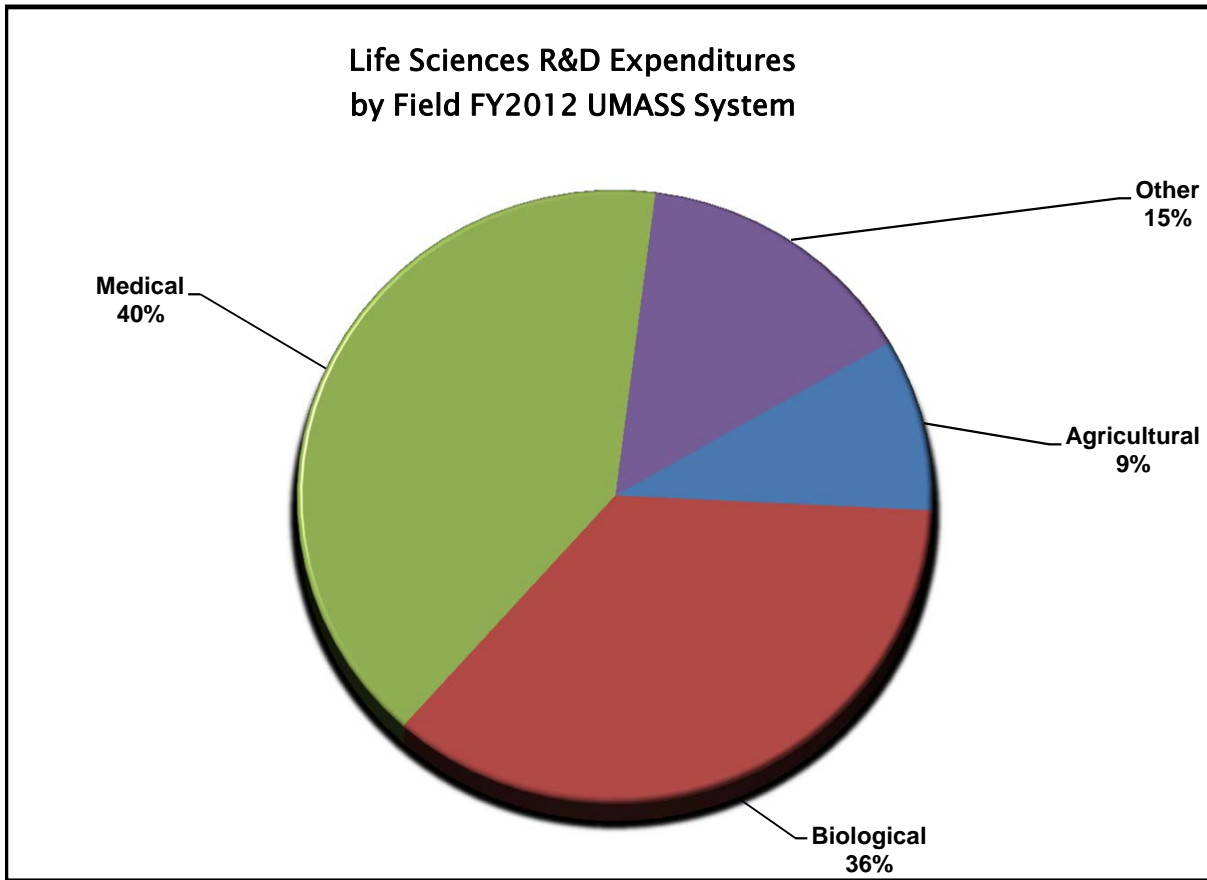


DOD - Department of Defense; DOE - Department of Energy; NASA - National Aeronautics and Space Administration; HHS - Health and Human Services; NSF - National Science Foundation; USDA - United States Department of Agriculture.

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

### C. LIFE SCIENCES R&D EXPENDITURES

1. In FY 2012, R&D Expenditures in the Life Sciences for the UMASS System was at \$348.8 million, comprising well over half (57%) of total R&D Expenditures.
2. This represents a 38% increase from FY 2008, and a slight drop of -1% from FY2011.
3. In FY 2012, 40% of all of the R&D Expenditures in the Life Sciences was within the Medical Sciences, followed by Biological Sciences (36%), Agricultural Sciences (9%), and all Other (15%).



**Life Sciences R&D Expenditures by Field  
FY2008 – FY2012**

*(Dollars in Thousands)*

	<b>Total Life Sciences R&amp;D</b>									
	FY08	FY09	FY10	FY11	FY12	5-Year Change FY08 - FY12		1-Year Change FY11-FY12		
						\$	%	\$	%	
<b>Amherst</b>	\$54,886	\$54,733	\$51,326	\$58,946	\$61,999	\$7,113	13%	\$3,053	5%	
<b>Boston</b>	\$7,138	\$9,237	\$9,916	\$8,278	\$8,443	\$1,305	18%	\$165	2%	
<b>Dartmouth</b>	\$1,925	\$1,286	\$1,798	\$2,021	\$2,229	\$304	16%	\$208	10%	
<b>Lowell</b>	\$4,754	\$5,206	\$5,521	\$12,361	\$11,645	\$6,891	145%	-\$716	-6%	
<b>Worcester</b>	\$178,614	\$204,033	\$232,039	\$262,714	\$256,090	\$77,476	43%	-\$6,624	-3%	
<b>President's Office</b>					\$402	NA	NA	NA	NA	
<b>System</b>	<b>\$247,317</b>	<b>\$274,495</b>	<b>\$300,600</b>	<b>\$344,320</b>	<b>\$340,808</b>	<b>\$93,491</b>	<b>38%</b>	<b>-\$3,512</b>	<b>-1%</b>	

	<b>Agricultural</b>									
	FY08	FY09	FY10	FY11	FY12	5-Year Change FY08 - FY12		1-Year Change FY11-FY12		
						\$	%	\$	%	
<b>Amherst</b>	\$24,478	\$23,088	\$21,708	\$28,669	\$29,881	\$5,403	22%	\$1,212	4%	
<b>Boston</b>	\$0	\$0	\$0	\$0	\$0	\$0	NA	\$0	NA	
<b>Dartmouth</b>	\$602	\$531	\$645	\$946	\$1,170	\$568	94%	\$224	24%	
<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	NA	\$0	NA	
<b>System</b>	<b>\$25,080</b>	<b>\$23,619</b>	<b>\$22,353</b>	<b>\$29,615</b>	<b>\$31,051</b>	<b>\$5,971</b>	<b>24%</b>	<b>\$1,436</b>	<b>5%</b>	

	<b>Biological</b>									
	FY08	FY09	FY10	FY11	FY12	5-Year Change FY08 - FY12		1-Year Change FY11-FY12		
						\$	%	\$	%	
<b>Amherst</b>	\$22,823	\$23,323	\$22,494	\$23,276	\$25,081	\$2,258	10%	\$1,805	8%	
<b>Boston</b>	\$3,384	\$3,020	\$2,537	\$2,581	\$2,773	-\$611	-18%	\$192	7%	
<b>Dartmouth</b>	\$970	\$711	\$1,120	\$1,004	\$938	-\$32	-3%	-\$66	-7%	
<b>Lowell</b>	\$1,477	\$1,531	\$1,281	\$1,553	\$1,999	\$522	35%	\$446	29%	
<b>Worcester</b>	\$63,980	\$72,851	\$77,718	\$88,359	\$91,140	\$27,160	42%	\$2,781	3%	
<b>President's Office</b>					\$0	\$0	NA	\$0	NA	
<b>System</b>	<b>\$92,634</b>	<b>\$101,436</b>	<b>\$105,150</b>	<b>\$116,773</b>	<b>\$121,931</b>	<b>\$29,297</b>	<b>32%</b>	<b>\$5,158</b>	<b>4%</b>	

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

**Life Sciences R&D Expenditures by Field  
FY2008 – FY2012**

*(Dollars in Thousands)*

<b>Medical</b>									
	FY08	FY09	FY10	FY11	FY12	5-Year Change FY08 - FY12		1-Year Change FY11-FY12	
						\$	%	\$	%
						<b>Amherst</b>	\$6,575	\$7,237	\$6,411
<b>Boston</b>	\$2,934	\$3,493	\$4,697	\$4,675	\$4,345	\$1,411	48%	-\$330	-7%
<b>Dartmouth</b>	\$0	\$0	\$0	\$0	\$0	\$0	NA	\$0	NA
<b>Lowell</b>	\$0	\$0	\$0	\$252	\$0	\$0	NA	-\$252	-100%
<b>Worcester</b>	\$93,501	\$104,417	\$124,323	\$133,598	\$127,032	\$33,531	36%	-\$6,566	-5%
<b>President's Office</b>					\$263	\$263	NA	\$263	NA
<b>System</b>	<b>\$103,010</b>	<b>\$115,147</b>	<b>\$135,431</b>	<b>\$144,998</b>	<b>\$137,916</b>	<b>\$34,906</b>	<b>34%</b>	<b>-\$7,082</b>	<b>-5%</b>

<b>Other</b>									
	FY08	FY09	FY10	FY11	FY12	5-Year Change FY08 - FY12		1-Year Change FY11-FY12	
						\$	%	\$	%
						<b>Amherst</b>	\$1,010	\$1,085	\$713
<b>Boston</b>	\$820	\$2,724	\$2,682	\$1,022	\$1,325	\$505	62%	\$303	30%
<b>Dartmouth</b>	\$353	\$44	\$33	\$71	\$121	-\$232	-66%	\$50	70%
<b>Lowell</b>	\$3,277	\$3,675	\$4,240	\$10,556	\$9,646	\$6,369	194%	-\$910	-9%
<b>Worcester</b>	\$21,133	\$26,765	\$ 29,998	\$ 40,757	\$ 37,918	\$16,785	79%	-\$2,839	-7%
<b>President's Office</b>					\$139	\$139	NA	\$139	NA
<b>System</b>	<b>\$26,593</b>	<b>\$34,293</b>	<b>\$ 37,666</b>	<b>\$52,934</b>	<b>\$49,910</b>	<b>\$23,317</b>	<b>88%</b>	<b>-\$3,024</b>	<b>-6%</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.

## **APPENDICES A-P**

**Appendix A1: UMass Total R&D Expenditures as Percent of  
US, New England, Massachusetts Figures: FY 2006–2011**

(Dollars in Thousands)

Division and state	2006	2007	2008	2009	2010	2011
United States	49,645,341	51,590,356	54,113,919	57,288,474	61,190,610	65,073,411
New England	3,788,706	3,827,520	3,995,165	4,249,189	4,648,886	4,991,478
Connecticut	709,879	712,775	754,792	777,963	888,949	945,705
Maine	122,144	142,789	151,762	156,851	137,516	140,046
Massachusetts	2,240,760	2,286,853	2,396,215	2,605,290	2,749,926	2,949,264
New Hampshire	322,281	313,309	310,721	309,144	310,965	359,839
Rhode Island	269,061	254,121	263,423	274,425	428,738	459,321
Vermont	124,581	117,673	118,252	125,516	132,792	137,303
U. MA Worcester	156,452	157,469	178,614	204,033	232,039	262,714
U. MA Amherst	140,184	146,323	156,817	160,666	169,141	181,297
U. MA Lowell	29,383	36,117	40,873	56,664	59,345	60,013
U. MA Dartmouth	20,389	20,120	20,925	20,669	25,725	25,644
U. MA Boston	22,347	37,441	38,018	47,028	56,416	57,040
<b>UMass System Total</b>	<b>368,755</b>	<b>397,470</b>	<b>435,247</b>	<b>489,060</b>	<b>542,666</b>	<b>586,708</b>
As % of US	0.7%	0.8%	0.8%	0.9%	0.9%	0.9%
As % of New England	9.7%	10.4%	10.9%	11.5%	11.7%	11.8%
As % of MA	16.5%	17.4%	18.2%	18.8%	19.7%	19.9%

**Appendix A2: UMass Total R&D Expenditures as Percent of  
US, New England, Massachusetts Figures by Field: FY 2011**

(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	65,073,411	3,167,464	37,232,175	2,371,250	4,779,092	1,119,167	2,044,534	1,131,630	10,045,491	3,182,608
New England	4,991,478	413,908	2,492,986	167,750	422,462	98,039	138,336	168,645	766,730	322,622
Connecticut	945,705	15,047	712,596	15,938	55,039	35,215	13,847	7,134	67,878	23,011
Maine	140,046	22,733	41,674	3,710	6,891	1,172	7,041	8,498	37,512	10,815
Massachusetts	2,949,264	252,477	1,298,677	116,997	313,167	45,680	88,492	120,804	570,551	142,419
New Hampshire	359,839	73,214	185,713	3,634	12,786	6,896	9,870	5,967	45,062	16,697
Rhode Island	459,321	47,850	144,922	26,288	31,380	5,491	18,506	22,100	33,735	129,049
Vermont	137,303	2,587	109,404	1,183	3,199	3,585	580	4,142	11,992	631
U. MA Worcester	262,714	0	262,714	0	0	0	0	0	0	-
U. MA Amherst	176,545	4,122	58,946	2,591	34,761	5,166	5,123	1,102	46,669	4,752
U. MA Lowell	55,257	2,353	12,361	539	12,440	361	4,340	2,356	18,295	4,756
U. MA Dartmouth	23,708	11,107	2,021	742	2,622	555	620	8	5,748	1,936
U. MA Boston	31,864	5,326	8,278	-	1,440	7,035	7,845	-	225	25,176
<b>UMass System Total</b>	<b>550,088</b>	<b>22,908</b>	<b>344,320</b>	<b>3,872</b>	<b>51,263</b>	<b>13,117</b>	<b>17,928</b>	<b>3,466</b>	<b>70,937</b>	<b>36,620</b>
As % of US	0.8%	0.7%	0.9%	0.2%	1.1%	1.2%	0.9%	0.3%	0.7%	1.2%
As % of New England	11.0%	5.5%	13.8%	2.3%	12.1%	13.4%	13.0%	2.1%	9.3%	11.4%
As % of MA	18.7%	9.1%	26.5%	3.3%	16.4%	28.7%	20.3%	2.9%	12.4%	25.7%

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Research and Development Expenditures at Universities and Colleges, FY 2011.



## Appendix B: Total R&D Expenditures at Universities and Colleges, Ranked by FY 2011 R&D Expenditures: FY 2004-11

(Dollars in Thousands)

Rank	Institution	2004	2005	2006	2007	2008	2009	2010	2011
	All institutions	44,838,918	47,535,201	49,645,341	51,590,356	54,113,919	57,288,474	61,190,610	<b>65,073,411</b>
1	Johns Hopkins U. <sup>a</sup>	1,375,014	1,458,426	1,512,066	1,566,392	1,691,469	1,866,243	2,004,482	<b>2,145,308</b>
2	U. MI, Ann Arbor	NA	NA	NA	NA	NA	NA	1,184,445	<b>1,279,123</b>
3	U. WA, Seattle	NA	NA	NA	NA	NA	NA	1,022,740	<b>1,148,533</b>
4	U. WI, Madison	830,122	875,722	904,787	912,219	944,626	1,013,649	1,029,295	<b>1,111,642</b>
5	Duke U.	521,994	632,358	658,783	783,784	769,893	807,652	983,289	<b>1,022,207</b>
6	U. CA, San Diego	708,690	721,035	757,157	801,823	844,877	883,653	943,219	<b>1,009,378</b>
7	U. CA, San Francisco	728,321	754,444	796,149	842,840	885,182	947,697	935,509	<b>995,226</b>
8	U. CA, Los Angeles	772,569	785,625	841,352	854,497	904,840	923,916	936,995	<b>982,357</b>
9	Stanford U.	684,414	728,044	692,263	702,497	698,883	717,022	839,839	<b>907,971</b>
10	U. Pittsburgh, Pittsburgh	466,557	526,458	535,186	564,994	599,800	629,088	822,491	<b>899,386</b>
11	U. PA	618,915	677,386	696,443	668,105	740,410	758,159	836,322	<b>886,036</b>
12	Columbia U. in the City of New York	468,484	535,424	529,946	545,996	548,704	604,660	807,235	<b>878,900</b>
13	U. MN, Twin Cities	NA	NA	NA	NA	NA	NA	786,074	<b>847,419</b>
14	OH State U.	551,268	643,283	663,012	737,324	726,302	743,591	755,194	<b>832,126</b>
15	PA State U., University Park and Hershey Medical Ctr.	NA	NA	NA	NA	NA	NA	770,449	<b>794,846</b>
16	Cornell U.	577,093	608,811	650,592	645,791	655,641	672,692	749,721	<b>781,651</b>
17	U. NC, Chapel Hill	420,773	447,984	448,509	484,160	530,515	651,308	755,284	<b>767,450</b>
18	U. FL	458,749	564,221	599,749	635,956	632,680	644,241	681,548	<b>739,931</b>
19	Washington U., St. Louis	492,998	535,642	551,333	575,846	566,378	630,141	695,974	<b>725,039</b>
20	MA Institute of Technology	561,418	597,007	623,343	637,621	682,058	759,649	677,138	<b>723,610</b>
21	U. CA, Berkeley	525,598	554,551	563,837	570,252	620,374	682,568	694,049	<b>707,945</b>
22	U. CA, Davis	511,757	546,978	576,096	604,512	647,691	687,690	679,915	<b>707,896</b>
23	TX A&M U., College Station	470,324	494,262	508,787	565,631	604,526	651,923	689,624	<b>705,720</b>
24	U. TX, M. D. Anderson Cancer Ctr.	353,034	383,780	457,696	496,539	558,503	578,788	599,529	<b>663,279</b>
25	Yale U.	423,664	432,806	462,080	451,318	490,913	512,997	623,510	<b>656,967</b>
26	GA Institute of Technology	411,548	427,067	444,959	476,138	524,888	565,487	615,833	<b>655,375</b>
27	Harvard U.	489,798	498,219	506,987	493,920	505,832	525,452	583,361	<b>649,774</b>
28	U. TX, Austin	382,393	453,113	476,958	502,786	553,051	566,166	589,502	<b>632,171</b>
29	Northwestern U.	382,021	413,526	449,782	473,060	518,572	555,510	575,078	<b>618,980</b>
30	U. AZ	482,502	531,898	538,086	533,450	547,197	566,334	586,647	<b>610,565</b>
31	U. Southern CA	449,615	470,104	475,696	528,466	540,366	556,807	592,791	<b>603,294</b>
32	Purdue U., West Lafayette	NA	NA	NA	NA	NA	NA	548,980	<b>578,231</b>
33	Vanderbilt U.	322,634	357,141	389,026	415,750	444,873	455,835	504,959	<b>566,031</b>
34	Emory U.	314,849	337,154	349,867	412,503	463,317	459,067	529,453	<b>547,316</b>
35	U. IL, Urbana-Champaign	533,249	524,680	494,748	492,347	518,333	581,805	515,133	<b>545,669</b>
36	U. AL, Birmingham	311,746	319,840	332,841	352,777	405,731	435,460	489,845	<b>503,698</b>
37	U. MD, College Park	350,773	362,461	368,989	371,696	405,569	417,365	451,415	<b>495,382</b>
38	Baylor C. of Medicine	476,075	458,694	462,375	438,280	449,301	449,031	447,874	<b>466,061</b>
39	MI State U.	348,166	361,807	388,845	395,611	392,242	405,961	431,373	<b>454,248</b>
40	U. Chicago	274,794	296,817	308,557	325,161	360,047	381,194	437,721	<b>453,562</b>
41	VA Polytechnic Institute and State U.	270,794	292,519	325,318	370,805	375,773	399,433	398,169	<b>450,058</b>
42	U. Cincinnati	285,200	296,113	304,815	344,526	359,011	369,906	411,269	<b>448,936</b>
43	U. IA	320,441	343,043	356,169	374,905	300,422	334,937	444,034	<b>443,893</b>
44	Rutgers, State U. NJ, New Brunswick	NA	NA	NA	NA	NA	NA	428,432	<b>432,306</b>
45	U. TX, Southwestern Medical Ctr., Dallas	314,403	320,800	333,237	341,090	390,349	402,087	419,220	<b>431,883</b>

## Appendix B: Total R&D Expenditures at Universities and Colleges, Ranked by FY 2011 R&D Expenditures: FY 2004-11

(Dollars in Thousands)

Rank	Institution	2004	2005	2006	2007	2008	2009	2010	2011
46	NY U.	259,333	310,014	304,022	319,728	337,093	338,839	365,944	<b>430,752</b>
47	Case Western Reserve U.	235,072	324,502	374,714	379,347	420,441	418,012	418,164	<b>429,206</b>
48	U. Rochester	315,079	348,278	369,487	377,016	378,368	398,187	414,655	<b>429,034</b>
49	U. CO, Denver and Anschutz Medical Campus	239,163	253,444	260,292	264,739	269,805	364,659	389,461	<b>417,587</b>
50	U. UT	231,757	246,132	249,719	248,864	254,632	334,002	379,200	<b>414,316</b>
51	U. MD, Baltimore	317,293	304,396	405,260	358,851	379,407	359,542	374,036	<b>409,665</b>
52	Scripps Research Institute	307,910	330,170	367,375	360,511	366,047	382,275	387,298	<b>400,768</b>
53	U. South FL, Tampa	NA	NA	NA	NA	NA	NA	385,029	<b>394,963</b>
54	U. CO, Boulder	239,104	265,447	254,805	267,314	272,191	299,892	349,449	<b>390,677</b>
55	WA State U.	175,142	185,282	203,542	213,262	283,086	301,080	304,352	<b>388,974</b>
56	U. IL, Chicago	317,302	322,468	337,180	344,815	339,704	347,118	362,939	<b>380,828</b>
57	NC State U.	292,720	302,596	330,936	333,027	367,422	383,193	360,795	<b>378,154</b>
58	CA Institute of Technology	261,098	265,364	270,354	287,343	274,671	345,400	362,172	<b>377,514</b>
59	U. KY	310,470	319,900	337,646	348,835	345,355	360,254	359,944	<b>372,932</b>
60	Mt. Sinai School of Medicine	212,786	225,293	273,216	269,451	296,380	318,407	370,666	<b>363,091</b>
61	Boston U.	244,359	251,198	261,632	253,899	259,045	284,507	352,817	<b>355,916</b>
62	AZ State U.	162,725	177,426	211,396	238,054	273,532	311,461	329,345	<b>355,215</b>
63	SUNY, U. Buffalo	268,515	275,334	304,757	323,417	339,575	349,423	349,670	<b>353,172</b>
64	U. CA, Irvine	257,024	276,763	306,257	316,178	334,279	336,345	327,594	<b>344,678</b>
65	Brown U.	150,117	162,919	195,710	175,623	182,596	187,380	335,838	<b>344,090</b>
66	OR Health and Science U.	254,447	266,687	272,174	287,430	301,396	309,675	314,990	<b>334,324</b>
67	CO State U., Ft. Collins	224,215	244,303	267,453	296,020	302,613	311,720	302,896	<b>330,784</b>
68	U. Miami	195,918	211,201	215,491	212,532	244,067	250,339	280,671	<b>323,486</b>
69	IN U.-Purdue U., Indianapolis	NA	NA	NA	NA	NA	NA	296,194	<b>322,617</b>
70	U. HI, Manoa	236,368	230,651	250,694	266,447	271,835	290,707	303,085	<b>318,316</b>
71	U. KS	194,440	208,285	214,768	219,535	227,433	236,544	267,961	<b>302,668</b>
72	U. VA, Charlottesville	NA	NA	NA	NA	NA	NA	276,308	<b>292,106</b>
73	LA State U., Baton Rouge	224,595	238,813	256,248	266,895	280,081	294,780	289,872	<b>287,841</b>
74	Yeshiva U.	183,253	193,104	189,416	192,199	197,311	193,010	314,240	<b>283,673</b>
75	Rockefeller U.	192,222	198,719	215,417	233,917	247,505	252,478	265,750	<b>272,491</b>
76	IA State U.	218,370	215,848	227,585	221,002	228,167	228,526	250,120	<b>267,641</b>
77	Princeton U.	199,068	212,723	195,148	198,945	204,489	212,510	242,570	<b>263,335</b>
<b>78</b>	<b>U. MA, Medical School</b>	<b>169,090</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>
79	U. TX, Health Science Ctr., Houston	147,328	152,631	175,154	191,724	197,252	217,623	240,772	<b>261,172</b>
80	Wayne State U.	233,132	231,000	225,034	238,738	253,604	257,207	254,492	<b>259,895</b>
81	U. CT	215,098	223,192	225,274	233,774	233,246	232,944	237,908	<b>253,792</b>
82	SUNY, U. Albany C. of Nanoscale S&E	NA	NA	NA	NA	NA	NA	NA	<b>248,778</b>
83	U. GA	334,241	337,467	342,763	351,935	369,546	369,997	230,803	<b>245,166</b>
84	Carnegie Mellon U.	207,772	202,244	213,338	198,139	210,988	217,687	222,790	<b>242,882</b>
85	U. NE, Lincoln	207,839	214,053	228,976	229,496	244,869	251,195	191,268	<b>235,296</b>
86	U. of Medicine and Dentistry of NJ	209,134	239,778	245,771	236,834	230,347	223,796	230,235	<b>234,354</b>
87	U. MO, Columbia	227,592	234,334	231,170	244,429	251,894	253,527	238,500	<b>230,957</b>
88	U. CA, Santa Barbara	151,325	165,014	179,857	200,504	214,441	227,221	225,730	<b>230,435</b>
89	FL State U.	201,883	207,968	209,857	211,310	211,557	237,794	227,329	<b>230,411</b>
90	OR State U.	207,201	217,998	227,693	231,895	233,358	257,564	216,595	<b>228,814</b>
91	MS State U.	199,560	184,612	196,119	211,271	219,017	225,426	231,675	<b>226,070</b>
92	U. NM	170,085	182,871	186,047	181,734	202,694	205,831	211,771	<b>220,565</b>
93	Medical C. WI	139,235	143,540	147,140	158,171	165,529	176,237	191,816	<b>215,358</b>
94	Medical U. SC	163,179	178,086	176,055	184,624	189,369	216,778	224,632	<b>213,346</b>
95	SUNY, Stony Brook U.	219,486	212,698	236,095	268,541	190,712	189,299	204,728	<b>211,356</b>

Appendix B

## Appendix B: Total R&D Expenditures at Universities and Colleges, Ranked by FY 2011 R&D Expenditures: FY 2004-11

(Dollars in Thousands)

Rank	Institution	2004	2005	2006	2007	2008	2009	2010	2011
96	Dartmouth C.	173,508	179,107	200,329	192,846	188,122	190,425	194,141	<b>210,631</b>
97	Wake Forest U.	133,753	185,668	183,843	186,175	200,750	201,701	192,034	<b>209,134</b>
98	VA Commonwealth U.	145,726	161,801	167,748	151,197	171,637	162,283	197,709	<b>207,756</b>
99	U. SC, Columbia	NA	NA	NA	NA	NA	NA	229,145	<b>201,592</b>
100	Woods Hole Oceanographic Institution	114,087	117,517	121,888	137,410	150,720	157,289	181,746	<b>198,775</b>
101	U. TX, Health Science Ctr., San Antonio	137,039	142,375	150,040	160,282	201,323	221,535	207,115	<b>198,655</b>
102	George Washington U.	122,202	130,405	135,931	149,413	181,688	103,793	196,917	<b>197,621</b>
103	U. Louisville	119,156	139,942	148,246	163,434	164,123	167,178	189,090	<b>197,438</b>
104	U. TX, Medical Branch	166,798	174,254	179,915	183,492	180,026	184,845	188,399	<b>193,555</b>
105	U. OK	163,962	182,436	186,349	187,454	204,765	213,720	218,089	<b>189,506</b>
106	IN U., Bloomington	NA	NA	NA	NA	NA	NA	177,520	<b>184,096</b>
<b>107</b>	<b>U. MA, Amherst</b>	<b>124,783</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>
108	Uniformed Services U. of the Health Sciences	89,999	78,694	67,716	71,307	106,179	192,268	134,126	<b>175,365</b>
109	U. AK, Fairbanks	133,251	140,594	154,441	155,147	149,313	157,600	161,986	<b>175,246</b>
110	UT State U.	156,466	134,223	142,935	142,784	148,257	145,240	149,169	<b>174,167</b>
111	Tulane U.	129,776	143,899	118,828	140,321	165,678	163,572	165,513	<b>171,703</b>
112	Georgetown U.	131,387	127,288	122,135	140,710	144,957	151,064	159,355	<b>169,916</b>
113	U. DE	111,580	112,591	116,982	120,431	126,971	126,788	153,311	<b>169,746</b>
114	KS State U.	121,394	126,826	126,960	126,864	141,535	151,376	160,679	<b>169,167</b>
115	U. TN, Knoxville	NA	NA	NA	NA	NA	NA	150,671	<b>167,456</b>
116	WV U.	110,344	117,274	124,046	138,800	145,107	145,656	154,926	<b>166,420</b>
117	Clemson U.	165,139	180,262	184,940	216,959	200,789	193,924	174,693	<b>166,350</b>
118	Auburn U., Auburn	NA	NA	NA	NA	NA	NA	145,115	<b>163,335</b>
119	OK State U., Stillwater	NA	NA	NA	NA	NA	NA	147,094	<b>162,786</b>
120	Tufts U.	131,407	136,602	133,628	135,868	145,169	154,575	156,106	<b>156,395</b>
121	U. CA, Santa Cruz	94,297	105,617	134,458	147,396	162,100	170,461	143,919	<b>155,617</b>
122	TX Tech U.	57,942	57,998	59,929	59,439	60,165	92,058	133,360	<b>149,399</b>
123	SUNY, U. Albany	208,157	264,581	277,841	309,438	271,187	341,624	359,364	<b>148,625</b>
124	U. NH	112,185	115,976	121,952	120,463	121,092	117,546	115,562	<b>143,002</b>
125	NM State U.	94,278	126,450	168,502	152,104	141,523	154,363	157,872	<b>139,062</b>
126	U. Notre Dame	78,428	75,566	82,137	82,272	103,311	104,866	110,369	<b>134,410</b>
127	ND State U.	102,412	103,248	104,505	107,337	116,327	114,260	126,419	<b>134,064</b>
128	U. NE, Medical Ctr.	98,736	123,263	108,012	111,751	112,887	123,629	138,219	<b>133,036</b>
129	U. VT	114,570	116,279	122,814	114,172	116,463	122,991	129,856	<b>132,356</b>
130	U. CA, Riverside	110,627	122,221	135,603	139,960	139,319	139,536	130,288	<b>132,238</b>
131	U. MS and U. MS Medical Ctr.	88,649	101,350	105,029	117,522	99,413	100,102	110,020	<b>132,164</b>
132	Temple U.	78,682	86,646	84,114	90,773	99,815	111,421	124,528	<b>126,478</b>
133	MT State U., Bozeman	103,556	118,188	121,534	124,833	130,120	126,844	135,084	<b>125,966</b>
134	U. AR for Medical Sciences	74,063	91,516	107,871	108,551	117,440	106,314	119,518	<b>122,066</b>
135	U. AR, Fayetteville	96,663	107,974	109,609	113,773	115,397	117,448	113,909	<b>120,007</b>
136	Drexel U.	78,279	93,323	97,675	98,010	103,558	105,020	118,349	<b>115,020</b>
137	U. Houston	65,692	87,936	80,984	78,381	87,691	102,917	119,811	<b>113,709</b>
138	U. ME	82,325	75,815	93,867	100,072	96,755	101,344	111,282	<b>111,600</b>
139	Rice U.	61,629	63,769	67,045	72,112	74,720	79,431	97,903	<b>110,235</b>
140	FL International U.	72,724	87,720	84,697	108,015	107,025	101,322	110,271	<b>110,006</b>
141	U. Central FL	132,822	121,699	122,879	141,140	147,092	148,809	117,985	<b>109,190</b>
142	San Diego State U.	77,382	83,599	83,398	74,686	81,385	91,074	99,137	<b>106,591</b>
143	Thomas Jefferson U.	112,078	107,388	106,986	107,288	99,275	101,188	103,064	<b>104,923</b>
144	U. OR	60,104	61,058	66,602	71,362	78,934	86,371	94,107	<b>103,019</b>
145	U. RI	60,947	60,252	70,696	76,237	78,871	84,989	90,016	<b>102,630</b>

## Appendix B: Total R&D Expenditures at Universities and Colleges, Ranked by FY 2011 R&D Expenditures: FY 2004-11

(Dollars in Thousands)

Rank	Institution	2004	2005	2006	2007	2008	2009	2010	2011
146	Old Dominion U.	38,922	56,956	65,357	73,549	87,594	96,186	97,176	<b>102,192</b>
147	Naval Postgraduate School	56,184	54,233	62,714	66,972	89,940	82,451	103,510	<b>101,363</b>
148	NJ Institute of Technology	74,998	76,920	77,583	88,699	89,792	92,891	92,318	<b>100,491</b>
149	U. ID	94,652	93,127	88,284	83,690	82,489	89,242	87,207	<b>96,229</b>
150	Cold Spring Harbor Lab.	ne	ne	ne	ne	ne	ne	ne	<b>95,984</b>
151	U. TX, Dallas	31,274	43,111	44,198	46,477	59,300	65,804	82,044	<b>93,230</b>
152	GA State U.	56,161	61,651	64,624	65,900	94,429	78,920	81,015	<b>92,725</b>
153	U. MD, Baltimore County	50,065	59,105	68,205	71,201	72,057	81,056	87,156	<b>91,657</b>
154	U. Dayton	66,158	70,178	72,070	76,166	83,293	95,043	93,309	<b>90,557</b>
155	U. NV, Reno	84,917	97,306	100,643	99,286	104,841	109,151	95,423	<b>89,740</b>
156	George Mason U.	54,763	57,373	60,168	61,068	76,838	85,306	84,120	<b>88,089</b>
157	Northeastern U.	47,283	70,001	72,329	78,220	66,315	67,174	79,949	<b>86,783</b>
158	Rensselaer Polytechnic Institute	57,555	65,921	71,382	77,679	77,967	78,188	83,952	<b>84,834</b>
159	Syracuse U.	52,016	48,227	53,784	58,342	62,098	79,950	107,024	<b>83,686</b>
160	U. TN, Health Science Ctr.	NA	NA	NA	NA	NA	NA	81,904	<b>81,220</b>
161	Rush U.	89,254	83,693	83,194	84,370	89,513	96,975	73,398	<b>79,212</b>
162	U. AL, Huntsville	50,233	57,330	61,831	73,760	75,818	74,340	75,683	<b>75,724</b>
163	TX A&M Health Science Ctr.	64,170	73,162	76,109	77,957	79,688	83,631	81,615	<b>74,957</b>
164	Brandeis U.	54,757	56,435	59,250	58,925	51,686	65,586	71,006	<b>74,889</b>
165	U. ND	49,864	47,024	56,301	63,298	65,185	71,858	76,560	<b>74,882</b>
166	U. Toledo	28,076	33,002	32,745	54,342	61,082	67,464	70,399	<b>74,149</b>
167	U. TX, El Paso	35,706	37,985	42,882	47,410	50,603	59,983	68,870	<b>74,069</b>
168	U.S. Air Force Academy	31,422	30,115	10,547	16,345	45,445	50,452	62,097	<b>73,607</b>
169	GA Health Sciences U.	58,808	67,278	61,174	60,001	57,085	65,473	72,015	<b>73,486</b>
170	SUNY, U. Binghamton	25,701	25,919	29,966	37,382	62,959	71,912	72,057	<b>72,539</b>
171	U. TX, Arlington	19,375	29,155	29,408	33,324	48,475	55,005	71,414	<b>72,483</b>
172	Southern IL U., Carbondale	54,227	57,760	75,564	65,074	67,435	66,658	69,924	<b>71,130</b>
173	MI Technological U.	35,670	41,337	44,200	56,640	60,356	60,395	63,471	<b>70,089</b>
174	U. LA, Lafayette	61,076	52,139	55,427	60,203	65,462	75,474	69,412	<b>69,978</b>
175	SD State U.	30,990	32,389	33,496	39,564	48,063	55,584	67,552	<b>69,680</b>
176	U. WI, Milwaukee	37,382	42,974	45,219	52,523	52,443	56,196	71,181	<b>65,648</b>
177	U. Akron	27,996	27,897	28,675	27,399	27,415	34,853	52,884	<b>65,536</b>
178	U. PR, Medical Sciences Campus	34,092	35,809	38,424	38,863	35,570	41,668	39,134	<b>64,017</b>
179	U. CA, Office of the President	90,233	97,245	128,992	119,109	100,189	83,108	72,542	<b>63,420</b>
180	U. TN, Institute of Agriculture	NA	NA	NA	NA	NA	NA	59,212	<b>62,786</b>
181	FL Atlantic U.	23,805	27,797	30,393	46,055	49,410	56,127	56,472	<b>62,024</b>
182	CUNY, City C.	28,232	29,826	31,071	33,712	35,096	37,538	46,699	<b>60,648</b>
183	U. MT	52,156	55,795	53,333	56,119	58,557	59,791	63,540	<b>60,159</b>
<b>184</b>	<b>U. MA, Lowell</b>	<b>23,935</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>
185	Portland State U.	21,548	29,371	32,308	30,203	35,705	44,574	56,533	<b>58,975</b>
186	C. of William and Mary and VA Institute of Marine Science	57,520	57,867	60,813	59,894	63,400	59,638	57,461	<b>58,919</b>
187	TX Tech U., Health Sciences Ctr.	19,827	18,697	22,013	21,006	24,716	37,363	51,282	<b>58,774</b>
188	U. TX, San Antonio	16,516	23,606	32,317	32,321	34,601	46,521	56,279	<b>58,667</b>
189	OH U.	39,618	44,593	39,167	39,008	38,984	43,097	50,440	<b>57,643</b>
190	U. WY	60,054	83,742	89,707	80,041	76,711	79,684	55,319	<b>57,549</b>
<b>191</b>	<b>U. MA, Boston</b>	<b>16,553</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>
192	LA State U., Health Sciences Ctr., New Orleans	95,777	93,595	79,927	91,498	60,007	59,111	59,776	<b>57,007</b>

## Appendix B: Total R&D Expenditures at Universities and Colleges, Ranked by FY 2011 R&D Expenditures: FY 2004-11

(Dollars in Thousands)

Rank	Institution	2004	2005	2006	2007	2008	2009	2010	2011
193	Cleveland State U.	18,092	22,415	16,076	17,819	15,027	14,345	34,235	<b>55,502</b>
194	U. AL, Tuscaloosa	35,427	34,770	35,642	36,807	33,477	36,889	40,762	<b>53,633</b>
195	FL A&M U.	45,023	28,506	36,824	17,695	25,515	27,018	53,474	<b>53,326</b>
196	St. Louis U.	41,263 e	47,356	48,248	56,921	59,236	38,075	46,839	<b>53,179</b>
197	Boston C.	32,158 e	33,732	38,309	41,710	44,413	45,795	50,537	<b>52,253</b>
198	Wichita State U.	44,525	53,182	37,934	53,392	60,640	75,655	51,524	<b>50,194</b>
199	U. MD, Ctr. for Environmental Science	39,631	41,022	40,146	40,720	40,556	41,670	42,670	<b>50,007</b>
200	Jackson State U.	31,641	35,876	38,273	36,888	42,739	44,884	44,862	<b>49,998</b>
201	CO School of Mines	27,087	26,499	28,729	29,939	34,050	40,117	44,879	<b>48,704</b>
202	Wright State U.	38,213	40,409	47,749	49,798	47,803	48,215	48,575	<b>48,501</b>
203	U. Memphis	61,473	68,505	56,686	57,264	56,075	54,970	49,517	<b>48,321</b>
204	American U.	1,992	1,671	3,843	13,107	15,742	35,194	39,747	<b>46,611</b>
205	U. Southern MS	36,858	38,766	40,845	48,595	47,582	47,205	42,059	<b>46,591</b>
206	U. North TX, Health Science Ctr.	18,520	22,325	25,124	28,187	28,179	29,582	38,862	<b>45,943</b>
207	IL Institute of Technology	24,364	28,081	24,654	26,740	25,289	25,709	36,554	<b>44,463</b>
208	NM Institute of Mining and Technology	38,476	56,134 i	73,792	83,742	79,437	81,742	51,696	<b>43,857</b>
209	U. HI, Hilo	11,225	16,653	18,564	16,674	14,500	20,202	14,857	<b>42,983</b>
210	Loyola U., Chicago	37,525	41,876	38,611	35,420	35,307	36,519	43,903	<b>42,708</b>
211	U. North TX, Denton	17,124	16,799	18,285	15,981	18,066	24,120	31,496	<b>42,475</b>
212	Howard U.	41,539	41,913	36,817	38,583	38,010	34,714	40,080	<b>42,341</b>
213	U. South AL	20,096	19,431	19,729	26,181	29,895	32,882	35,500	<b>42,233</b>
214	SUNY, Health Science Ctr. Brooklyn	30,207 i	29,732	31,064	29,809	32,299	29,184	32,512	<b>41,993</b>
215	Stevens Institute of Technology	30,154	31,059	33,600	34,383	30,493	28,660	35,544	<b>41,622</b>
216	MO U. of Science and Technology	46,388	40,832	39,274	31,168	36,533	35,672	42,263	<b>41,581</b>
217	San Jose State U.	44,120	48,624	49,267	47,256	52,408	55,213	38,241	<b>40,149</b>
218	SUNY, Upstate Medical U.	32,090	34,931	37,181	39,699	36,359	33,194	43,824	<b>39,988</b>
219	CUNY, Hunter C.	38,436	37,075	36,039	31,023	34,644	37,349	38,900	<b>39,772</b>
220	U. NV, Las Vegas	45,429	49,564	58,618	57,768	53,320	41,652	44,457	<b>39,526</b>
221	Loma Linda U.	29,651	29,898	32,451	28,020	35,890	37,557	35,990	<b>39,409</b>
222	Touro C.	ne	ne	ne	ne	ne	ne	ne	<b>39,406</b>
223	Brigham Young U., Provo	26,820	26,990	30,013	29,635	28,988	29,901	32,997	<b>37,142</b>
224	Eastern VA Medical School	33,798	33,721	33,013	31,453	30,777	36,678	44,420	<b>36,569</b>
225	Rutgers, State U. NJ, Newark	NA	NA	NA	NA	NA	NA	27,745	<b>35,774</b>
226	U. New Orleans	25,122	35,061	26,520	28,972	27,917	30,801	35,021	<b>35,359</b>
227	Desert Research Institute	34,783	34,570	38,511	40,238	38,045	36,490	34,367	<b>35,331</b>
228	NC Agricultural and Technical State U.	19,543	22,993	23,948	24,138	29,036	28,615	35,297	<b>34,930</b>
229	Rochester Institute of Technology	20,711	24,309	24,703	24,106	27,025	33,393	38,663	<b>34,889</b>
230	U. PR, Mayaguez	18,386	21,792	22,337	21,738	20,094 i	20,991	26,475	<b>34,424</b>
231	Morehouse School of Medicine	33,317	30,652	28,378	27,886	27,077	27,392	30,669 i	<b>33,946</b>
232	Southern IL U., Edwardsville	39,183	39,914	42,457	44,650	47,268	49,139	31,781	<b>33,736</b>
233	TX State U., San Marcos	10,450	8,896	9,496	10,320	19,309	24,497	30,560	<b>33,487</b>
234	U. MO, Kansas City	35,208	34,282	27,572	30,944	28,892	28,657	30,163	<b>32,769</b>
235	U. PR, Rio Piedras	13,071	21,432	22,623	22,345	35,665	31,592	30,515	<b>32,582</b>
236	Lehigh U.	32,048	38,886	35,046	38,307	38,190	34,352	37,332	<b>32,086</b>

## Appendix B: Total R&D Expenditures at Universities and Colleges, Ranked by FY 2011 R&D Expenditures: FY 2004-11

(Dollars in Thousands)

Rank	Institution	2004	2005	2006	2007	2008	2009	2010	2011
237	SD School of Mines and Technology	10,626	13,347	12,589	14,480	16,503	14,373	28,572	<b>32,070</b>
238	AL A&M U.	17,430	16,075	14,431	13,672	8,959	14,752	30,497	<b>32,063</b> i
239	Air Force Institute of Technology	13,306	15,091	19,394	17,173	20,527	27,458	31,259	<b>31,879</b>
240	Creighton U.	25,451	27,022	25,615	28,374	26,872	27,104	27,700	<b>31,443</b>
241	LA State U., Medical Ctr., Shreveport	ne	ne	ne	ne	33,458	31,293	30,817	<b>31,021</b>
242	Northern AZ U.	20,809	23,047	27,892	27,030	26,160	26,723	28,803	<b>30,785</b>
243	Meharry Medical C.	27,507	29,105	32,878	33,218	34,152	26,587	27,001	<b>29,055</b>
244	Mercer U.	18,437	20,042	19,622	18,163	19,739	21,974	27,298	<b>29,039</b>
245	U. SD	15,524	18,919	22,892	21,473	22,742	34,690	30,616	<b>28,959</b>
246	SUNY, C. of Environmental Science and Forestry	19,419 i	12,054	17,954 i	23,854	26,359	20,513	26,916	<b>28,289</b> i
247	CA State U., Fullerton	7,431	7,515	7,893	7,115	9,038	14,898	21,776	<b>28,186</b>
248	East Carolina U.	13,811	14,563	14,539	16,372	16,880	24,922	23,995	<b>28,114</b>
249	LA Tech U.	19,634	18,612	18,095	17,190	22,768	21,458	26,020	<b>27,583</b>
250	U. NC, Charlotte	19,225	20,307	22,656	26,974	25,196	29,272	31,814	<b>27,533</b>
251	Kent State U.	16,283	15,157	16,506	22,201	26,168	27,275	26,331	<b>27,455</b>
252	NY Medical C.	33,521	32,460	34,397	34,365	31,644	30,584	28,400	<b>27,316</b>
253	Marshall U.	21,757	23,606	19,957	22,755	23,022	23,645	24,501	<b>26,723</b>
254	San Francisco State U.	42,903	24,008	28,307	27,244	21,382	25,323	25,615	<b>26,198</b>
255	U. NC, Greensboro	16,880	16,016	13,724	13,574	16,451	19,811	22,436	<b>26,121</b>
256	Miami U.	15,377	18,026	19,229	23,729	25,052	29,808	26,521	<b>26,093</b>
257	CA State U., Northridge	28,043	21,266	17,140	21,866	20,574	20,822	29,469	<b>25,654</b>
<b>258</b>	<b>U. MA, Dartmouth</b>	<b>18,757</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>
259	Catholic U. America	24,854	22,754	18,412	20,484	20,767	20,400	21,454	<b>25,397</b>
260	Western MI U.	22,414	24,801	25,470	25,779	26,649	22,579	26,391	<b>25,051</b>
261	Southern Methodist U.	12,129	14,439	15,823	16,985	22,902	16,741	18,742	<b>24,453</b>
262	Boise State U.	9,126	9,168	8,997	11,520	11,592	12,305	18,731	<b>24,204</b>
263	U. MN, Duluth	NA	NA	NA	NA	NA	NA	21,150	<b>23,400</b>
264	U. Tulsa	16,000	13,640	13,209	16,218	15,576	13,769	23,387	<b>23,320</b>
266	U. NC, Wilmington	14,862	21,431	14,212	17,603	20,326	18,287	23,143	<b>22,593</b>
267	Charles R. Drew U. of Medicine and Science	51,994	43,231	47,188	52,118	49,224	57,604	22,152	<b>22,150</b>
268	Worcester Polytechnic Institute	14,097	14,736	15,345	14,308	15,887	15,645	18,613	<b>22,137</b>
269	U. of the VI	17,874	16,735	17,495	17,842	18,099	22,019	32,350	<b>21,994</b>
270	Northern IL U.	12,918	14,787	21,048	21,483	21,179	27,938	27,036	<b>21,748</b>
271	U. West FL	10,193	19,029	13,376	14,903	14,137	13,288	17,757	<b>21,710</b>
272	ID State U.	14,743	20,137	17,119	20,569	21,627	21,405	20,495	<b>21,450</b>
273	U. CA, Merced	na	4,468	7,931	11,600	17,403	22,013	21,591	<b>21,328</b>
274	Albany Medical C.	15,562	15,465	16,227	15,029	15,108	17,776	22,953	<b>20,876</b>
275	Marquette U.	9,982	10,616	11,051	9,917	10,602	10,470	14,310	<b>19,876</b>
276	DE State U.	4,678 i	5,909	7,642	7,729	8,384	9,924	15,200	<b>19,019</b>
277	Ball State U.	10,733	11,370	13,178	12,743	15,461	16,644	20,477	<b>18,765</b>
278	U. AK, Anchorage	13,285	13,594	16,520	14,751	13,353	13,400	16,709	<b>18,620</b>
279	U. MO, St. Louis	14,684	14,022	13,587	13,214	14,374	15,665	14,628	<b>18,461</b>
280	Teachers C., Columbia U.	12,930	13,296	13,113	14,561	17,104	18,399	17,167	<b>18,406</b>
281	Fordham U.	3,768	5,198	12,525	13,268	16,492	15,676	19,289	<b>18,350</b>
282	Clarkson U.	14,869	13,826	16,176	17,257	17,724	15,047	18,584	<b>17,951</b>
283	IL State U.	5,776	7,079	6,298	7,528	7,110	8,727	18,417	<b>17,833</b>
284	TX A&M U., Corpus Christi	13,238	10,925	12,827	13,178	12,289	13,858	17,266	<b>17,509</b>
285	TX A&M U., Kingsville	11,424	13,888	13,785	14,381	14,495	16,217	17,378	<b>17,114</b>
286	FL Gulf Coast U.	9,479	11,660	12,333	11,805	11,664	10,905	13,906	<b>17,051</b>

## Appendix B: Total R&D Expenditures at Universities and Colleges, Ranked by FY 2011 R&D Expenditures: FY 2004-11

(Dollars in Thousands)

Rank	Institution	2004	2005	2006	2007	2008	2009	2010	2011
287	U. Denver	17,439	16,526	14,585	14,178	14,657	16,727	15,748	<b>17,004</b>
288	U. Southern ME	13,818 i	16,931 i	20,971	35,725	48,891	48,255	16,358	<b>16,938</b>
289	Duquesne U.	9,745	10,172	10,515	11,175	11,982	11,856	15,804	<b>16,814</b>
290	CA Polytechnic State U., San Luis Obispo	9,883	11,515	12,956	14,970	15,196	19,857	19,732	<b>16,532</b>
291	CA State U., Sacramento	262 i	237 i	212 i	183	4,718	14,461	15,207	<b>16,344</b>
292	CA State U., Long Beach	11,186	10,572	10,880	14,697	16,400	13,453	15,494	<b>16,319 i</b>
293	Embry-Riddle Aeronautical U.	9,385	14,629	10,628 i	7,930	7,004	10,899	12,189	<b>16,289</b>
294	Oakland U.	6,821	6,654	9,554	9,038	9,812	11,275	12,856	<b>15,868</b>
295	Tuskegee U.	12,781	12,168	12,982	15,905	16,606	18,543	15,581	<b>15,685</b>
296	Prairie View A&M U.	11,194	12,089	11,521	12,036	10,800	11,556	12,565	<b>15,243</b>
297	Fayetteville State U.	9,586	8,509	632	8,124	8,647	10,541	11,865	<b>14,618</b>
298	FL Institute of Technology	7,838	7,920	8,990	7,732	9,232	11,523	12,054	<b>14,523</b>
299	Rosalind Franklin U. of Medicine and Science	10,614	11,920	10,981	12,199	12,128	13,375	12,426	<b>14,261</b>
300	U.S. Military Academy	6,864 i	7,293 i	7,722 i	8,526	10,549	9,563	22,171	<b>13,799</b>
	All other surveyed institutions <sup>b</sup>	5,945,302	6,057,295	6,355,516	6,535,753	6,901,446	7,390,212	1,309,829	<b>1,520,119</b>

e = estimated; data were not provided by institution; prior-year data were used or current-year estimates were reported. 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 \$1,160,966 thousand in total R&D expenditures in FY 2011.

<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 2004 through FY 2009, some institution totals for all R&D expenditures may be lower-bound estimates because National Science Foundation did not attempt to estimate for nonresponse on non-science and engineering R&D expenditures item. 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 R&D Expenditures at Universities and Colleges, Ranked by FY 2011 Expenditures: FY 2004-11**

(Dollars in Thousands)									
Rank	Institution	2004	2005	2006	2007	2008	2009	2010	2011
	All institutions	28,303,897	29,956,714	30,908,742	31,240,790	32,100,966	33,442,544	37,475,292	<b>40,764,823</b>
1	Johns Hopkins U. <sup>a</sup>	1,229,426	1,291,759	1,319,214	1,374,029	1,463,709	1,597,205	1,737,261	<b>1,884,025</b>
2	U. WA, Seattle	NA	NA	NA	NA	NA	NA	829,885	<b>948,976</b>
3	U. MI, Ann Arbor	NA	NA	NA	NA	NA	NA	747,778	<b>820,125</b>
4	U. PA	443,188	475,845	488,902	460,258	493,435	509,689	642,180	<b>707,051</b>
5	U. Pittsburgh, Pittsburgh	398,867	423,473	426,257	446,151	459,230	467,465	594,675	<b>662,471</b>
6	Stanford U.	545,370	577,600	542,316	537,232	511,649	481,439	593,016	<b>656,114</b>
7	Columbia U. in the City of New York	406,576	453,188	451,187	459,748	461,029	491,837	572,213	<b>645,233</b>
8	U. CA, San Diego	465,629	463,946	463,913	475,821	491,160	511,790	580,279	<b>636,879</b>
9	U. WI, Madison	459,503	503,517	513,120	489,986	481,259	514,875	545,189	<b>593,633</b>
10	Duke U.	347,986	377,152	414,859	459,605	452,200	439,187	514,084	<b>585,262</b>
11	U. CA, San Francisco	418,944	438,988	464,660	467,402	472,642	483,667	514,693	<b>570,116</b>
12	U. CA, Los Angeles	461,145	469,889	492,626	498,742	480,779	477,817	538,521	<b>563,560</b>
13	U. NC, Chapel Hill	305,837	321,483	330,201	347,958	374,295	433,896	545,993	<b>561,708</b>
14	Harvard U.	417,019	431,841	443,065	419,113	418,765	426,813	474,899	<b>543,097</b>
15	Yale U.	331,362	333,218	349,969	350,933	376,314	380,576	475,794	<b>519,844</b>
16	OH State U.	301,549	310,255	319,606	316,763	341,257	349,863	399,942	<b>493,130</b>
17	U. MN, Minneapolis	NA	NA	NA	NA	NA	NA	426,359	<b>489,480</b>
18	MA Institute of Technology	433,404	462,745	481,471	482,014	501,531	539,160	457,575	<b>489,080</b>
19	Cornell U.	340,085	367,028	391,130	368,468	359,407	363,695	448,085	<b>476,583</b>
20	Washington U., St. Louis	373,526	403,364	411,660	426,659	395,643	415,234	468,642	<b>469,490</b>
21	PA State U. University Park and Hershey Medical Ctr.	NA	NA	NA	NA	NA	NA	464,750	<b>468,705</b>
22	Vanderbilt U.	264,390	286,652	308,597	323,504	347,415	353,587	397,656	<b>458,173</b>
23	U. Southern CA	319,887	338,497	341,966	359,306	351,761	378,391	408,564	<b>453,283</b>
24	GA Institute of Technology	237,766	245,622	259,139	261,127	281,829	323,738	372,122	<b>427,867</b>
25	Northwestern U.	233,980	248,279	254,472	253,338	269,026	305,306	360,980	<b>399,719</b>
26	U. Chicago	231,466	248,442	256,442	264,461	287,164	304,575	352,728	<b>372,288</b>
27	Emory U.	243,614	266,998	268,095	271,938	291,742	295,951	336,986	<b>369,982</b>
28	U. CA, Davis	221,937	240,003	248,573	257,597	269,952	297,140	332,325	<b>362,976</b>
29	U. TX, Austin	249,014	269,613	294,832	314,131	351,541	335,519	350,308	<b>355,437</b>
30	Case Western Reserve U.	196,389	213,097	311,169	309,522	306,760	313,774	333,689	<b>353,470</b>
31	U. AL, Birmingham	262,144	289,738	294,259	269,943	304,107	302,697	325,103	<b>344,164</b>
32	CA Institute of Technology	244,187	249,371	248,646	255,088	244,944	308,230	328,522	<b>342,945</b>
33	U. MD, College Park	197,487	214,465	217,797	224,385	241,224	250,895	297,896	<b>338,780</b>
34	U. Rochester	232,694	259,359	280,422	282,821	277,747	296,618	322,048	<b>337,907</b>
35	U. CA, Berkeley	268,830	290,960	266,130	256,147	255,005	266,554	312,789	<b>336,191</b>
36	U. AZ	284,132	292,907	302,707	270,682	278,229	288,148	308,157	<b>327,565</b>
37	U. IL, Urbana-Champaign	282,246	296,942	268,877	258,149	270,908	292,522	303,852	<b>323,454</b>
38	U. CO, Boulder	212,613	237,188	227,013	228,297	228,129	248,259	292,030	<b>323,078</b>
39	Scripps Research Institute, The	236,989	272,969	268,533	267,073	265,657	288,388	313,746	<b>317,201</b>
40	U. CO Denver and Health Sciences Ctr.	201,517	214,504	222,889	216,799	215,519	266,137	285,126	<b>307,395</b>
41	U. FL	226,647	238,251	254,350	247,721	240,366	242,964	279,649	<b>306,349</b>
42	Boston U.	221,102	231,478	241,726	234,104	236,597	256,666	302,411	<b>305,476</b>
43	NY U.	181,441	224,265	197,621	205,547	211,756	214,206	260,463	<b>302,221</b>
44	Baylor C. of Medicine	312,669	300,638	287,679	263,146	262,498	267,130	284,072	<b>295,529</b>
45	Mt. Sinai School of Medicine	185,249	191,326	224,911	221,397	253,319	264,914	302,770	<b>295,291</b>
46	TX A&M U., College Station	178,674	219,667	214,197	237,842	257,559	272,087	288,173	<b>291,812</b>



## Appendix C: Federally Financed R&D Expenditures at Universities and Colleges, Ranked by FY 2011 Expenditures: FY 2004-11

		(Dollars in Thousands)							
Rank	Institution	2004	2005	2006	2007	2008	2009	2010	2011
47	U. Cincinnati	195,424	203,142	202,306	219,625	221,738	229,504	262,513	<b>287,182</b>
48	U. IA	213,978	221,119	221,966	228,526	234,559	255,101	282,465	<b>283,627</b>
49	OR Health and Science U.	206,219	217,145	223,204	227,441	232,208	233,774	247,054	<b>268,777</b>
50	U. UT	161,363	168,761	175,089	175,034	171,913	192,489	227,021	<b>264,234</b>
51	Purdue U., West Lafayette	NA	NA	NA	NA	NA	NA	232,564	<b>259,948</b>
52	U. IL, Chicago	194,671	200,054	205,639	210,799	197,369	197,537	232,380	<b>248,936</b>
53	U. South FL, Tampa	NA	NA	NA	NA	NA	NA	243,017	<b>243,030</b>
54	MI State U.	153,798	169,187	181,592	187,671	169,656	177,355	214,134	<b>240,837</b>
55	Rutgers, State U. NJ, New Brunswick	NA	NA	NA	NA	NA	NA	224,894	<b>239,908</b>
56	CO State U., Ft. Collins	169,638	159,662	193,630	217,145	214,958	217,590	211,297	<b>236,566</b>
57	U. TX, M. D. Anderson Cancer Ctr.	150,529	160,953	182,028	190,508	194,889	194,633	206,664	<b>236,400</b>
58	U. VA main campus	NA	NA	NA	NA	NA	NA	228,917	<b>232,525</b>
59	U. TX, Southwestern Medical Ctr., Dallas	200,888	202,057	196,621	191,687	201,480	207,216	232,027	<b>231,639</b>
60	U. MD, Baltimore	141,221	129,270	186,160	164,211	169,026	169,081	208,246	<b>229,706</b>
61	U. Miami	143,034	157,414	151,892	149,309	168,036	174,074	197,824	<b>225,352</b>
62	U. CA, Irvine	150,995	161,524	170,336	170,611	179,527	178,138	194,559	<b>209,117</b>
<b>63</b>	<b>U. MA, Medical School</b>	<b>126,162</b>	<b>130,680</b>	<b>136,141</b>	<b>131,226</b>	<b>145,113</b>	<b>145,834</b>	<b>178,293</b>	<b>208,244</b>
64	U. HI, Manoa	187,035	190,137	203,221	208,196	194,508	203,453	196,275	<b>201,700</b>
65	Carnegie Mellon U.	174,480	174,911	185,390	168,486	171,347	170,260	179,386	<b>200,967</b>
66	Yeshiva U.	151,520	160,894	153,785	147,941	143,866	137,108	163,399	<b>192,241</b>
67	VA Polytechnic Institute and State U.	96,539	110,621	121,129	129,208	135,977	148,716	162,566	<b>189,198</b>
68	AZ State U.	81,418	97,063	113,324	118,276	130,343	142,037	172,202	<b>185,766</b>
69	SUNY, U. Buffalo	147,607	154,972	155,668	151,572	158,152	154,876	167,099	<b>182,585</b>
70	U. KY	136,279	151,056	155,366	158,559	159,302	147,583	171,528	<b>179,161</b>
71	Wake Forest U.	120,075	141,715	139,709	141,655	146,761	144,906	159,084	<b>173,130</b>
72	U. KS	109,641	122,271	127,180	125,300	128,306	134,257	147,598	<b>169,382</b>
73	Woods Hole Oceanographic Institution	100,456	100,747	101,631	112,754	117,587	127,378	153,066	<b>165,819</b>
74	Princeton U.	112,196	120,699	118,757	121,095	125,917	130,006	150,261	<b>163,438</b>
75	U. NM	112,299	131,408	130,388	124,121	136,138	134,740	148,216	<b>162,854</b>
76	U. TX, Health Science Ctr., Houston	106,737	112,509	122,870	131,879	129,277	135,087	150,324	<b>156,790</b>
77	IN U.-Purdue U., Indianapolis	NA	NA	NA	NA	NA	NA	148,672	<b>156,607</b>
78	NC State U.	103,586	109,128	131,262	131,848	131,987	136,905	139,096	<b>155,293</b>
79	VA Commonwealth U.	99,415	109,732	112,159	96,690	106,335	104,206	144,138	<b>153,228</b>
80	OR State U.	118,922	127,323	133,328	129,287	134,280	139,587	135,886	<b>146,882</b>
81	U. CT	129,631	135,948	126,914	126,829	122,651	124,385	132,169	<b>144,280</b>
82	Medical U. SC	103,494	108,196	104,057	101,402	102,187	113,789	131,650	<b>143,464</b>
83	FL State U.	118,998	119,601	121,944	124,050	121,901	127,104	134,794	<b>140,850</b>
84	U. GA	102,100	108,078	96,444	107,060	105,541	109,382	118,862	<b>137,328</b>
85	U. CA, Santa Barbara	92,248	103,955	107,686	113,335	113,298	115,453	129,457	<b>136,244</b>
86	Wayne State U.	116,081	121,714	118,623	114,720	116,266	117,395	132,166	<b>134,735</b>
87	Medical C. WI	100,547	102,859	100,128	107,200	111,602	117,842	121,750	<b>133,929</b>
88	Dartmouth C.	123,351	122,330	140,482	128,164	122,318	134,694	118,271	<b>131,583</b>
89	Brown U.	84,313	91,749	96,922	96,288	96,233	94,485	127,087	<b>128,628</b>
90	U. TX, Medical Branch	102,491	117,235	120,408	118,173	122,009	126,703	128,840	<b>128,098</b>
91	SUNY, U. Albany	98,157	108,211	106,588	105,776	108,994	97,007	124,324	<b>125,189</b>
92	SUNY, Stony Brook U.	123,838	125,973	112,973	111,316	106,419	107,430	120,146	<b>125,102</b>
93	U. of Medicine and Dentistry of NJ	121,812	143,239	140,923	126,101	122,061	115,770	123,399	<b>124,585</b>
94	Georgetown U.	98,583	102,504	94,901	107,904	113,707	121,514	120,589	<b>123,540</b>
95	WA State U.	77,546	81,175	84,779	79,439	97,925	100,631	113,452	<b>123,502</b>

Appendix C

## Appendix C: Federally Financed R&D Expenditures at Universities and Colleges, Ranked by FY 2011 Expenditures: FY 2004-11

(Dollars in Thousands)

Rank	Institution	2004	2005	2006	2007	2008	2009	2010	2011
96	Tufts U.	94,764	100,628	98,634	94,284	98,175	105,122	116,699	<b>122,208</b>
97	U. TX, Health Science Ctr., San Antonio	89,662	95,125	95,110	95,610	121,758	129,399	121,723	<b>121,200</b>
98	U. DE	77,506	76,363	81,066	84,189	86,005	88,357	105,454	<b>118,673</b>
99	Uniformed Services U. of the Health Sciences	62,408	50,016	39,461	37,275	67,345	124,314	72,125	<b>117,781</b>
100	IA State U.	95,740	101,431	107,422	98,917	104,550	97,975	109,461	<b>117,522</b>
101	George Washington U.	91,765	93,780	91,837	104,533	128,022	91,665	122,357	<b>116,611</b>
102	U. MO, Columbia	94,417	104,795	109,996	119,545	112,814	124,796	116,965	<b>116,403</b>
103	UT State U.	108,668	93,567	97,577	91,953	89,940	84,970	90,581	<b>113,871</b>
104	U. TN, Knoxville	NA	NA	NA	NA	NA	NA	96,972	<b>111,942</b>
105	Tulane U.	88,357	94,775	84,196	98,612	109,561	109,659	106,872	<b>111,007</b>
<b>106</b>	<b>U. MA, Amherst</b>	<b>67,660</b>	<b>68,768</b>	<b>71,244</b>	<b>73,485</b>	<b>80,432</b>	<b>80,950</b>	<b>97,937</b>	<b>107,683</b>
107	U. NH	73,706	84,767	91,165	86,287	87,431	84,993	84,553	<b>106,806</b>
108	U. NE, Lincoln	68,546	76,492	81,347	81,044	82,732	84,455	96,069	<b>105,724</b>
109	U. AK, Fairbanks	75,979	90,743	99,277	101,219	97,356	92,244	99,657	<b>105,522</b>
110	U. SC, Columbia	NA	NA	NA	NA	NA	NA	125,501	<b>103,296</b>
111	U. VT	79,243	79,958	82,676	90,419	90,220	92,760	98,635	<b>101,471</b>
112	MS State U.	85,162	84,601	94,318	106,804	106,159	104,121	106,324	<b>98,998</b>
113	U. CA, Santa Cruz	53,196	62,301	67,010	69,122	70,919	77,253	84,518	<b>97,817</b>
114	Rockefeller U.	82,535	85,552	93,742	86,728	81,557	73,906	88,705	<b>97,710</b>
115	LA State U., Baton Rouge	55,864	60,347	79,834	81,072	80,583	89,593	97,407	<b>97,517</b>
116	U. Louisville	55,394	68,213	71,920	78,070	74,581	78,614	93,260	<b>96,010</b>
117	U. OK	82,133	90,561	93,145	91,405	96,435	100,924	105,366	<b>95,505</b>
118	Naval Postgraduate School	50,771	45,249	59,636	65,946	88,846	81,330	93,605	<b>94,278</b>
119	NM State U.	77,076	91,912	102,257	102,367	86,715	89,450	98,399	<b>90,598</b>
120	Temple U.	52,057	55,844	54,567	57,778	60,848	71,131	79,939	<b>89,074</b>
121	WV U.	61,150	62,914	64,262	67,159	71,075	68,741	79,415	<b>88,419</b>
122	MT State U., Bozeman	64,012	78,824	83,355	82,917	78,728	81,208	93,100	<b>87,528</b>
123	U. NE, Medical Ctr.	44,449	49,282	53,808	53,506	51,300	61,224	80,784	<b>86,295</b>
124	U. OR	50,630	50,620	54,935	57,708	65,135	70,628	76,378	<b>84,997</b>
125	U. MS and U. MS Medical Ctr.	63,900	71,995	72,028	80,317	69,076	65,028	71,475	<b>84,317</b>
126	Drexel U.	56,612	65,449	68,915	67,467	65,868	68,514	77,438	<b>83,702</b>
127	OK State U., Stillwater	NA	NA	NA	NA	NA	NA	56,998	<b>81,855</b>
128	Thomas Jefferson U.	92,296	86,171	82,551	81,545	76,034	73,152	77,817	<b>80,027</b>
129	U. Notre Dame	49,135	51,524	56,248	54,491	67,497	57,953	62,152	<b>79,716</b>
130	Rice U.	51,434	54,963	54,038	54,662	55,177	56,524	69,395	<b>78,730</b>
131	U. RI	48,590	42,132	46,898	52,561	51,791	58,762	62,981	<b>78,303</b>
132	KS State U.	56,601	60,048	53,558	48,383	54,491	59,444	68,560	<b>76,953</b>
133	U. AR for Medical Sciences	53,249	59,053	66,127	60,836	62,035	61,249	72,217	<b>75,924</b>
134	IN U., Bloomington	NA	NA	NA	NA	NA	NA	71,208	<b>74,143</b>
135	U. AL, Huntsville	39,892	43,751	46,365	50,504	49,030	55,152	73,075	<b>72,665</b>
136	U. Dayton	58,115	60,284	58,582	61,352	65,621	71,361	73,540	<b>70,996</b>
137	U. Central FL	44,676	41,595	41,284	60,735	68,806	73,742	69,331	<b>69,098</b>
138	Northeastern U.	30,659	38,747	38,484	38,843	38,861	40,031	59,074	<b>67,938</b>
139	FL International U.	54,834	58,718	58,158	62,366	60,045	57,371	62,580	<b>65,446</b>
140	George Mason U.	45,668	47,904	45,126	48,452	52,908	60,694	63,011	<b>65,301</b>
141	San Diego State U.	32,266	36,076	37,770	34,792	38,038	44,250	56,504	<b>64,056</b>
142	U. CA, Riverside	40,981	52,919	62,209	61,059	58,670	58,586	63,127	<b>62,312</b>
143	U.S. Air Force Academy	16,487	15,842	9,678	16,142	44,935	38,795	49,711	<b>62,118</b>

## Appendix C: Federally Financed R&D Expenditures at Universities and Colleges, Ranked by FY 2011 Expenditures: FY 2004-11

		(Dollars in Thousands)							
Rank	Institution	2004	2005	2006	2007	2008	2009	2010	2011
144	U. MD, Baltimore County	37,549	43,392	44,885	49,696	50,698	54,455	59,448	<b>61,172</b>
145	U. ME	37,308	29,564	41,751	44,919	41,740	47,785	50,163	<b>59,800</b>
146	U. Houston	37,356	41,413	42,613	42,644	43,845	42,450	52,920	<b>59,580</b>
147	Auburn U., Auburn	NA	NA	NA	NA	NA	NA	53,971	<b>59,559</b>
148	Rensselaer Polytechnic Institute	37,226	42,555	45,414	49,153	47,491	48,509	54,847	<b>59,284</b>
149	Rush U.	51,706	49,150	45,044	39,601	40,942	43,608	51,304	<b>57,978</b>
150	U. NV, Reno	51,112	60,893	64,959	63,924	66,777	64,720	58,115	<b>57,220</b>
151	Cold Spring Harbor Lab.	ne	ne	ne	ne	ne	ne	ne	<b>55,450</b>
152	U. PR, Medical Sciences Campus	28,063	29,863	31,199	31,955	28,481	33,841	29,813	<b>54,381</b>
153	GA Health Sciences U.	35,841	41,910	41,555	40,609	39,486	45,272	51,727	<b>54,254</b>
154	NJ Institute of Technology	30,995	35,716	35,489	41,330	40,087	42,656	50,051	<b>54,250</b>
155	U. ID	49,283	49,003	48,335	46,273	46,235	43,207	46,303	<b>54,243</b>
156	U. ND	36,412	32,092	38,849	44,625	46,620	49,240	52,504	<b>54,058</b>
157	ND State U.	45,542	46,201	46,086	46,345	50,682	44,343	51,883	<b>53,451</b>
158	Clemson U.	62,762	57,891	57,181	54,394	56,944	57,232	62,934	<b>52,919</b>
159	U. TN, Health Science Ctr.	NA	NA	NA	NA	NA	NA	52,652	<b>51,842</b>
160	U. WY	23,186	29,567	26,060	25,579	29,018	30,144	45,323	<b>48,932</b>
161	Brandeis U.	38,732	39,895	41,201	41,366	38,204	40,817	43,669	<b>48,235</b>
162	LA State U., Health Sciences Ctr., New Orleans	44,668	54,108	52,437	54,690	43,865	43,398	46,142	<b>45,581</b>
163	FL A&M U.	35,212	22,452	25,674	14,502	23,657	23,535	45,856	<b>44,905</b>
164	U. Toledo	13,375	15,680	17,649	32,801	29,676	29,707	38,389	<b>44,881</b>
165	Jackson State U.	28,806	30,472	30,783	30,980	35,221	37,321	39,457	<b>43,001</b>
166	Cleveland State U.	6,755	12,244	6,087	6,282	5,496	4,356	25,024	<b>42,575</b>
167	SD State U.	13,473	13,917	12,793	17,064	20,929	24,356	38,368	<b>41,904</b>
168	Portland State U.	13,344	18,877	22,236	20,813	23,727	31,917	36,996	<b>41,580</b>
169	U. Southern MS	32,768	35,800	36,175	43,972	42,820	41,978	37,054	<b>40,984</b>
170	CUNY, City U.	21,329	22,862	21,902	21,866	22,027	23,238	32,900	<b>40,595</b>
171	Old Dominion U.	21,618	24,662	32,869	32,976	35,421	36,433	34,687	<b>39,534</b>
172	U. MT	35,163	37,191	33,096	33,953	34,497	36,888	40,760	<b>38,565</b>
173	St. Louis U.	37,013	44,757	45,183	49,588	49,434	33,736	33,728	<b>38,323</b>
174	U. HI, Hilo	9,505	14,393	16,962	14,962	11,481	14,907	12,265	<b>37,703</b>
175	U. AR, Fayetteville	32,424	35,636	34,357	38,831	33,066	33,184	33,674	<b>37,587</b>
176	NM Institute of Mining and Technology	13,853	30,877	47,901	69,050	64,322	61,178	42,243	<b>37,316</b>
177	Howard U.	40,152	40,252	35,125	34,251	35,873	31,938	33,017	<b>36,060</b>
178	U. TX, El Paso	25,723	24,041	26,844	27,218	26,996	29,507	34,617	<b>35,399</b>
179	TX Tech U.	23,393	22,955	23,171	23,961	21,392	25,651	35,970	<b>35,191</b>
180	IL Institute of Technology	15,697	18,217	19,883	20,930	20,230	17,705	28,349	<b>34,858</b>
181	SUNY Health Science Ctr. Brooklyn	23,313	23,466	25,184	23,232	25,299	22,849	25,023	<b>33,964</b>
182	Syracuse U.	33,205	30,644	32,444	32,230	33,566	31,000	33,796	<b>33,850</b>
183	CO School of Mines	16,550	15,501	20,543	18,248	20,072	25,109	29,892	<b>33,789</b>
184	TX A&M Health Science Ctr.	30,283	32,949	35,214	35,004	33,045	26,984	33,511	<b>33,405</b>
185	U. TX, Dallas	15,733	19,933	19,954	17,783	21,383	26,244	30,754	<b>33,216</b>
186	U. AL, Tuscaloosa	25,613	24,546	22,997	27,953	23,788	24,283	26,364	<b>32,999</b>
187	MI Technological U.	18,735	19,780	18,789	28,226	29,944	27,263	27,676	<b>32,724</b>
188	Stevens Institute of Technology	22,764	22,074	25,223	26,800	20,461	20,620	29,370	<b>32,570</b>
189	Loma Linda U.	26,631	26,855	28,788	24,666	32,350	29,114	29,284	<b>32,187</b>
190	Touro C.	ne	ne	ne	ne	ne	ne	ne	<b>32,107</b>
191	U. TX, San Antonio	11,705	16,175	21,463	21,669	22,574	26,966	28,717	<b>31,972</b>

## Appendix C: Federally Financed R&D Expenditures at Universities and Colleges, Ranked by FY 2011 Expenditures: FY 2004-11

		(Dollars in Thousands)							
Rank	Institution	2004	2005	2006	2007	2008	2009	2010	2011
192	Boston C.	22,907	18,536	18,837	21,227	22,585	24,324	33,290	<b>31,953</b>
193	U. TX, Arlington	10,784	17,790	19,095	20,259	20,927	25,144	31,628	<b>30,659</b>
194	U. WI, Milwaukee	16,966	20,247	20,650	23,982	21,710	24,868	29,042	<b>30,479</b>
195	U. NV, Las Vegas	28,013	36,572	43,200	49,347	42,314	32,033	32,441	<b>30,457</b>
196	C. of William and Mary and VA Institute of Marine Science	31,055	31,812	35,174	33,045	31,357	30,665	27,685	<b>30,361</b>
197	SUNY, Upstate Medical U.	22,650	23,275	27,247	27,933	23,117	21,828	27,959	<b>28,663</b>
198	Loyola U., Chicago	30,231	31,528	25,903	25,148	23,481	23,855	28,995	<b>28,633</b>
199	Desert Research Institute	26,235	28,655	30,407	30,752	30,703	29,544	28,307	<b>28,489</b>
200	GA State U.	29,480	28,870	28,542	28,205	30,248	28,364	27,073	<b>28,210</b>
201	Morehouse School of Medicine	23,331	24,213	25,156	23,230	24,985	23,583	25,855	<b>28,128</b>
202	SD School of Mines and Technology	8,366	10,752	9,834	11,232	13,866	11,859	25,172	<b>28,105</b>
203	MO U. of Science and Technology	20,230	21,850	23,722	18,798	22,353	23,548	28,239	<b>27,961</b>
<b>204</b>	<b>U. MA, Lowell</b>	<b>17,821</b>	<b>18,906</b>	<b>19,598</b>	<b>20,759</b>	<b>23,284</b>	<b>23,933</b>	<b>25,550</b>	<b>27,960</b>
205	Wright State U.	20,599	20,527	22,430	22,229	21,315	22,789	24,785	<b>27,422</b>
<b>206</b>	<b>U. MA, Boston</b>	<b>6,010</b>	<b>6,786</b>	<b>9,131</b>	<b>16,104</b>	<b>17,149</b>	<b>18,378</b>	<b>24,527</b>	<b>26,958</b>
207	Meharry Medical C.	26,159	27,408	30,914	31,263	31,035	23,829	24,302	<b>26,779</b>
208	San Jose State U.	28,246	29,536	31,283	28,188	29,151	33,299	24,292	<b>26,389</b>
209	U. North TX, Health Science Ctr.	13,259	17,037	19,183	19,203	19,818	20,215	25,847	<b>26,132</b>
210	Eastern VA Medical School	17,530	19,969	19,399	20,620	17,499	24,083	29,291	<b>25,319</b>
211	U. PR, Rio Piedras	8,093	14,440	16,881	16,114	25,382	19,376	21,717	<b>24,887</b>
212	Brigham Young U., Provo	19,880	19,486	20,607	19,436	19,819	20,800	22,115	<b>24,273</b>
213	AL A&M U.	12,024	12,005	7,537	8,467	5,566	10,265	22,154	<b>23,988</b>
214	Southern IL U., Carbondale	15,557	16,989	20,108	17,724	17,499	19,223	22,209	<b>23,696</b>
215	OH U.	21,136	20,846	19,630	18,641	18,274	16,783	18,466	<b>23,051</b>
216	CUNY, Hunter C.	18,836	19,127	19,179	16,473	15,833	19,487	18,498	<b>22,901</b>
217	NC Agricultural and Technical State U.	13,495	16,403	16,093	15,453	18,506	18,550	23,883	<b>22,652</b>
218	Lehigh U.	19,400	22,932	19,648	23,559	22,739	19,724	23,721	<b>22,390</b>
219	Marshall U.	18,475	19,710	15,983	18,449	18,846	17,510	18,218	<b>21,852</b>
220	SUNY, U. Binghamton	10,697	10,494	12,322	15,207	15,497	18,119	20,979	<b>21,244</b>
221	NY Medical C.	25,103	25,242	26,579	26,101	23,107	22,253	21,095	<b>21,013</b>
222	U. NC, Greensboro	15,489	14,525	12,217	12,137	14,259	17,578	19,477	<b>20,868</b>
223	Charles R. Drew U. of Medicine and Science	40,430	41,207	44,394	48,580	43,291	53,110	20,430	<b>20,679</b>
224	Rochester Institute of Technology	13,555	12,783	15,361	14,572	15,597	19,707	23,254	<b>20,396</b>
225	U. Memphis	16,522	17,114	18,807	22,872	20,293	19,024	20,654	<b>20,348</b>
226	Air Force Institute of Technology	4,704	5,238	5,579	6,774	8,274	12,197	15,474	<b>20,196</b>
227	Catholic U. America	19,590	16,937	13,561	15,533	15,223	16,029	15,878	<b>19,890</b>
228	CA State U., Northridge	17,214	12,035	8,966	11,874	11,372	11,686	17,213	<b>19,769</b>
229	East Carolina U.	9,566	11,070	10,771	10,472	11,351	17,633	16,113	<b>19,675</b>
230	U. New Orleans	11,652	19,471	13,478	15,628	14,346	15,078	19,244	<b>19,000</b>
231	U. MO, Kansas City	16,062	17,457	16,401	19,144	17,263	15,976	16,391	<b>18,988</b>
232	Boise State U.	7,642	8,453	8,346	10,345	9,370	9,938	14,614	<b>18,811</b>
233	Western MI U.	14,859	18,551	17,414	17,550	19,169	15,663	19,738	<b>18,736</b>
234	U. PR, Mayaguez	8,760	12,026	11,645	12,366	11,913	12,673	12,735	<b>18,568</b>
235	Southern Methodist U.	7,511	9,983	11,705	13,117	13,123	11,254	13,312	<b>18,502</b>
236	Rutgers, State U. NJ, Newark	NA	NA	NA	NA	NA	NA	12,631	<b>18,226</b>
237	U. MD, Ctr. for Environmental Science	13,824	13,853	12,860	13,365	12,019	11,656	12,123	<b>18,007</b>

Appendix C

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(Dollars in Thousands)									
Rank	Institution	2004	2005	2006	2007	2008	2009	2010	2011
238	Mercer U.	9,613	11,235	11,741	11,075	12,012	13,377	18,778	<b>17,904</b>
239	Northern AZ U.	13,321	14,621	14,445	12,409	13,310	13,345	15,070	<b>17,765</b>
240	San Francisco State U.	37,056	12,777	17,800	12,430	10,149	13,249	15,601	<b>17,337</b>
241	ID State U.	8,634	12,288	11,862	11,989	13,363	12,701	14,645	<b>17,149</b>
242	U. South AL	17,832	16,538	15,567	16,676	15,907	15,883	14,730	<b>16,758</b>
243	U. of the VI	11,598	12,213	12,518	12,561	12,770	16,628	28,369	<b>16,338</b>
244	CA State U., Fullerton	6,823	6,228	6,787	5,947	7,353	9,169	13,651	<b>16,159</b>
245	U. NC, Charlotte	15,080	12,740	13,159	13,858	12,038	14,202	17,284	<b>15,930</b>
246	Worcester Polytechnic Institute	8,541	9,481	11,047	10,146	10,650	10,938	13,582	<b>15,714</b>
247	FL Atlantic U.	14,662	16,084	20,590	18,157	17,780	15,335	17,268	<b>15,579</b>
248	CUNY, Queens C.	5,820	5,732	6,422	7,676	9,245	9,519	13,642	<b>15,573</b>
249	U. TN, Institute of Agriculture	NA	NA	NA	NA	NA	NA	12,527	<b>15,512</b>
250	LA State U., Medical Ctr., Shreveport	ne	ne	ne	ne	14,009	14,106	13,890	<b>15,316</b>
251	Kent State U.	12,168	10,795	11,053	11,813	13,784	14,748	14,586	<b>15,085</b>
252	TX Tech U., Health Sciences Ctr.	7,604	6,730	9,713	8,765	8,995	11,274	12,950	<b>14,790</b>
253	U. North TX, Denton	6,927	7,881	9,009	7,815	9,045	10,870	14,444	<b>14,754</b>
254	U. LA, Lafayette	16,326	16,471	11,819	11,099	13,079	13,641	12,881	<b>14,659</b>
255	U. SD	12,849	15,617	17,502	16,683	17,569	18,795	16,467	<b>14,490</b>
256	U. NC, Wilmington	10,382	11,449	10,267	11,510	14,153	11,675	14,364	<b>14,218</b>
257	Creighton U.	13,745	12,683	10,505	11,716	10,722	12,196	11,850	<b>14,140</b>
258	U. Denver	14,165	13,095	11,772	11,671	12,306	14,126	13,364	<b>14,042</b>
259	Albany Medical C.	11,849	11,525	11,152	9,521	10,239	12,653	15,758	<b>13,884</b>
260	CA State U., Long Beach	9,413	9,449	8,926	12,655	13,914	10,723	12,731	<b>13,811</b>
261	U.S. Military Academy	5,920	6,290	6,660	7,248	9,420	8,641	22,146	<b>13,799</b>
<b>262</b>	<b>U. MA, Dartmouth</b>	<b>9,537</b>	<b>10,190</b>	<b>9,893</b>	<b>11,843</b>	<b>13,543</b>	<b>10,804</b>	<b>12,236</b>	<b>13,657</b>
263	Miami U.	5,132	8,014	7,874	8,964	10,872	13,500	13,591	<b>13,210</b>
264	U. West FL	6,930	15,714	10,259	12,349	10,167	10,265	11,038	<b>13,156</b>
265	Wichita State U.	18,294	20,037	20,496	22,251	23,846	18,598	13,751	<b>12,972</b>
266	DE State U.	4,342	5,436	6,870	6,797	7,354	8,875	10,154	<b>12,822</b>
267	Tuskegee U.	10,089	9,606	10,256	12,562	13,165	14,700	12,309	<b>12,397</b>
268	AL State U.	1,683	1,685	1,685	1,685	2,461	11,117	13,340	<b>12,340</b>
269	Hampton U.	31,443	42,792	28,584	23,836	20,910	12,662	14,455	<b>12,292</b>
270	U. Akron	10,487	10,809	11,517	11,277	9,362	11,030	12,107	<b>12,130</b>
271	LA Tech U.	4,804	5,467	5,826	4,309	6,646	8,431	10,806	<b>11,952</b>
272	Northern IL U.	7,707	10,373	11,794	13,123	11,639	17,225	17,334	<b>11,807</b>
273	Embry-Riddle Aeronautical U.	6,006	7,850	6,531	6,419	4,631	7,424	8,241	<b>11,444</b>
274	Marquette U.	6,246	7,082	7,611	6,896	7,134	6,876	9,381	<b>11,291</b>
275	Prairie View A&M U.	8,138	8,671	9,138	9,230	7,659	7,676	8,623	<b>11,058</b>
276	Elizabeth City State U.	1,032	888	590	1,792	2,982	3,404	5,552	<b>10,402</b>
277	FL Gulf Coast U.	4,402	7,214	8,488	7,261	6,834	6,386	9,542	<b>10,328</b>
278	TX State U., San Marcos	3,606	3,045	1,930	3,091	3,237	8,312	8,904	<b>10,319</b>
279	U.S. Naval Academy	5,341	5,987	6,739	7,806	8,928	10,450	10,750	<b>10,243</b>
280	U. MO, St. Louis	4,672	5,522	5,521	5,664	6,329	7,635	7,151	<b>10,157</b>
281	U. CA, Merced	na	2,816	3,135	3,119	4,852	8,025	9,392	<b>10,140</b>
282	Fayetteville State U.	9,569	8,379	554	7,673	7,500	9,110	10,844	<b>10,029</b>
283	CA State U., San Bernardino	5,587	8,247	5,473	4,538	5,002	6,872	3,394	<b>9,953</b>
284	C. Nanoscale S&E of the U. at Albany SUNY	NA	NA	NA	NA	NA	NA	NA	<b>9,887</b>
285	Morgan State U.	7,227	8,126	12,199	9,992	10,978	10,702	10,039	<b>9,884</b>

**Appendix C: Federally Financed R&D Expenditures at Universities and Colleges, Ranked by FY 2011 Expenditures: FY 2004-11**

(Dollars in Thousands)

Rank	Institution	2004	2005	2006	2007	2008	2009	2010	2011
286	U. AK, Anchorage	6,721	7,470	8,225	6,214	6,541	6,673	9,368	<b>9,858</b>
287	SUNY, C. of Environmental Science and Forestry	6,499	7,821	7,831	7,842	9,239	7,853	8,907	<b>9,645</b>
288	Clarkson U.	6,497	6,890	8,297	7,605	8,275	7,105	9,573	<b>9,531</b>
289	NC Central U.	4,932	5,763	6,597	4,337	6,323	5,055	6,870	<b>9,496</b>
290	Ponce School of Medicine	9,179	6,715	5,022	6,594	5,707	4,679	7,569	<b>9,318</b>
291	Rosalind Franklin U. of Medicine and Science	7,843	9,974	9,507	7,689	6,936	7,246	8,350	<b>9,317</b>
292	American U.	1,571	1,403	2,066	8,383	10,424	10,023	8,841	<b>9,208</b>
293	Oakland U.	5,702	5,747	6,478	5,476	5,428	5,564	7,130	<b>9,178</b>
294	CA Polytechnic State U., San Luis Obispo	2,957	5,849	6,761	5,678	7,770	12,284	11,637	<b>8,658</b>
295	Alcorn State U.	7,622	5,396	5,706	7,874	9,525	10,711	9,256	<b>8,655</b>
296	AR State U., Jonesboro	638	1,080	3,965	4,727	4,568	7,000	6,194	<b>8,644</b>
297	U. AR, Little Rock	7,196	2,681	1,126	2,617	4,108	5,961	7,571	<b>8,615</b>
298	U. MD, Eastern Shore	5,041	5,432	4,522	3,402	5,746	7,215	8,583	<b>8,587</b>
299	U. MN, Duluth	NA	NA	NA	NA	NA	NA	6,441	<b>8,564</b>
300	Teachers C., Columbia U.	6,709	6,648	6,985	7,662	7,622	7,357	6,533	<b>8,526</b>
	All other surveyed institutions <sup>b</sup>	3,506,324	3,608,864	3,781,694	3,824,577	3,983,391	4,206,859	768,277	<b>875,544</b>

e = estimated; data were not provided by institution; prior-year data were used or current-year estimates were reported. 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 \$1,102,048 thousand in federally financed R&D expenditures in FY 2011.

<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

NOTES: From FY 2004 through FY 2009, some institution totals for all R&D expenditures may be lower-bound estimates because National Science Foundation did not attempt to estimate for nonresponse on non-S&E R&D expenditures item. 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: R&D Expenditures at Universities and Colleges, ranked by Total R&D Expenditures, for the First 150 Institutions, by Source of Funds: FY 2011**

(Dollars in thousands)

Rank	Institution	All R&D expenditures	Federal government	State and local government	Institution funds	Business	Nonprofit organizations
	All institutions	65,073,411	40,764,823	3,819,470	12,444,705	3,162,464	3,840,381
1	Johns Hopkins U. <sup>a</sup>	2,145,308	1,884,025	7,821	78,396	59,048	103,867
2	U. MI, Ann Arbor	1,279,123	820,125	1,613	363,133	40,079	47,046
3	U. WA, Seattle	1,148,533	948,976	20,036	57,329	20,780	76,424
4	U. WI, Madison	1,111,642	593,633	102,632	220,150	27,968	125,092
5	Duke U.	1,022,207	585,262	31,519	120,291	215,366	69,263
6	U. CA, San Diego	1,009,378	636,879	41,921	98,765	67,139	111,998
7	U. CA, San Francisco	995,226	570,116	30,727	136,344	53,607	126,262
8	U. CA, Los Angeles	982,357	563,560	37,711	159,734	48,961	93,264
9	Stanford U.	907,971	656,114	39,148	71,906	58,014	80,569
10	U. Pittsburgh, Pittsburgh	899,386	662,471	8,040	196,309	11,927	20,639
11	U. PA	886,036	707,051	21,798	52,040	43,518	61,509
12	Columbia U. in the City of New York	878,900	645,233	12,481	98,734	35,999	65,412
13	U. MN, Minneapolis	847,419	489,480	60,125	189,855	31,360	61,493
14	OH State U.	832,126	493,130	100,880	94,524	103,564	26,048
15	PA State U. University Park and Hershey Medical Ctr.	794,846	468,705	56,019	161,355	64,650	40,378
16	Cornell U.	781,651	476,583	61,712	136,967	23,906	80,336
17	U. NC, Chapel Hill	767,450	561,708	6,477	122,010	26,331	50,924
18	U. FL	739,931	306,349	98,191	280,507	23,031	26,644
19	Washington U., St. Louis	725,039	469,490	19,436	103,051	41,953	49,000
20	MA Institute of Technology	723,610	489,080	216	16,840	110,006	73,453
21	U. CA, Berkeley	707,945	336,191	59,621	122,070	86,769	84,443
22	U. CA, Davis	707,896	362,976	60,252	146,170	36,712	66,175
23	TX A&M U., College Station	705,720	291,812	131,925	186,541	54,880	35,839
24	U. TX, M. D. Anderson Cancer Ctr.	663,279	236,400	198,926	70,220	59,582	98,151
25	Yale U.	656,967	519,844	5,040	61,873	11,876	46,694
26	GA Institute of Technology	655,375	427,867	10,916	157,968	42,190	12,728
27	Harvard U.	649,774	543,097	1,863	0	26,386	68,355
28	U. TX, Austin	632,171	355,437	41,088	129,114	68,479	31,031
29	Northwestern U.	618,980	399,719	5,438	143,836	14,878	55,109
30	U. AZ	610,565	327,565	31,347	183,359	17,485	26,489
31	U. Southern CA	603,294	453,283	18,649	60,390	33,825	37,147
32	Purdue U., West Lafayette	578,231	259,948	59,571	190,428	28,656	37,717
33	Vanderbilt U.	566,031	458,173	744	73,174	9,529	20,923
34	Emory U.	547,316	369,982	367	103,136	25,695	46,356
35	U. IL, Urbana-Champaign	545,669	323,454	33,648	135,134	34,639	8,094
36	U. AL, Birmingham	503,698	344,164	774	113,529	21,714	23,517
37	U. MD, College Park	495,382	338,780	11,201	129,375	6,133	2,597
38	Baylor C. of Medicine	466,061	295,529	13,406	86,632	13,486	37,328
39	MI State U.	454,248	240,837	44,915	136,895	3,566	14,193
40	U. Chicago	453,562	372,288	334	34,506	14,756	29,593
41	VA Polytechnic Institute and State U.	450,058	189,198	108,768	107,683	22,777	19,019
42	U. Cincinnati	448,936	287,182	10,678	109,777	20,846	20,453
43	U. IA	443,893	283,627	6,911	120,916	13,461	18,584
44	Rutgers, State U. NJ, New						

**Appendix D: R&D Expenditures at Universities and Colleges, ranked by Total R&D Expenditures, for the First 150 Institutions, by Source of Funds: FY 2011**

(Dollars in thousands)

Rank	Institution	All R&D expenditures	Federal government	State and local government	Institution funds	Business	Nonprofit organizations
45	Brunswick U. TX, Southwestern Medical Ctr., Dallas	432,306 431,883	239,908 231,639	59,210 56,674	85,581 49,148	15,193 16,513	19,965 45,000
46	NY U.	430,752	302,221	4,058	66,569	8,611	26,764
47	Case Western Reserve U.	429,206	353,470	8,983	44,832	5,121	16,477
48	U. Rochester	429,034	337,907	6,984	48,257	19,147	11,220
49	U. CO Denver and Health Sciences Ctr.	417,587	307,395	21,253	22,363	30,472	31,281
50	U. UT	414,316	264,234	1,055	119,007	12,894	15,828
51	U. MD, Baltimore	409,665	229,706	26,049	99,261	15,978	38,399
52	Scripps Research Institute, The	400,768	317,201	8,040	39,323	22,918	13,286
53	U. South FL, Tampa	394,963	243,030	29,842	87,854	19,763	12,284
54	U. CO, Boulder	390,677	323,078	2,037	37,104	12,175	16,283
55	WA State U.	388,974	123,502	67,986	170,114	13,019	12,017
56	U. IL, Chicago	380,828	248,936	6,888	94,472	6,399	24,133
57	NC State U.	378,154	155,293	95,505	82,621	40,750	3,823
58	CA Institute of Technology	377,514	342,945	1,780	4,927	8,202	16,807
59	U. KY	372,932	179,161	48,363	120,883	13,993	10,532
60	Mt. Sinai School of Medicine	363,091	295,291	8,042	4,113	15,164	39,754
61	Boston U.	355,916	305,476	724	22,157	9,197	18,126
62	AZ State U.	355,215	185,766	22,590	103,637	9,891	31,085
63	SUNY, U. Buffalo	353,172	182,585	18,422	99,514	16,300	19,918
64	U. CA, Irvine	344,678	209,117	18,324	48,449	21,857	33,959
65	Brown U.	344,090	128,628	2,203	179,210	4,613	28,717
66	OR Health and Science U.	334,324	268,777	233	29,393	13,997	21,577
67	CO State U., Ft. Collins	330,784	236,566	19,601	48,240	8,094	11,827
68	U. Miami	323,486	225,352	8,521	44,119	23,110	22,384
69	IN U.-Purdue U., Indianapolis	322,617	156,607	1,908	100,219	19,361	44,425
70	U. HI, Manoa	318,316	201,700	19,477	57,262	23,272	8,686
71	U. KS	302,668	169,382	5,897	95,355	9,488	20,265
72	U. VA main campus	292,106	232,525	1,187	27,250	13,848	14,589
73	LA State U., Baton Rouge	287,841	97,517	72,484	93,953	15,682	7,048
74	Yeshiva U.	283,673	192,241	3,302	67,125	6,966	14,039
75	Rockefeller U.	272,491	97,710	1,676	153,200	4,214	15,691
76	IA State U.	267,641	117,522	40,899	80,125	20,650	7,082
77	Princeton U.	263,335	163,438	1,188	70,395	12,230	12,088
<b>78</b>	<b>U. MA, Medical School</b>	<b>262,714</b>	<b>208,244</b>	<b>1,290</b>	<b>25,686</b>	<b>11,747</b>	<b>15,747</b>
79	U. TX, Health Science Ctr., Houston	261,172	156,790	55,025	10,503	10,048	28,806
80	Wayne State U.	259,895	134,735	2,820	98,825	6,067	8,801
81	U. CT	253,792	144,280	8,572	79,011	7,360	14,322
82	C. Nanoscale S&E of the U. at Albany SUNY	248,778	9,887	107,916	38,840	80,797	10,323
83	U. GA	245,166	137,328	30,136	50,047	4,627	19,251
84	Carnegie Mellon U.	242,882	200,967	1,986	14,235	17,698	4,135
85	U. NE, Lincoln	235,296	105,724	5,576	110,735	9,284	2,839
86	U. of Medicine and Dentistry of NJ	234,354	124,585	9,830	60,752	14,018	22,256



**Appendix D: R&D Expenditures at Universities and Colleges, ranked by Total R&D Expenditures, for the First 150 Institutions, by Source of Funds: FY 2011**

		(Dollars in thousands)					
Rank	Institution	All R&D expenditures	Federal government	State and local government	Institution funds	Business	Nonprofit organizations
87	U. MO, Columbia	230,957	116,403	3,180	97,083	6,532	6,420
88	U. CA, Santa Barbara	230,435	136,244	6,072	37,723	16,085	28,506
89	FL State U.	230,411	140,850	11,443	71,211	1,518	5,389
90	OR State U.	228,814	146,882	39,181	23,480	5,554	1,866
91	MS State U.	226,070	98,998	71,309	43,120	12,146	457
92	U. NM	220,565	162,854	1,396	48,509	2,449	3,672
93	Medical C. WI	215,358	133,929	118	51,815	8,703	20,793
94	Medical U. SC	213,346	143,464	2,665	42,945	12,025	6,207
95	SUNY, Stony Brook U.	211,356	125,102	3,920	66,946	4,740	4,805
96	Dartmouth C.	210,631	131,583	7,163	42,452	12,565	11,607
97	Wake Forest U.	209,134	173,130	9,882	7,776	12,268	5,915
98	VA Commonwealth U.	207,756	153,228	9,590	30,177	7,848	6,913
99	U. SC, Columbia	201,592	103,296	975	80,019	6,438	10,864
100	Woods Hole Oceanographic Institution	198,775	165,819	468	10,523	2,780	NA
101	U. TX, Health Science Ctr., San Antonio	198,655	121,200	7,242	38,871	12,707	18,635
102	George Washington U.	197,621	116,611	4,213	42,411	3,220	31,136
103	U. Louisville	197,438	96,010	10,736	65,347	6,405	7,073
104	U. TX, Medical Branch	193,555	128,098	6,154	41,545	2,815	14,943
105	U. OK	189,506	95,505	16,545	50,168	11,575	6,378
106	IN U., Bloomington	184,096	74,143	2,630	75,470	5,584	26,269
<b>107</b>	<b>U. MA, Amherst</b>	<b>181,297</b>	<b>107,683</b>	<b>3,166</b>	<b>57,156</b>	<b>6,048</b>	<b>6,476</b>
108	Uniformed Services U. of the Health Sciences	175,365	117,781	0	52,495	0	0
109	U. AK, Fairbanks	175,246	105,522	8,742	51,271	5,032	2,656
110	UT State U.	174,167	113,871	28,448	22,864	4,226	141
111	Tulane U.	171,703	111,007	5,101	32,222	3,450	5,686
112	Georgetown U.	169,916	123,540	1,179	21,736	5,370	18,052
113	U. DE	169,746	118,673	6,539	35,383	5,821	1,774
114	KS State U.	169,167	76,953	38,822	39,285	3,490	1,943
115	U. TN, Knoxville	167,456	111,942	15,475	32,176	5,838	2,025
116	WV U.	166,420	88,419	10,955	61,358	4,004	1,606
117	Clemson U.	166,350	52,919	4,358	91,698	11,366	2,237
118	Auburn U., Auburn	163,335	59,559	31,402	64,095	4,019	750
119	OK State U., Stillwater	162,786	81,855	30,192	45,302	4,860	577
120	Tufts U.	156,395	122,208	550	12,248	9,889	9,810
121	U. CA, Santa Cruz	155,617	97,817	4,368	29,611	4,867	15,105
122	TX Tech U.	149,399	35,191	19,559	73,712	10,914	10,023
123	SUNY, U. Albany	148,625	125,189	3,879	9,829	544	1,725
124	U. NH	143,002	106,806	1,997	20,578	7,356	3,050
125	NM State U.	139,062	90,598	18,508	17,644	4,916	507
126	U. Notre Dame	134,410	79,716	529	39,090	2,685	12,390
127	ND State U.	134,064	53,451	43,721	31,206	577	1,070
128	U. NE, Medical Ctr.	133,036	86,295	2,179	34,519	5,280	4,763
129	U. VT	132,356	101,471	172	24,354	1,860	4,499
130	U. CA, Riverside	132,238	62,312	8,918	37,378	7,090	8,565
131	U. MS and U. MS Medical Ctr.	132,164	84,317	364	34,991	3,398	3,195

**Appendix D: R&D Expenditures at Universities and Colleges, ranked by Total R&D Expenditures, for the First 150 Institutions, by Source of Funds: FY 2011**

(Dollars in thousands)

Rank	Institution	All R&D expenditures	Federal government	State and local government	Institution funds	Business	Nonprofit organizations
132	Temple U.	126,478	89,074	3,577	21,336	4,703	7,661
133	MT State U., Bozeman	125,966	87,528	2,700	28,283	NA	NA
134	U. AR for Medical Sciences	122,066	75,924	2,624	31,058	2,342	0
135	U. AR, Fayetteville	120,007	37,587	47,622	24,206	7,987	1,862
136	Drexel U.	115,020	83,702	3,834	17,887	2,592	6,989
137	U. Houston	113,709	59,580	26,747	13,650	6,957	6,775
138	U. ME	111,600	59,800	18,325	28,949	4,460	66
139	Rice U.	110,235	78,730	2,653	14,006	5,241	9,605
140	FL International U.	110,006	65,446	8,526	26,035	5,310	4,605
141	U. Central FL	109,190	69,098	11,860	17,594	6,768	2,545
142	San Diego State U.	106,591	64,056	6,943	30,330	264	4,858
143	Thomas Jefferson U.	104,923	80,027	5,375	4,524	8,146	6,695
144	U. OR	103,019	84,997	701	10,323	1,959	5,039
145	U. RI	102,630	78,303	5,823	14,858	2,484	1,162
146	Old Dominion U.	102,192	39,534	4,007	54,495	2,270	1,576
147	Naval Postgraduate School	101,363	94,278	227	5,612	847	0
148	NJ Institute of Technology	100,491	54,250	5,118	32,260	7,734	594
149	U. ID	96,229	54,243	22,748	15,672	2,144	1,105
150	Cold Spring Harbor Lab.	95,984 i	55,450 i	481 i	9,417 i	3,685 i	26,951 i i

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

<sup>a</sup> Johns Hopkins University includes Applied Physics Laboratory, with \$1,160,966 thousand in total R&D expenditures in FY 2011.

NOTES: Source-specific rankings available on request. 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 2011.

**Appendix E. Non-Medical School R&D Expenditures at all institutions, Ranked by all Non-Medical School R&D Expenditures, by Source of Funds: FY 2011**

(Dollars in Thousands)

Rank	Institution	All non-medical school R&D expenditures	All medical school R&D expenditures	All R&D expenditures
	All institutions	41,958,297	23,115,114	65,073,411
1	Johns Hopkins U. <sup>a</sup>	1,498,845	646,463	2,145,308
2	U. WI, Madison	766,796	344,846	1,111,642
3	U. MI, Ann Arbor	734,294	544,829	1,279,123
4	MA Institute of Technology	723,610	0	723,610
5	U. CA, Berkeley	707,945	0	707,945
6	TX A&M U., College Station	705,720	0	705,720
7	PA State U. University Park and Hershey Medical Ctr.	698,031	96,815	794,846
8	U. TX, M. D. Anderson Cancer Ctr.	663,279	0	663,279
9	GA Institute of Technology	655,375	0	655,375
10	U. TX, Austin	632,171	0	632,171
11	U. MN, Minneapolis	586,191	261,228	847,419
12	Purdue U., West Lafayette	578,231	0	578,231
13	U. CA, Davis	546,878	161,018	707,896
14	U. IL, Urbana-Champaign	545,669	0	545,669
15	U. WA, Seattle	545,391	603,142	1,148,533
16	U. CA, Los Angeles	542,640	439,717	982,357
17	U. CA, San Diego	542,407	466,971	1,009,378
18	Cornell U.	511,194	270,457	781,651
19	U. MD, College Park	495,382	0	495,382
20	OH State U.	492,914	339,212	832,126
21	U. FL	491,914	248,017	739,931
22	U. AZ	450,429	160,136	610,565
23	VA Polytechnic Institute and State U.	450,058	0	450,058
24	Columbia U. in the City of New York	432,674	446,226	878,900
25	Rutgers, State U. NJ, New Brunswick	432,306	0	432,306
26	MI State U.	411,298	42,950	454,248
27	Harvard U.	401,905	247,869	649,774
28	Scripps Research Institute, The	400,768	0	400,768
29	U. CO, Boulder	390,677	0	390,677
30	WA State U.	388,974	0	388,974
31	NC State U.	378,154	0	378,154
32	CA Institute of Technology	377,514	0	377,514
33	Stanford U.	372,236	535,735	907,971
34	AZ State U.	355,215	0	355,215
35	U. NC, Chapel Hill	340,490	426,960	767,450
36	CO State U., Ft. Collins	330,784	0	330,784
37	LA State U., Baton Rouge	287,841	0	287,841
38	U. Southern CA	274,886	328,408	603,294
39	Rockefeller U.	272,491	0	272,491
40	U. HI, Manoa	271,495	46,821	318,316
41	IA State U.	267,641	0	267,641
42	Princeton U.	263,335	0	263,335
43	U. Pittsburgh, Pittsburgh	261,622	637,764	899,386
44	U. PA	256,755	629,281	886,036
45	C. Nanoscale S&E of the U. at Albany SUNY	248,778	0	248,778
46	U. GA	245,166	0	245,166
47	Carnegie Mellon U.	242,882	0	242,882

**Appendix E. Non-Medical School R&D Expenditures at all institutions, Ranked by all Non-Medical School R&D Expenditures, by Source of Funds: FY 2011**

(Dollars in Thousands)

Rank	Institution	All non-medical school R&D expenditures	All medical school R&D expenditures	All R&D expenditures
48	Brown U.	242,617	101,473	344,090
49	U. Chicago	236,415	217,147	453,562
50	U. NE, Lincoln	235,296	0	235,296
51	U. CA, Santa Barbara	230,435	0	230,435
52	OR State U.	228,814	0	228,814
53	MS State U.	226,070	0	226,070
54	U. KY	223,578	149,354	372,932
55	U. CA, Irvine	220,357	124,321	344,678
56	FL State U.	219,845	10,566	230,411
57	Northwestern U.	212,669	406,311	618,980
58	U. CA, San Francisco	210,046	785,180	995,226
59	U. IA	203,494	240,399	443,893
60	U. IL, Chicago	199,409	181,419	380,828
61	Woods Hole Oceanographic Institution	198,775	0	198,775
62	U. MO, Columbia	196,093	34,864	230,957
63	SUNY, U. Buffalo	195,754	157,418	353,172
64	Duke U.	190,767	831,440	1,022,207
65	U. SC, Columbia	189,373	12,219	201,592
66	IN U., Bloomington	183,970	126	184,096
<b>67</b>	<b>U. MA, Amherst</b>	<b>181,297</b>	<b>0</b>	<b>181,297</b>
68	Emory U.	178,099	369,217	547,316
69	U. AK, Fairbanks	175,246	0	175,246
70	UT State U.	174,167	0	174,167
71	U. DE	169,746	0	169,746
72	KS State U.	169,167	0	169,167
73	Yale U.	168,241	488,726	656,967
74	U. TN, Knoxville	167,456	0	167,456
75	Clemson U.	166,350	0	166,350
76	U. South FL, Tampa	165,063	229,900	394,963
77	U. CT	163,544	90,248	253,792
78	Auburn U., Auburn	163,335	0	163,335
79	OK State U., Stillwater	162,786	0	162,786
80	U. CA, Santa Cruz	155,617	0	155,617
81	Boston U.	155,135	200,781	355,916
82	OR Health and Science U.	151,162	183,162	334,324
83	U. KS	151,039	151,629	302,668
84	TX Tech U.	149,399	0	149,399
85	SUNY, U. Albany	148,625	0	148,625
86	U. NH	143,002	0	143,002
87	U. Rochester	139,395	289,639	429,034
88	NM State U.	139,062	0	139,062
89	U. OK	139,051	50,455	189,506
90	Vanderbilt U.	136,149	429,882	566,031
91	U. UT	135,065	279,251	414,316
92	U. AL, Birmingham	134,582	369,116	503,698
93	U. Notre Dame	134,410	0	134,410
94	ND State U.	134,064	0	134,064
95	U. CA, Riverside	132,238	0	132,238

**Appendix E. Non-Medical School R&D Expenditures at all institutions, Ranked by all Non-Medical School R&D Expenditures, by Source of Funds: FY 2011**

(Dollars in Thousands)

Rank	Institution	All non-medical school R&D expenditures	All medical school R&D expenditures	All R&D expenditures
96	U. NM	130,123	90,442	220,565
97	MT State U., Bozeman	125,966	0	125,966
98	WV U.	124,592	41,828	166,420
99	NY U.	122,789	307,963	430,752
100	U. TX, Medical Branch	122,567	70,988	193,555
101	Tulane U.	120,305	51,398	171,703
102	U. AR, Fayetteville	120,007	0	120,007
103	SUNY, Stony Brook U.	119,827	91,529	211,356
104	U. Houston	113,709	0	113,709
105	U. ME	111,600	0	111,600
106	Rice U.	110,235	0	110,235
107	FL International U.	107,604	2,402	110,006
108	U. Central FL	107,005	2,185	109,190
109	San Diego State U.	106,591	0	106,591
110	U. TX, Health Science Ctr., Houston	104,674	156,498	261,172
111	U. OR	103,019	0	103,019
112	U. RI	102,630	0	102,630
113	Old Dominion U.	102,192	0	102,192
114	Naval Postgraduate School	101,363	0	101,363
115	U. Cincinnati	100,621	348,315	448,936
116	NJ Institute of Technology	100,491	0	100,491
117	U. VA main campus	99,678	192,428	292,106
118	U. MS and U. MS Medical Ctr.	97,402	34,762	132,164
119	VA Commonwealth U.	96,990	110,766	207,756
120	U. ID	96,229	0	96,229
121	Cold Spring Harbor Lab.	95,984 i	0 i	95,984 i
122	Tufts U.	94,952	61,443	156,395
123	Washington U., St. Louis	93,932	631,107	725,039
124	U. TX, Dallas	93,230	0	93,230
125	U. CO Denver and Health Sciences Ctr.	92,995	324,592	417,587
126	GA State U.	92,725	0	92,725
127	U. MD, Baltimore County	91,657	0	91,657
128	U. Dayton	90,557	0	90,557
129	George Mason U.	88,089	0	88,089
130	Wayne State U.	87,512	172,383	259,895
131	U. Louisville	87,328	110,110	197,438
132	Dartmouth C.	87,027	123,604	210,631
133	Northeastern U.	86,783	0	86,783
134	Case Western Reserve U.	85,543	343,663	429,206
135	U. Miami	85,382	238,104	323,486
136	Rensselaer Polytechnic Institute	84,834	0	84,834
137	Syracuse U.	83,686	0	83,686
138	George Washington U.	81,904	115,717	197,621
139	U. AL, Huntsville	75,724	0	75,724
140	Brandeis U.	74,889	0	74,889
141	U. TX, El Paso	74,069	0	74,069
142	U. MD, Baltimore	73,848	335,817	409,665
143	U. NV, Reno	73,625	16,115	89,740
144	U.S. Air Force Academy	73,607	0	73,607

**Appendix E. Non-Medical School R&D Expenditures at all institutions, Ranked by all Non-Medical School R&D Expenditures, by Source of Funds: FY 2011**

(Dollars in Thousands)

Rank	Institution	All non-medical school R&D expenditures	All medical school R&D expenditures	All R&D expenditures
145	SUNY, U. Binghamton	72,539	0	72,539
146	U. TX, Arlington	72,483	0	72,483
147	MI Technological U.	70,089	0	70,089
148	U. LA, Lafayette	69,978	0	69,978
149	SD State U.	69,680	0	69,680
150	Drexel U.	67,330	47,690	115,020
151	U. WI, Milwaukee	65,648	0	65,648
152	U. Akron	65,536	0	65,536
153	U. CA, Office of the President	63,420	0	63,420
154	Temple U.	62,936	63,542	126,478
155	U. TN, Institute of Agriculture	62,786	0	62,786
156	U. ND	62,216	12,666	74,882
157	CUNY, City U.	60,648	0	60,648
158	U. MT	60,159	0	60,159
<b>159</b>	<b>U. MA, Lowell</b>	<b>60,013</b>	<b>0</b>	<b>60,013</b>
160	Portland State U.	58,975	0	58,975
161	C. of William and Mary and VA Institute of Marine Science	58,919	0	58,919
162	U. TX, San Antonio	58,667	0	58,667
163	U. WY	57,549	0	57,549
<b>164</b>	<b>U. MA, Boston</b>	<b>57,040</b>	<b>0</b>	<b>57,040</b>
165	Cleveland State U.	55,502	0	55,502
166	FL Atlantic U.	55,138	6,886	62,024
167	U. AL, Tuscaloosa	53,633	0	53,633
168	FL A&M U.	53,326	0	53,326
169	OH U.	53,251	4,392	57,643
170	IN U.-Purdue U., Indianapolis	52,955	269,662	322,617
171	Boston C.	52,253	0	52,253
172	U. TX, Southwestern Medical Ctr., Dallas	51,593	380,290	431,883
173	TX A&M Health Science Ctr.	50,242	24,715	74,957
174	Wichita State U.	50,194	0	50,194
175	U. MD, Ctr. for Environmental Science	50,007	0	50,007
176	Jackson State U.	49,998	0	49,998
177	U. NE, Medical Ctr.	48,923	84,113	133,036
178	CO School of Mines	48,704	0	48,704
179	U. Memphis	48,321	0	48,321
180	American U.	46,611	0	46,611
181	U. Southern MS	46,591	0	46,591
182	U. VT	45,878	86,478	132,356
183	U. Toledo	45,628	28,521	74,149
184	IL Institute of Technology	44,463	0	44,463
185	NM Institute of Mining and Technology	43,857	0	43,857
186	U. HI, Hilo	42,983	0	42,983
187	Wright State U.	42,542	5,959	48,501
188	U. North TX, Denton	42,475	0	42,475
189	Southern IL U., Carbondale	41,836	29,294	71,130
190	Stevens Institute of Technology	41,622	0	41,622
191	MO U. of Science and Technology	41,581	0	41,581
192	San Jose State U.	40,149	0	40,149

**Appendix E. Non-Medical School R&D Expenditures at all institutions, Ranked by all Non-Medical School R&D Expenditures, by Source of Funds: FY 2011**

(Dollars in Thousands)

Rank	Institution	All non-medical school R&D expenditures	All medical school R&D expenditures	All R&D expenditures
193	U. North TX, Health Science Ctr.	39,875	6,068	45,943
194	CUNY, Hunter C.	39,772	0	39,772
195	U. NV, Las Vegas	39,526	0	39,526
196	U. PR, Medical Sciences Campus	37,792	26,225	64,017
197	Brigham Young U., Provo	37,142	0	37,142
198	Rutgers, State U. NJ, Newark	35,774	0	35,774
199	U. New Orleans	35,359	0	35,359
200	Desert Research Institute	35,331	0	35,331
201	NC Agricultural and Technical State U.	34,930	0	34,930
202	Rochester Institute of Technology	34,889	0	34,889
203	U. PR, Mayaguez	34,424	0	34,424
204	Southern IL U., Edwardsville	33,736	0	33,736
205	Medical U. SC	33,696	179,650	213,346
206	TX State U., San Marcos	33,487	0	33,487
207	U. PR, Rio Piedras	32,582	0	32,582
208	Lehigh U.	32,086	0	32,086
209	SD School of Mines and Technology	32,070	0	32,070
210	AL A&M U.	32,063 i	0 i	32,063 i
211	U. TX, Health Science Ctr., San Antonio	32,046	166,609	198,655
212	Air Force Institute of Technology	31,879	0	31,879
213	Northern AZ U.	30,785	0	30,785
214	Georgetown U.	29,680	140,236	169,916
215	SUNY, C. of Environmental Science and Forestry	28,289 i	0 i	28,289 i
216	CA State U., Fullerton	28,186	0	28,186
217	LA Tech U.	27,583	0	27,583
218	U. NC, Charlotte	27,533	0	27,533
219	Kent State U.	27,455	0	27,455
220	San Francisco State U.	26,198	0	26,198
221	U. NC, Greensboro	26,121	0	26,121
222	Miami U.	26,093	0	26,093
223	CA State U., Northridge	25,654	0	25,654
<b>224</b>	<b>U. MA, Dartmouth</b>	<b>25,644</b>	<b>0</b>	<b>25,644</b>
225	U. South AL	25,423	16,810	42,233

i = imputed.

<sup>a</sup> Johns Hopkins University includes Applied Physics Laboratory, with \$1,160,966 thousand in total R&D expenditures in FY 2011.

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 2011.

**Appendix F: Total and Federally Financed R&D Expenditures in the Computer Sciences at Universities and Colleges, Ranked by FY 2011 Total for the First 100 Institutions**

(Dollars in Thousands)

Rank	Institution	Total	Federally Financed
	All institutions	1,734,897	1,288,912
1	U. Southern CA	100,668	96,637
2	Carnegie Mellon U.	95,836	84,913
3	Johns Hopkins U. <sup>a</sup>	95,389	87,812
4	GA Institute of Technology	77,966	57,370
5	U. IL, Urbana-Champaign	69,426	46,060
6	U. TX, Austin	62,366	52,665
7	U. Chicago	51,948	49,498
8	MA Institute of Technology	50,127	35,120
9	PA State U. University Park and Hershey Medical Ctr.	41,648	32,822
10	U. MD, College Park	39,215	25,572
11	U. CA, San Diego	35,918	16,797
12	OR Health and Science U.	33,863	29,478
13	OH State U.	33,426	9,445
14	U. TN, Knoxville	25,965	22,894
15	U. UT	24,172	15,577
16	U. HI, Manoa	22,488	19,879
17	U. WI, Madison	21,985	15,653
18	Stanford U.	20,753	17,305
19	IN U., Bloomington	19,691	6,869
20	U. AL, Huntsville	19,087	18,984
<b>21</b>	<b>U. MA, Amherst</b>	<b>18,066</b>	<b>12,140</b>
22	Cornell U.	17,897	14,708
23	Columbia U. in the City of New York	17,659	14,428
24	Purdue U., West Lafayette	16,449	11,156
25	U. NC, Chapel Hill	15,822	11,825
26	U. CA, Los Angeles	15,624	10,568
27	SUNY, U. Buffalo	15,582	9,458
28	U. PA	14,891	12,784
29	CA Institute of Technology	14,834	13,008
30	U. MN, Minneapolis	14,454	9,413
31	Naval Postgraduate School	14,016	13,836
32	U. CA, Irvine	13,725	8,614
33	VA Polytechnic Institute and State U.	12,776	5,532
34	U. AK, Fairbanks	12,242	11,731
35	Brown U.	11,552	4,956
36	Rice U.	11,537	10,295
37	MS State U.	11,252	6,846
38	Princeton U.	10,632	7,817
39	AZ State U.	10,324	7,019
40	U. AZ	10,267	8,252
41	U. LA, Lafayette	9,601	1,343
42	TX A&M U., College Station	9,517	4,432
43	NC State U.	9,495	7,822
44	U. IL, Chicago	9,495	6,919
45	U. CA, Santa Barbara	9,409	6,065
46	U. CA, Davis	9,401	6,655



**Appendix F: Total and Federally Financed R&D Expenditures in the Computer Sciences at Universities and Colleges, Ranked by FY 2011 Total for the First 100 Institutions**

(Dollars in Thousands)

Rank	Institution	Total	Federally Financed
47	U. CO, Boulder	8,757	8,475
48	George Mason U.	8,743	8,125
49	U. Houston	8,735	5,815
50	U. TX, San Antonio	7,818	5,602
51	Syracuse U.	7,571	1,990
52	U. TX, El Paso	7,492	5,465
53	U. DE	7,461	5,981
54	IA State U.	7,453	3,900
55	FL State U.	7,309	5,551
56	Rutgers, State U. NJ, New Brunswick	7,233	4,224
57	U. Pittsburgh, Pittsburgh	7,232	4,533
58	U. NE, Lincoln	7,110	4,825
59	MI State U.	6,976	4,087
60	FL International U.	6,611	4,282
61	U. TX, Dallas	6,597	4,143
62	NY U.	6,588	5,725
63	U. MI, Ann Arbor	6,572	4,386
64	SUNY, Stony Brook U.	6,537	5,563
65	U. FL	6,395	4,932
66	Yale U.	6,290	4,103
67	Rensselaer Polytechnic Institute	6,263	5,038
68	U. VA main campus	6,248	5,058
69	U. OR	6,186	5,752
70	Rockefeller U.	6,060	0
71	NJ Institute of Technology	5,928	1,044
72	U. AL, Tuscaloosa	5,918	3,514
73	U. MD, Baltimore County	5,790	4,728
74	U. Notre Dame	5,647	4,080
75	Duke U.	5,530	4,688
76	U. CA, Santa Cruz	5,236	2,891
77	U. NC, Charlotte	5,231	3,620
78	Washington U., St. Louis	5,069	3,095
79	U. WA, Seattle	4,980	1,723
80	Wright State U.	4,549	1,749
81	George Washington U.	4,516	3,236
82	Northeastern U.	4,170	3,658
83	U. Tulsa	4,144	3,792
84	LA Tech U.	4,061	2,245
85	U. TX, Arlington	3,996	2,017
86	U. KY	3,958	2,396
87	Old Dominion U.	3,809	1,166
88	Clemson U.	3,773	1,708
89	SUNY, U. Binghamton	3,632	1,236
90	U. CT	3,614	2,812
91	U. CA, Riverside	3,570	2,720
92	U. Memphis	3,540	1,401
93	SUNY, U. Albany	3,539	2,094
94	Boston U.	3,318	3,022
95	CO State U., Ft. Collins	3,293	2,738

Appendix F

**Appendix F: Total and Federally Financed R&D Expenditures in the Computer Sciences at Universities and Colleges, Ranked by FY 2011 Total for the First 100 Institutions**

(Dollars in Thousands)

Rank	Institution	Total	Federally Financed
96	LA State U., Baton Rouge	3,265	1,518
97	TX Tech U.	3,162	320
98	U. NM	3,159	2,802
99	Temple U.	2,970	2,426
100	ND State U.	2,842	2,392

i = imputed.

<sup>a</sup> Johns Hopkins University includes Applied Physics Laboratory, with \$88,106 thousand in total and \$85,842 thousand in federally financed R&D expenditures in computer sciences in FY 2011.

NOTES: Institutions reporting zero expenditures in ranked total for FY 2011 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, FY 2011.

**Appendix G. Total and Federally Financed R&D Expenditures in Engineering at Universities and Colleges, Ranked by FY 2011 Total for the First**

(Dollars in Thousands)

Rank	Institution	All engineering R&D expenditures	Aeronautical/ astronautical engineering	Bioengineering/ biomedical engineering	Chemical engineering	Civil engineering	Electrical engineering	Mechanical engineering	Metallurgical/ materials engineering	Engineering, nec
	All institutions	10,045,491	671,715	814,659	926,658	1,211,376	2,208,999	1,555,656	738,134	1,918,294
1	Johns Hopkins U. <sup>a</sup>	854,997	105,406	22,879	18,955	12,703	245,330	171,794	1,246	276,684
2	GA Institute of Technology	451,494	55,762	31,617	28,053	26,071	167,938	74,832	27,795	39,426
3	MA Institute of Technology	305,042	22,326	35,315	32,138	15,551	49,054	49,716	26,930	74,012
4	PA State U. University Park and Hershey Medical Ctr.	276,101	16,837	2,783	16,613	18,509	80,731	66,372	74,256	0
5	TX A&M U., College Station	263,765	20,060	20,110	27,683	67,352	21,021	39,154	4,386	63,999
6	C. Nanoscale S&E of the U. at Albany SUNY	246,554	11,155	18,103	26,401	47,227	46,266	33,719	18,022	45,661
7	Purdue U., West Lafayette	216,949	10,991	13,245	14,322	40,563	42,370	42,996	5,828	46,634
8	U. MI, Ann Arbor	205,299	11,601	13,192	10,055	15,446	51,217	36,878	10,157	56,753
9	U. TX, Austin	204,701	10,626	9,849	36,931	33,085	39,402	16,088	22,926	35,794
10	VA Polytechnic Institute and State U.	194,811	8,892	11,589	5,511	53,684	38,452	39,298	12,717	24,668
11	OH State U.	166,439	182	1,327	25,225	13,236	31,939	57,650	24,380	12,500
12	U. CA, Berkeley	164,287	0	415	7,562	38,013	88,793	475	74	28,955
13	U. IL, Urbana-Champaign	147,255	9,586	3,638	9,464	25,027	43,016	26,617	16,364	13,543
14	Stanford U.	121,699	11,090	18,983	12,823	9,402	31,730	27,512	4,160	5,999
15	U. MD, College Park	116,928	18,639	3,450	1,975	14,035	17,544	27,044	11,106	23,135
16	U. WI, Madison	116,207	0	7,061	12,990	13,366	11,618	6,671	6,104	58,397
17	NC State U.	113,678	5,149	9,748	22,043	10,070	17,908	6,690	17,580	24,490
18	U. CA, San Diego	109,397	0	20,748	0	0	67,742	12,122	0	8,785
19	U. WA, Seattle	107,059	9,624	22,818	7,984	14,644	31,429	8,793	6,610	5,157
20	U. MN, Minneapolis	97,401	8,513	17,050	12,642	20,363	15,318	17,962	0	5,553
21	U. CO, Boulder	95,980	41,196	584	18,775	13,140	11,428	10,380	0	477
22	Carnegie Mellon U.	93,453	964	9,549	7,922	5,617	20,932	5,507	6,102	36,860
23	Cornell U.	93,350	0	9,112	6,121	5,116	14,538	11,816	9,995	36,652
24	AZ State U.	93,124	355	21,923	2,523	10,795	40,216	0	7,894	9,418
25	U. FL	92,794	9,751	11,953	4,420	20,607	16,149	5,976	11,377	12,561
26	U. CA, Santa Barbara	89,709	0	14,902	8,203	1,330	30,887	7,897	26,468	22
27	UT State U.	89,698	61,238	1,838	0	16,073	6,032	3,676	1	840
28	U. CA, Davis	86,855	0	22,307	13,191	26,880	6,493	9,198	0	8,786
29	U. Rochester	86,748	0	2,949	971	0	5,303	69,865	0	7,660
30	U. Dayton	85,822	5,639	332	7,613	1,165	15,352	6,354	45,009	4,358
31	Northwestern U.	81,524	0	10,712	12,298	4,286	5,444	8,734	18,296	21,754
32	Princeton U.	80,360	10,564	0	11,002	9,115	17,132	0	31,608	939
33	U. UT	71,940	0	8,646	10,198	17,338	10,231	3,028	6,643	15,856
34	U. SC, Columbia	71,684	0	0	16,450	13,199	16,249	22,824	0	2,962
35	NM State U.	70,707	7,293	0	3,740	1,614	10,072	1,260	1,004	45,724
36	U. CA, Los Angeles	67,967	0	3,889	5,706	4,635	23,765	14,095	6,781	9,096
37	IA State U.	64,571	3,258	0	8,730	15,334	7,707	3,282	4,880	21,380
38	Clemson U.	61,229	0	11,384	2,266	10,571	5,322	7,682	14,641	9,363
39	U.S. Air Force Academy	61,081	7,194	0	0	289	1,666	48,406	0	3,526
40	U. TN, Knoxville	60,202	10,354	1,847	4,180	12,494	8,661	0	11,493	11,173
41	Rutgers, State U. NJ, New Brunswick	59,489	2,270	9,511	8,242	20,879	5,637	4,063	3,497	5,390
42	U. CA, Santa Cruz	59,256	0	0	0	0	5,463	0	0	53,793
43	OK State U., Stillwater	58,528	718	0	31,108	3,245	2,017	4,013	0	17,427

**Appendix G. Total and Federally Financed R&D Expenditures in Engineering at Universities and Colleges, Ranked by FY 2011 Total for the First**

(Dollars in Thousands)

Rank	Institution	All engineering R&D expenditures	Aeronautical/ astronautical engineering	Bioengineering/ biomedical engineering	Chemical engineering	Civil engineering	Electrical engineering	Mechanical engineering	Metallurgical/ materials engineering	Engineering, nec
44	U. AZ	58,310	1,792	3,992	6,067	2,256	19,230	13,860	5,751	5,362
45	MS State U.	56,487	3,674	496	5,013	5,910	21,919	13,047	310	6,118
46	WA State U.	56,226	0	612	4,222	8,432	7,916	3,322	4,813	26,909
47	U. Southern CA	56,120	1,887	13,834	7,947	3,251	19,193	2,692	1,960	5,356
48	Duke U.	56,074	0	18,424	0	3,026	20,645	5,162	2,343	6,474
49	SUNY, U. Buffalo	55,758	337	6,927	6,133	14,502	4,469	6,256	374	16,760
50	Columbia U. in the City of New York	54,985	2,805	13,827	6,621	5,346	16,927	4,346	248	4,865
51	U. DE	54,544	0	2,906	15,557	10,011	8,978	5,029	10,274	1,789
52	Auburn U., Auburn	53,721	1,579	0	10,823	8,968	7,775	6,575	1,672	16,329
53	Rensselaer Polytechnic Institute	53,140	0	1,243	6,663	8,669	16,545	12,923	6,174	923
54	U. KY	51,977	655	1,755	4,236	9,649	3,814	2,938	3,827	25,103
55	Woods Hole Oceanographic Institution	49,284	0	0	0	0	0	0	0	49,284
56	CA Institute of Technology	48,783	6,647	2,231	6,323	2,135	6,745	4,665	0	20,037
57	U. Notre Dame	48,584	9,460	0	8,927	6,096	19,562	0	3,240	1,299
58	Vanderbilt U.	48,458	0	5,540	4,485	9,834	23,016	5,503	0	80
59	NJ Institute of Technology	47,561	0	4,186	5,908	7,885	3,544	2,051	0	23,987
<b>60</b>	<b>U. MA, Amherst</b>	<b>46,669</b>	<b>0</b>	<b>0</b>	<b>15,724</b>	<b>8,169</b>	<b>16,123</b>	<b>6,186</b>	<b>0</b>	<b>467</b>
61	U. VA main campus	46,240	0	8,763	2,993	1,872	6,128	13,154	8,916	4,414
62	Drexel U.	45,376	0	9,988	4,221	3,757	5,602	5,822	4,750	11,236
63	U. IA	45,013	0	579	1,678	21,115	3,411	4,098	0	14,132
64	Wichita State U.	44,910	42,242	0	0	0	648	596	0	1,424
65	Harvard U.	42,715	0	4,528	4,616	1,832	5,345	3,997	4,919	17,478
66	MI State U.	42,703	0	638	13,994	4,927	8,123	10,135	0	4,886
67	U. NE, Lincoln	42,328	0	2,904	8,131	11,658	9,015	4,708	921	4,991
68	U. ND	42,191	0	0	3,294	2,123	669	1,014	0	35,091
69	Rice U.	41,850	0	15,165	5,354	5,058	11,556	4,703	0	14
70	WV U.	40,903	0	0	4,607	5,101	9,641	14,374	385	6,795
71	U. PA	40,847	0	10,976	3,596	0	11,736	6,021	7,461	1,057
72	U. TX, Dallas	40,834	2,144	2,981	4,251	7,211	8,092	5,673	3,032	7,450
73	Boston U.	40,823	1,656	24,076	0	0	8,964	3,277	2,440	410
74	MI Technological U.	40,510	0	2,010	2,927	6,104	8,244	14,907	3,297	3,021
75	FL State U.	40,203	4	461	892	1,676	13,944	19,368	3,475	383
76	Case Western Reserve U.	40,150	0	12,477	7,123	733	7,710	3,424	4,520	4,163
77	U. Cincinnati	39,357	5,850	4,110	7,272	1,056	7,392	7,229	0	6,448
78	U. CA, Irvine	38,721	0	5,994	2,538	8,706	11,191	10,256	0	36
79	U. ME	37,260	0	0	4,729	695	3,029	1,524	26,991	292
80	U. TX, Arlington	36,360	0	5,015	0	3,586	4,193	1,570	1,529	20,467
81	LA State U., Baton Rouge	35,658	0	0	5,550	9,919	2,043	5,456	5,423	7,267
82	CO State U., Ft. Collins	35,387	0	0	3,362	10,114	14,549	5,909	0	1,453
83	Stevens Institute of Technology	35,317	0	956	1,679	1,866	1,212	2,382	1,612	25,610
84	TX Tech U.	35,288	0	0	7,137	4,414	14,421	4,102	0	5,214
85	Yale U.	34,089	0	4,209	5,381	0	8,361	5,993	0	10,145
86	U. Houston	33,700	1,507	2,878	6,543	3,271	6,469	3,940	5,996	3,096
87	U. Pittsburgh, Pittsburgh	33,013	0	10,425	6,507	3,382	2,436	5,711	21	4,531
88	Old Dominion U.	32,825	0	0	0	4,570	17,150	11,105	0	0
89	U. NM	32,313	51	1,998	3,810	3,890	13,516	1,633	3,695	3,720
90	U. AL, Huntsville	31,955	22,479	137	117	953	1,603	3,370	409	2,887

**Appendix G. Total and Federally Financed R&D Expenditures in Engineering at Universities and Colleges, Ranked by FY 2011 Total for the First**

(Dollars in Thousands)

Rank	Institution	All engineering R&D expenditures	Aeronautical/ astronautical engineering	Bioengineering/ biomedical engineering	Chemical engineering	Civil engineering	Electrical engineering	Mechanical engineering	Metallurgical/ materials engineering	Engineering, nec
91	U. South FL, Tampa	31,922	0	7	1,959	17,912	5,348	5,319	0	1,377
92	U. Central FL	30,481	830	12,066	0	3,942	8,110	3,277	2,180	76
93	U. CT	30,332	0	0	5,400	7,047	4,875	5,781	5,655	1,574
94	Northeastern U.	30,204	0	0	1,839	6,354	13,791	7,986	0	234
95	SD School of Mines and Technology	30,019	0	0	2,284	717	290	1,198	7,581	17,949
96	MO U. of Science and Technology	29,389	0	0	0	877	5,754	2,715	5,723	14,320
97	CO School of Mines	29,360	8	449	6,567	3,275	0	1,160	11,262	6,639
98	OR State U.	29,089	0	5,218	2,582	5,358	4,265	3,660	1,360	6,646
99	CUNY, City U.	28,777	0	2,971	2,335	11,409	6,283	5,603	0	176
100	U. Akron	28,344	0	1,567	13,398	3,721	2,906	4,353	0	2,399

i = imputed.

nec = not elsewhere classified.

<sup>a</sup> Johns Hopkins University includes Applied Physics Laboratory, with \$795,028 thousand in total R&D expenditures in engineering in FY 2011.

NOTES: Institutions reporting zero expenditures in ranked total for FY 2011 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, FY 2011.

**Appendix H: R&D Expenditures in the Environmental Sciences at Universities and Colleges, Ranked by all FY 2011 Environmental Sciences for the First 100 Institutions**

		(Dollars in Thousands)									
		Total					Federally Financed				
Rank	Institution	All environmental sciences	Atmospheric sciences	Earth sciences	Oceanography	Environmental sciences, nec	All environmental sciences	Atmospheric sciences	Earth sciences	Oceanography	Environmental sciences, nec
	All institutions	3,167,464	480,814	1,141,857	1,049,379	495,414	2,188,313	384,761	798,560	705,174	299,818
1	U. WA, Seattle	179,584	25,270	6,971	78,990	68,353	164,401	23,817	6,727	68,139	65,718
2	Woods Hole Oceanographic Institution	149,491	0	0	149,491	0	125,429	0	0	125,429	0
3	U. CA, San Diego	139,142	15,431	31,949	91,755	7	88,516	8,212	14,549	65,755	0
4	TX A&M U., College Station	131,467	5,531	5,510	105,296	15,130	82,804	4,196	3,488	71,113	4,007
5	CO State U., Ft. Collins	126,631	37,895	88,736	0	0	103,256	32,737	70,519	0	0
6	U. CO, Boulder	94,557	32,619	51,268	244	10,426	90,430	31,743	49,714	244	8,729
7	U. HI, Manoa	86,166	1,380	17,056	63,152	4,578	61,896	1,162	13,816	46,226	692
8	Columbia U. in the City of New York	80,567	18,428	62,139	0	0	71,927	13,193	58,734	0	0
9	U. TX, Austin	70,809	0	59,241	9,294	2,274	26,691	0	21,706	3,450	1,535
10	U. NH	68,712	40,664	10,590	17,458	0	62,223	40,054	8,361	13,808	0
11	U. AK, Fairbanks	60,591	10,802	27,389	18,205	4,195	46,505	7,653	24,420	10,806	3,626
12	U. Miami	57,387	40,536	0	12,651	4,200	48,838	34,622	0	10,693	3,523
13	PA State U. University Park and Hershey Medical Ctr.	56,439	22,420	26,855	7,164	0	32,156	12,764	14,578	4,814	0
14	U. MD, Ctr. for Environmental Science	50,007	0	4,801	45,206	0	18,007	0	1,353	16,654	0
15	OR State U.	48,673	3,703	5,646	17,161	22,163	38,368	3,267	4,704	11,753	18,644
16	U. WI, Madison	48,645	30,539	7,698	3,197	7,211	36,912	27,103	4,982	439	4,388
17	Johns Hopkins U. <sup>a</sup>	44,843	9,062	2,665	12,806	20,310	41,651	8,006	2,409	12,806	18,430
18	MA Institute of Technology	39,735	9,833	12,443	7,364	10,095	34,146	8,819	9,736	7,306	8,285
19	U. OK	37,759	27,820	9,939	0	0	18,263	16,885	1,378	0	0
20	U. RI	37,742	122	5,401	31,466	753	30,308	104	3,872	25,669	663
21	Desert Research Institute	34,478	11,453	22,914	0	111	27,709	8,511	19,198	0	0
22	LA State U., Baton Rouge	31,805	0	3,893	21,825	6,087	9,950	0	998	6,913	2,039
23	U. MD, Baltimore County	31,662	0	31,662	0	0	28,305	0	28,305	0	0
24	C. of William and Mary and VA Institute of Marine Science	30,071	0	595	29,435	41	11,299	0	343	10,956	0
25	U. AZ	29,602	3,655	18,974	0	6,973	14,239	2,442	9,622	0	2,175
26	SUNY, Stony Brook U.	29,096	599	6,784	21,662	51	13,611	0	5,607	8,004	0
27	U. CA, Davis	27,710	2,084	4,180	3,639	17,807	8,078	1,268	2,885	1,240	2,685
28	U. NC, Chapel Hill	27,505	0	17,037	7,587	2,881	16,137	0	9,563	3,858	2,716
29	Rutgers, State U. NJ, New Brunswick	26,594	2,335	813	13,250	10,196	15,674	1,882	500	10,163	3,129
30	Stanford U.	26,141	0	9,676	4,301	12,164	9,548	0	7,854	1,195	499
31	U. CA, Santa Barbara	25,769	0	10,254	14,964	551	13,320	0	6,712	6,608	0
32	Princeton U.	25,586	7,254	6,980	0	11,352	14,742	5,960	4,166	0	4,616
33	U. MD, College Park	24,608	3,373	21,235	0	0	21,458	2,902	18,556	0	0
34	AZ State U.	24,428	0	24,428	0	0	20,531	0	20,531	0	0
35	U. DE	22,443	0	2,035	17,742	2,666	15,500	0	1,150	12,559	1,791
36	FL State U.	21,435	9,128	3,054	7,680	1,573	13,783	7,472	1,298	4,715	298
37	U. KS	21,435	320	20,297	759	59	10,708	278	10,332	98	0
38	U. South FL, Tampa	21,120	0	2,440	18,680	0	11,133	0	1,745	9,388	0
39	Duke U.	20,948	0	3,781	6,962	10,205	10,580	0	3,121	2,076	5,383

**Appendix H: R&D Expenditures in the Environmental Sciences at Universities and Colleges, Ranked by all FY 2011 Environmental Sciences for the First 100 Institutions**

		(Dollars in Thousands)									
		Total					Federally Financed				
Rank	Institution	All environmental sciences	Atmospheric sciences	Earth sciences	Oceanography	Environmental sciences, nec	All environmental sciences	Atmospheric sciences	Earth sciences	Oceanography	Environmental sciences, nec
40	U. CA, Santa Cruz	20,910	0	4,938	13,554	2,418	12,083	0	3,422	6,764	1,897
41	Harvard U.	20,473	187	4,830	0	15,456	18,078	187	3,593	0	14,298
42	U. ME	20,002	0	4,769	13,241	1,992	12,296	0	2,972	9,322	2
43	U. WY	19,131	4,467	4,758	0	9,906	16,656	4,086	3,989	0	8,581
44	Cornell U.	18,474	0	8,311	115	10,048	9,610	0	5,855	82	3,673
45	U. Southern CA	18,363	177	14,418	3,323	445	14,025	177	10,939	2,649	260
46	U. CA, Los Angeles	17,239	5,487	8,769	0	2,983	11,071	3,890	5,903	0	1,278
47	U. MI, Ann Arbor	16,347	0	16,347	0	0	11,015	0	11,015	0	0
48	U. MN, Duluth	15,520	0	353	3,652	11,515	4,608	0	194	2,097	2,317
49	U. Southern MS	15,497	0	2,055	13,442	0	13,093	0	1,996	11,097	0
50	CA Institute of Technology	15,167	0	15,167	0	0	13,810	0	13,810	0	0
51	NC State U.	15,004	3,850	0	2,774	8,380	8,557	3,381	0	778	4,398
52	GA Institute of Technology	14,886	10,328	424	0	4,134	9,874	6,948	242	0	2,684
53	Naval Postgraduate School	14,474	5,038	0	9,436	0	14,105	4,769	0	9,336	0
54	U. CA, Berkeley	13,338	153	13,185	0	0	9,471	0	9,471	0	0
55	U. MN, Minneapolis	13,314	0	11,374	0	1,940	6,506	0	6,084	0	422
56	TX Tech U.	13,301	438	2,929	0	9,934	4,702	0	574	0	4,128
57	U. NV, Las Vegas	13,069	187	11,102	0	1,780	10,906	0	9,354	0	1,552
58	MI Technological U.	12,661	0	1,572	0	11,089	8,187	0	875	0	7,312
59	U. ND	12,365	6,980	4,839	0	546	9,885	4,984	4,591	0	310
60	U. GA	12,200	0	1,976	10,224	0	6,399	0	567	5,832	0
61	U. NV, Reno	12,017	140	9,474	37	2,366	8,671	111	6,345	32	2,183
62	U. SC, Columbia	11,795	0	8,833	2,962	0	9,116	0	6,649	2,467	0
63	MI State U.	11,510	0	11,380	0	130	9,929	0	9,929	0	0
64	Washington U., St. Louis	11,474	0	6,153	0	5,321	8,144	0	4,648	0	3,496
65	San Jose State U.	11,233	1,052	214	9,936	31	4,470	961	177	3,332	0
<b>66</b>	<b>U. MA, Dartmouth</b>	<b>11,107</b>	<b>0</b>	<b>0</b>	<b>11,107</b>	<b>0</b>	<b>6,725</b>	<b>0</b>	<b>0</b>	<b>6,725</b>	<b>0</b>
67	U. Pittsburgh, Pittsburgh	10,803	0	2,059	0	8,744	9,022	0	1,570	0	7,452
68	OH State U.	10,531	0	10,531	0	0	5,927	0	5,927	0	0
69	U. CA, Riverside	10,355	1,053	2,914	0	6,388	3,223	385	1,751	0	1,087
70	TX A&M U., Corpus Christi	10,184	315	226	8,859	784	4,593	97	86	3,863	547
71	U. Central FL	10,070	10,070	0	0	0	6,358	6,358	0	0	0
72	U. WI, Milwaukee	10,025	920	743	5,937	2,425	4,808	0	407	2,302	2,099
73	Brown U.	9,523	289	6,186	528	2,520	4,477	171	3,002	391	913
74	U. UT	9,261	3,606	5,655	0	0	7,416	3,229	4,187	0	0
75	MS State U.	9,228	2,696	3,513	3,018	1	4,663	1,246	1,762	1,655	0
76	Boston C.	8,945	7,733	1,212	0	0	7,152	6,747	405	0	0
77	FL International U.	8,922	0	3,883	0	5,039	4,487	0	3,084	0	1,403
78	WA State U.	8,841	136	5,002	147	3,556	1,984	88	1,506	0	390
79	U. CT	8,829	0	250	8,579	0	5,757	0	134	5,623	0
80	VA Polytechnic Institute and State U.	8,795	0	8,773	0	22	4,379	0	4,363	0	16
81	U. PR, Mayaguez	8,672	0	2,005	6,667	0	6,108	0	1,759	4,349	0
82	Old Dominion U.	8,542	0	0	8,542	0	3,813	0	0	3,813	0
83	U. Houston	8,447	0	8,447	0	0	2,081	0	2,081	0	0

**Appendix H: R&D Expenditures in the Environmental Sciences at Universities and Colleges, Ranked by all FY 2011 Environmental Sciences for the First 100 Institutions**

(Dollars in Thousands)

Rank	Institution	Total					Federally Financed				
		All environment al sciences	Atmospheri c sciences	Earth sciences	Ocean- ography	Environmen tal sciences, nec	All environment al sciences	Atmospheric sciences	Earth sciences	Ocean- ography	Environmen tal sciences, nec
84	SUNY, C. of Environmental Science and Forestry	8,375	0	0	0	8,375	2,064	0	0	0	2,064
85	CO School of Mines	8,229	0	8,229	0	0	2,498	0	2,498	0	0
86	George Mason U.	8,150	1,774	6,288	88	0	6,641	1,459	5,098	84	0
87	U. FL	8,147	0	5,409	2,300	438	4,891	0	3,303	1,560	28
88	U. IL, Urbana-Champaign	8,140	3,278	4,799	0	63	5,852	2,820	3,026	0	6
89	U. NC, Wilmington	7,974	39	670	7,265	0	5,291	0	540	4,751	0
90	U. Chicago	7,708	0	7,708	0	0	6,740	0	6,740	0	0
91	U. CA, Irvine	7,651	123	0	0	7,528	5,682	0	0	0	5,682
92	NM Institute of Mining and Technology	7,538	0	7,538	0	0	6,778	0	6,778	0	0
93	U. TN, Knoxville	7,252	0	2,694	0	4,558	4,881	0	2,053	0	2,828
94	U. NM	7,181	1,117	6,020	0	44	5,581	1,006	4,531	0	44
95	Northern AZ U.	7,164	92	4,702	0	2,370	3,334	7	3,210	0	117
96	Purdue U., West Lafayette	7,122	4,126	2,065	0	931	4,930	3,286	1,644	0	0
97	U. MS and U. MS Medical Ctr.	7,110	0	497	6,613	0	5,725	0	497	5,228	0
98	U. AL, Huntsville	6,885	6,300	571	0	14	6,586	6,036	550	0	0
99	WV U.	6,731	0	6,731	0	0	3,864	0	3,864	0	0
100	Southern Methodist U.	6,594	0	6,594	0	0	6,104	0	6,104	0	0

i = imputed.

nec = not elsewhere classified.

<sup>a</sup> Johns Hopkins University includes Applied Physics Laboratory, with \$22,951 thousand in total and \$21,895 thousand in federally financed R&D expenditures in environmental sciences in FY 2011.

NOTES: Institutions reporting zero expenditures in ranked total for FY 2011 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, FY 2011.



**Appendix I. R&D Expenditures in the Life Sciences at Universities and Colleges, Ranked by all FY 2011 Life Sciences for the First 150 Institutions**

		(Dollars in Thousands)									
Rank	Institution	Total					Federally Financed				
		All life sciences	Agricultural sciences	Biological sciences	Medical sciences	Life sciences, nec	All life sciences	Agricultural sciences	Biological sciences	Medical sciences	Life sciences, nec
	All institutions	37,232,175	3,128,593	11,801,998	20,356,311	1,945,273	23,680,459	1,041,298	8,227,188	13,199,569	1,212,404
1	U. CA, San Francisco	981,233	0	32,676	948,557	0	557,341	0	22,370	534,971	0
2	Johns Hopkins U. <sup>a</sup>	862,492	0	200,178	604,889	57,425	679,087	0	148,984	477,696	52,407
3	Duke U.	860,743	0	238,561	594,380	27,802	474,533	0	176,612	287,581	10,340
4	U. Pittsburgh, Pittsburgh	770,233	0	171,284	568,715	30,234	571,498	0	129,444	418,195	23,859
5	U. MI, Ann Arbor	758,681	11,625	188,444	455,574	103,038	507,314	4,676	144,760	302,249	55,629
6	U. PA	725,635	81	249,673	461,929	13,952	585,548	10	205,607	367,901	12,030
7	U. WA, Seattle	716,925	10,062	151,362	410,008	145,493	580,951	6,439	135,678	347,812	91,022
8	U. CA, Los Angeles	688,596	0	25,902	662,694	0	395,006	0	18,367	376,639	0
9	U. WI, Madison	685,841	45,873	239,996	393,074	6,898	346,579	14,989	153,146	176,483	1,961
10	Washington U., St. Louis	644,264	0	229,022	407,930	7,312	414,585	0	159,929	251,342	3,314
11	U. NC, Chapel Hill	608,845	0	208,725	315,817	84,303	442,692	0	160,808	226,047	55,837
12	U. CA, San Diego	607,235	10	42,775	562,440	2,010	398,110	9	29,917	367,416	768
13	Columbia U. in the City of New York	602,875	2,493	156,483	430,148	13,751	439,861	40	124,397	311,253	4,171
14	U. MN, Minneapolis	596,968	80,221	113,503	396,768	6,476	340,051	22,709	71,844	241,439	4,059
15	U. TX, M. D. Anderson Cancer Ctr.	591,925	0	191,436	400,489	0	205,200	0	71,416	133,784	0
16	Stanford U.	555,984	0	177,693	325,749	52,542	408,105	0	143,604	224,885	39,616
17	Yale U.	548,310	1,779	160,176	386,355	0	454,951	99	128,542	326,310	0
18	Cornell U.	512,797	66,091	114,932	320,559	11,215	277,902	18,913	65,574	189,874	3,541
19	U. CA, Davis	507,389	123,057	157,162	227,170	0	274,756	34,454	88,642	151,660	0
20	U. FL	506,886	145,417	132,486	178,172	50,811	203,820	29,661	64,851	76,009	33,299
21	OH State U.	488,033	64,338	93,506	306,566	23,623	318,403	21,641	65,698	215,381	15,683
22	U. AL, Birmingham	469,004	0	125,338	339,315	4,351	318,515	0	99,787	216,251	2,477
23	Baylor C. of Medicine	466,061	0	250,613	215,448	0	295,529	0	181,250	114,279	0
24	Emory U.	443,284	0	181,302	228,833	33,149	345,685	0	157,834	159,626	28,225
25	Northwestern U.	431,951	0	94,007	326,007	11,937	278,398	0	62,227	208,106	8,065
26	U. TX, Southwestern Medical Ctr., Dallas	431,883	0	195,118	235,645	1,120	231,639	0	111,362	119,851	426
27	Vanderbilt U.	429,408	0	168,669	244,872	15,867	346,378	0	135,392	198,288	12,698
28	Harvard U.	409,498	0	272,799	134,391	2,308	358,336	0	232,826	124,863	647
29	Scripps Research Institute, The	400,768	0	400,768	0	0	317,201	0	317,201	0	0
30	U. CO Denver and Health Sciences Ctr.	400,466	21	24,146	358,978	17,321	293,055	21	21,823	254,087	17,124
31	U. MD, Baltimore	383,161	0	117,470	245,498	20,193	225,749	0	79,316	133,584	12,849
32	Case Western Reserve U.	370,354	0	76,245	268,279	25,830	310,169	0	61,200	226,901	22,068
33	U. Southern CA	365,641	0	22,316	328,407	14,918	264,386	0	19,470	232,942	11,974
34	Mt. Sinai School of Medicine	363,091	0	137,171	225,920	0	295,291	0	120,630	174,661	0
35	U. Cincinnati	359,824	0	73,042	267,182	19,600	260,805	0	50,972	200,619	9,214
36	NY U.	345,541	0	119,361	199,172	27,008	242,000	0	93,547	135,387	13,066
37	U. IA	336,969	0	97,644	211,841	27,484	222,678	0	71,343	134,854	16,481
38	U. Chicago	312,729	0	128,440	180,625	3,664	245,853	0	111,365	130,998	3,490
39	U. Rochester	302,678	0	71,572	222,849	8,257	230,635	0	60,580	163,909	6,146
40	OR Health and Science U.	300,461	0	143,272	147,247	9,942	239,299	0	121,333	111,589	6,377
41	U. IL, Chicago	291,341	0	68,997	206,084	16,260	192,351	0	47,528	132,242	12,581
42	U. AZ	288,857	53,515	103,805	122,072	9,465	148,573	19,563	61,470	61,245	6,295
43	IN U.-Purdue U., Indianapolis	284,351	0	70,774	204,607	8,970	144,077	0	46,530	92,490	5,057

**Appendix I. R&D Expenditures in the Life Sciences at Universities and Colleges, Ranked by all FY 2011 Life Sciences for the First 150 Institutions**

		(Dollars in Thousands)									
Rank	Institution	Total					Federally Financed				
		All life sciences	Agricultural sciences	Biological sciences	Medical sciences	Life sciences, nec	All life sciences	Agricultural sciences	Biological sciences	Medical sciences	Life sciences, nec
44	Yeshiva U.	282,650	0	0	282,650	0	191,218	0	0	191,218	0
45	PA State U. University Park and Hershey Medical Ctr.	272,085	97,030	66,161	108,894	0	135,562	33,013	30,034	72,515	0
46	U. UT	265,135	0	48,372	155,660	61,103	180,952	0	37,513	115,604	27,835
<b>47</b>	<b>U. MA, Medical School</b>	<b>262,714</b>	<b>0</b>	<b>88,359</b>	<b>133,598</b>	<b>40,757</b>	<b>208,244</b>	<b>0</b>	<b>74,542</b>	<b>102,355</b>	<b>31,347</b>
48	U. TX, Health Science Ctr., Houston	261,172	0	47,246	110,188	103,738	156,790	0	37,057	56,915	62,818
49	U. KY	257,364	58,255	72,256	118,162	8,691	121,494	13,862	39,494	61,807	6,331
50	U. South FL, Tampa	255,965	0	47,857	207,860	248	174,300	0	35,429	138,720	151
51	Rockefeller U.	255,539	0	240,139	15,400	0	92,043	0	81,793	10,250	0
52	U. Miami	240,873	0	82,453	155,651	2,769	155,741	0	66,022	87,469	2,250
53	U. of Medicine and Dentistry of NJ	234,354	0	117,964	116,390	0	124,585	0	67,279	57,306	0
54	SUNY, U. Buffalo	233,442	0	70,663	153,577	9,202	113,541	0	42,003	66,178	5,360
55	Boston U.	232,481	0	7,499	223,289	1,693	199,937	0	6,173	193,113	651
56	MI State U.	230,658	97,913	87,012	40,022	5,711	104,085	29,459	48,698	23,351	2,577
57	Medical C. WI	215,358	0	58,239	157,119	0	133,929	0	36,218	97,711	0
58	WA State U.	213,894	103,511	82,293	14,157	13,933	61,507	22,055	32,195	4,081	3,176
59	U. CA, Berkeley	213,475	70,263	71,111	72,101	0	116,737	27,459	51,897	37,381	0
60	Medical U. SC	213,346	0	73,472	83,068	56,806	143,464	0	58,169	47,788	37,507
61	U. KS	210,124	2,835	100,204	85,593	21,492	111,278	763	61,413	40,846	8,256
62	U. CA, Irvine	208,600	0	97,635	110,965	0	132,302	0	66,854	65,448	0
63	Wake Forest U.	203,820	0	1,651	202,169	0	168,884	0	1,395	167,489	0
64	Purdue U., West Lafayette	201,714	118,573	37,525	32,919	12,697	78,619	35,131	24,027	12,237	7,224
65	U. IL, Urbana-Champaign	200,604	124,267	71,551	3,290	1,496	94,844	49,939	42,027	2,586	292
66	U. VA main campus	199,385	0	58,315	138,587	2,483	156,886	0	47,768	107,154	1,964
67	U. TX, Health Science Ctr., San Antonio	198,655	0	53,577	137,361	7,717	121,200	0	42,420	78,145	635
68	Wayne State U.	191,134	0	33,703	146,124	11,307	105,949	0	17,834	86,714	1,401
69	TX A&M U., College Station	187,666	121,169	29,653	36,844	0	69,479	42,051	14,506	12,922	0
70	VA Polytechnic Institute and State U.	185,871	96,225	56,520	27,581	5,545	68,163	33,293	24,862	7,061	2,947
71	NC State U.	181,985	86,820	80,737	3	14,425	54,549	14,574	34,848	0	5,127
72	U. GA	181,928	66,984	100,750	12,345	1,849	98,614	23,148	69,307	5,123	1,036
73	U. TX, Medical Branch	181,706	0	105,405	76,301	0	124,083	0	66,461	57,622	0
74	Rutgers, State U. NJ, New Brunswick	181,364	33,193	64,887	53,779	29,505	95,925	9,817	41,675	36,061	8,372
75	Uniformed Services U. of the Health Sciences	162,954	0	13,338	149,616	0	109,081	0	6,762	102,319	0
76	Dartmouth C.	160,579	0	8,011	152,568	0	101,525	0	5,261	96,264	0
77	U. CT	158,512	6,246	91,071	57,828	3,367	84,174	3,144	50,777	28,844	1,409
78	LA State U., Baton Rouge	158,403	74,489	79,356	4,137	421	51,766	10,370	41,012	182	202
79	VA Commonwealth U.	146,867	0	57,439	74,809	14,619	119,305	0	51,209	55,374	12,722
80	Georgetown U.	143,818	0	14,201	119,947	9,670	113,648	0	13,549	91,455	8,644
81	Tulane U.	139,920	0	36,382	27,101	76,437	99,052	0	28,510	14,184	56,358
82	U. NE, Medical Ctr.	133,036	0	72,968	59,847	221	86,295	0	48,696	37,409	190
83	U. Louisville	131,605	0	39,853	77,075	14,677	64,715	0	26,940	30,663	7,112
84	IA State U.	129,576	56,703	51,298	17,883	3,692	51,203	18,112	23,682	7,312	2,097
85	U. NM	128,924	0	36,308	85,734	6,882	97,446	0	31,171	66,050	225
86	George Washington U.	125,181	92	22,246	62,791	40,052	76,789	76	12,910	51,390	12,413

**Appendix I. R&D Expenditures in the Life Sciences at Universities and Colleges, Ranked by all FY 2011 Life Sciences for the First 150 Institutions**

		(Dollars in Thousands)										
Rank	Institution	Total					Federally Financed					
		All life sciences	Agricultural sciences	Biological sciences	Medical sciences	Life sciences, nec	All life sciences	Agricultural sciences	Biological sciences	Medical sciences	Life sciences, nec	
87	CO State U., Ft. Collins	124,871	33,408	30,925	59,618	920	80,861	14,903	22,841	42,535	582	
88	OR State U.	124,408	74,255	43,645	4,311	2,197	67,825	33,094	29,156	3,516	2,059	
89	Tufts U.	122,550	0	87,257	35,293	0	96,133	0	65,834	30,299	0	
90	U. AR for Medical Sciences	122,066	0	39,021	72,804	10,241	75,924	0	29,072	41,579	5,273	
91	SUNY, U. Albany	119,469	0	115,454	4,007	8	108,831	0	106,157	2,674	0	
92	U. HI, Manoa	119,293	19,766	9,409	79,383	10,735	70,813	7,311	4,647	52,960	5,895	
93	MA Institute of Technology	118,854	0	85,616	17,992	15,246	83,836	0	67,369	5,224	11,243	
94	KS State U.	109,978	63,185	45,217	1,576	0	43,476	16,388	26,665	423	0	
95	Brown U.	109,473	3	32,998	52,321	24,151	70,032	2	21,199	35,242	13,589	
96	U. VT	107,674	10,827	40,728	51,575	4,544	84,755	6,105	35,162	39,588	3,900	
97	MS State U.	104,978	96,631	5,187	1,762	1,398	33,993	30,334	2,790	21	848	
98	Thomas Jefferson U.	104,923	0	53,144	50,222	1,557	80,027	0	40,823	37,737	1,467	
99	U. NE, Lincoln	102,655	52,169	46,966	571	2,949	40,119	16,661	21,716	0	1,742	
100	WV U.	97,008	27,195	19,897	45,632	4,284	47,055	12,087	13,532	19,773	1,663	
101	Cold Spring Harbor Lab.	95,984	0	95,984	0	0	55,450	0	55,450	0	0	
102	U. MO, Columbia	95,695	24,868	21,404	46,506	2,917	81,320	18,714	19,213	40,842	2,551	
103	U. MD, College Park	94,346	45,434	34,446	0	14,466	54,149	19,885	24,204	0	10,060	
104	U. MS and U. MS Medical Ctr.	93,447	0	21,688	48,274	23,485	58,868	0	14,251	31,537	13,080	
105	SUNY, Stony Brook U.	91,529	0	50,195	41,022	312	64,760	0	36,906	27,702	152	
106	Auburn U., Auburn	90,565	55,774	6,352	24,668	3,771	20,094	12,546	2,735	1,982	2,831	
107	Temple U.	81,812	699	27,295	43,350	10,468	60,686	0	21,257	30,315	9,114	
108	U. TN, Health Science Ctr.	80,599	0	31,029	47,552	2,018	51,828	0	27,859	23,886	83	
109	Rush U.	76,385	0	19,772	52,417	4,196	55,188	0	16,285	35,231	3,672	
110	U. SC, Columbia	76,233	2,364	17,756	52,494	3,619	45,548	2,227	10,103	31,412	1,806	
111	ND State U.	74,545	65,291	1,457	7,448	349	12,816	10,012	921	1,623	260	
112	U. OK	74,359	0	36,727	34,754	2,878	49,831	0	24,415	23,163	2,253	
113	TX A&M Health Science Ctr.	73,687	162	214	73,311	0	32,140	46	196	31,898	0	
114	GA Health Sciences U.	73,486	0	54,077	17,762	1,647	54,254	0	40,589	12,441	1,224	
115	U. TX, Austin	69,952	311	44,282	24,011	1,348	46,901	6	27,543	18,266	1,086	
116	AZ State U.	68,576	0	52,572	0	16,004	39,008	0	29,942	0	9,066	
117	U. CA, Riverside	66,138	13,825	49,132	3,181	0	23,675	4,095	17,667	1,913	0	
118	U. AR, Fayetteville	65,185	62,482	2,577	0	126	14,204	12,628	1,567	0	9	
119	OK State U., Stillwater	64,650	31,861	30,966	1,437	386	20,723	7,391	12,219	1,113	0	
120	U. PR, Medical Sciences Campus	64,017	0	0	64,017	0	54,381	0	0	54,381	0	
121	UT State U.	60,660	45,703	13,829	1,128	0	25,620	20,635	4,072	913	0	
<b>122</b>	<b>U. MA, Amherst</b>	<b>58,946</b>	<b>28,669</b>	<b>23,276</b>	<b>6,473</b>	<b>528</b>	<b>34,930</b>	<b>16,120</b>	<b>15,422</b>	<b>3,079</b>	<b>309</b>	
123	TX Tech U., Health Sciences Ctr.	58,774	0	23,194	35,580	0	14,790	0	7,976	6,814	0	
124	CA Institute of Technology	58,440	0	58,440	0	0	52,087	0	52,087	0	0	
125	U. ID	58,173	32,527	19,717	5,928	1	28,764	11,978	12,197	4,588	1	
126	LA State U., Health Sciences Ctr., New Orleans	57,007	0	21,422	33,545	2,040	45,581	0	19,027	24,901	1,653	
127	Drexel U.	53,123	0	27,892	21,974	3,257	40,224	0	23,263	15,170	1,791	
128	Princeton U.	52,061	0	52,061	0	0	37,059	0	37,059	0	0	
129	MT State U., Bozeman	52,013	36,795	6,150	2,457	6,611	31,669	20,661	4,377	2,210	4,421	
130	SD State U.	50,004	33,579	3,642	4,247	8,536	26,588	14,157	1,927	2,540	7,964	
131	Southern IL U., Carbondale	49,956	14,092	7,568	28,024	272	17,612	4,101	3,616	9,895	0	

**Appendix I. R&D Expenditures in the Life Sciences at Universities and Colleges, Ranked by all FY 2011 Life Sciences for the First 150 Institutions**

(Dollars in Thousands)

Rank	Institution	Total					Federally Financed				
		All life sciences	Agricultural sciences	Biological sciences	Medical sciences	Life sciences, nec	All life sciences	Agricultural sciences	Biological sciences	Medical sciences	Life sciences, nec
132	U. TN, Institute of Agriculture	49,389	40,849	5,174	1,860	1,506	12,553	9,640	2,598	160	155
133	Clemson U.	48,207	18,670	23,091	513	5,933	10,213	3,558	5,652	326	677
134	St. Louis U.	47,678	0	12,329	34,795	554	34,823	0	10,686	23,743	394
135	U. North TX, Health Science Ctr.	45,943	0	36,726	9,217	0	26,132	0	22,327	3,805	0
136	U. MT	44,246	10,881	19,851	11,213	2,301	32,043	6,658	13,525	9,826	2,034
137	IN U., Bloomington	43,388	0	32,422	6,401	4,565	24,700	0	19,438	3,933	1,329
138	SUNY Health Science Ctr. Brooklyn	41,993	0	16,379	25,196	418	33,964	0	13,843	19,905	216
139	Cleveland State U.	40,038	0	32,703	7,249	86	34,790	0	29,811	4,979	0
140	SUNY, Upstate Medical U.	39,988	0	12,895	27,093	0	28,663	0	9,872	18,791	0
141	Touro C.	39,406	0	0	39,406	0	32,107	0	0	32,107	0
142	U. DE	39,305	24,630	6,552	0	8,123	19,139	8,427	4,624	0	6,088
143	U. CO, Boulder	38,454	0	26,690	0	11,764	29,902	0	19,097	0	10,805
144	San Diego State U.	38,075	0	21,250	14,041	2,784	28,659	0	14,957	10,998	2,704
145	Loyola U., Chicago	37,933	0	12,005	23,511	2,417	25,754	0	8,538	16,167	1,049
146	FL State U.	37,591	273	24,289	8,743	4,286	25,108	102	17,432	4,433	3,141
147	U. OR	37,582	0	16,185	21,397	0	31,466	0	12,828	18,638	0
148	Eastern VA Medical School	36,569	0	28,356	8,213	0	25,319	0	24,383	936	0
149	FL International U.	36,001	10	21,224	10,266	4,501	23,917	0	13,446	7,887	2,584
150	Loma Linda U.	35,699	0	3,522	28,676	3,501	30,039	0	3,054	24,661	2,324

i = imputed.

nec = not elsewhere classified.

<sup>a</sup> Johns Hopkins University includes Applied Physics Laboratory, with \$18,237 thousand in total and \$18,200 thousand in federally financed R&D expenditures in life sciences in FY 2011.

NOTES: Institutions reporting zero expenditures in ranked total for FY 2011 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, FY 2011.

**Appendix J. Total and Federally Financed R&D Expenditures in the Mathematical Sciences at Universities and Colleges, Ranked by FY 2011 total for the First 100 Institutions: FY 2011**

(Dollars in Thousands)

Rank	Institution	Total	Federally financed
	All institutions	636,353	458,568
1	Johns Hopkins U. <sup>a</sup>	32,764	30,318
2	U. WA, Seattle	29,706	27,972
3	U. TX, M. D. Anderson Cancer Ctr.	20,185	5,999
4	U. TX, Austin	19,814	12,808
5	NC State U.	18,202	10,548
6	Rutgers, State U. NJ, New Brunswick	17,011	11,993
7	U. MI, Ann Arbor	14,148	7,484
8	Brown U.	13,059	9,243
9	PA State U. University Park and Hershey Medical Ctr.	11,732	8,815
10	TX A&M U., College Station	11,719	5,586
11	U. MN, Minneapolis	11,130	8,338
12	IA State U.	11,083	4,220
13	NY U.	11,077	10,643
14	Stanford U.	10,170	7,890
15	Duke U.	9,581	7,067
16	Princeton U.	9,295	7,040
17	U. CA, Los Angeles	8,308	6,831
18	MA Institute of Technology	8,293	7,725
19	SUNY, Stony Brook U.	8,186	4,417
20	GA Institute of Technology	8,110	2,876
21	Elizabeth City State U.	7,974	7,924
22	OH State U.	7,654	6,604
23	U. MD, College Park	7,208	5,977
24	Naval Postgraduate School	7,196	6,894
25	Purdue U., West Lafayette	6,862	4,923
26	Harvard U.	6,687	6,570
27	U. CA, Berkeley	6,435	5,576
28	U. WI, Madison	6,359	4,440
29	Rice U.	6,272	4,634
30	FL State U.	5,875	3,955
31	Columbia U. in the City of New York	5,715	5,139
32	U. NE, Lincoln	5,086	1,931
33	MI State U.	5,000	3,827
34	Cornell U.	4,857	4,159
35	U. CA, San Diego	4,594	3,763
36	NJ Institute of Technology	4,499	2,303
37	U. NC, Chapel Hill	4,471	4,038
38	TX Tech U.	4,414	2,096
39	AZ State U.	4,162	3,243
40	U. Pittsburgh, Pittsburgh	4,123	2,475
41	U. UT	4,031	3,242
42	Air Force Institute of Technology	3,922	2,863
43	NM State U.	3,900	3,688
44	San Diego State U.	3,851	2,133
45	U. CA, Irvine	3,837	3,006
46	Boston U.	3,836	3,296
47	VA Polytechnic Institute and State U.	3,833	1,849
48	U. CA, Davis	3,814	2,831

**Appendix J. Total and Federally Financed R&D Expenditures in the Mathematical Sciences at Universities and Colleges, Ranked by FY 2011 total for the First 100 Institutions: FY 2011**

(Dollars in Thousands)

Rank	Institution	Total	Federally financed
49	U. PA	3,629	3,311
50	U. Chicago	3,578	3,086
51	U. IL, Urbana-Champaign	3,533	3,121
52	Yale U.	3,484	2,215
53	Clemson U.	3,434	743
54	Carnegie Mellon U.	3,132	2,936
55	U. Southern CA	3,079	2,325
56	U. FL	3,002	1,759
57	U. CO, Boulder	2,991	2,991
58	U. AZ	2,901	2,180
59	Rensselaer Polytechnic Institute	2,844	2,499
60	U. IL, Chicago	2,822	2,146
61	Northwestern U.	2,802	2,180
62	IN U., Bloomington	2,682	1,786
<b>63</b>	<b>U. MA, Amherst</b>	<b>2,591</b>	<b>2,097</b>
64	U. SC, Columbia	2,541	2,528
65	U. KY	2,532	1,999
66	LA State U., Baton Rouge	2,511	1,507
67	U. NM	2,493	2,396
68	CO State U., Ft. Collins	2,492	2,114
69	OK State U., Stillwater	2,402	150
70	U. GA	2,348	1,773
71	Tulane U.	2,184	1,141
72	U. Notre Dame	2,151	1,778
73	George Washington U.	1,971	1,068
74	Old Dominion U.	1,968	492
75	Western MI U.	1,947	1,686
76	U. TX, Arlington	1,895	1,231
77	SUNY, U. Binghamton	1,861	247
78	VA Commonwealth U.	1,853	1,837
79	U. IA	1,835	1,615
80	U. Houston	1,829	1,085
81	U. MO, Columbia	1,760	1,677
82	U. LA, Lafayette	1,675	521
83	MI Technological U.	1,624	118
84	DE State U.	1,607	1,563
85	U. DE	1,602	1,355
86	U. AL, Birmingham	1,538	1,365
87	WA State U.	1,538	990
88	Worcester Polytechnic Institute	1,528	1,365
89	CA State U., Fullerton	1,497	1,049
90	U. MD, Baltimore County	1,486	504
91	Vanderbilt U.	1,476	1,449
92	FL Atlantic U.	1,469	708
93	CA State U., San Bernardino	1,457	1,071
94	San Francisco State U.	1,449	1,342
95	U. TX, El Paso	1,419	893
96	U. CA, Santa Barbara	1,389	1,275
97	U. Akron	1,365	383

## Appendix J. Total and Federally Financed R&D Expenditures in the Mathematical Sciences at Universities and Colleges, Ranked by FY 2011 total for the First 100 Institutions: FY 2011

(Dollars in Thousands)

Rank	Institution	Total	Federally financed
98	Rockefeller U.	1,323	669
99	U. WI, Milwaukee	1,306	872
100	George Mason U.	1,305	1,081
All Other Institutions		93,183	67,104

i = imputed.

<sup>a</sup> Johns Hopkins University includes Applied Physics Laboratory, with \$30,985 thousand in total and \$28,721 thousand in federally financed R&D expenditures in mathematical sciences in FY 2011.

NOTES: Institutions reporting zero expenditures in ranked total for FY 2011 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, FY 2011.

**Appendix K. R&D Expenditures in the Physical Sciences at Universities and Colleges, Ranked by all FY 2011 Physical Sciences for the First 100 Institutions: FY 2011 and by Subfield for FY 2011**

(Dollars in Thousands)

Rank	Institution	Total					Federally financed				
		All physical sciences	Astronomy	Chemistry	Physics	Physical sciences, nec	All physical sciences	Astronomy	Chemistry	Physics	Physical sciences, nec
	All institutions	4,779,092	582,187	1,785,614	2,108,596	302,695	3,538,267	408,153	1,244,103	1,661,831	224,180
1	CA Institute of Technology	225,641	10,964	35,393	179,284	0	212,607	10,652	27,285	174,670	0
2	Johns Hopkins U. <sup>a</sup>	176,047	43,370	16,776	90,028	25,873	170,038	40,810	16,308	87,069	25,851
3	U. AZ	175,930	131,509	21,528	22,893	0	109,315	80,229	14,931	14,155	0
4	MA Institute of Technology	115,445	20,336	26,376	61,334	7,399	109,254	20,054	23,175	59,004	7,021
5	U. MD, College Park	104,202	26,269	11,813	64,154	1,966	80,767	22,734	8,868	49,165	0
6	U. TX, Austin	97,738	16,923	26,985	51,496	2,334	62,723	4,488	16,071	42,111	53
7	Stanford U.	97,040	0	22,859	6,583	67,598	73,783	0	19,014	5,629	49,140
8	U. CO, Boulder	96,858	42,275	22,858	29,108	2,617	89,041	41,819	18,591	27,051	1,580
9	Cornell U.	93,632	13,278	20,610	43,711	16,033	84,095	12,079	17,004	39,956	15,056
10	U. CA, Berkeley	90,463	49,819	22,124	17,628	892	61,395	34,716	14,216	12,347	116
11	U. WI, Madison	88,088	7,511	20,958	36,655	22,964	64,787	3,217	13,033	30,709	17,828
12	MI State U.	76,294	0	9,295	66,999	0	54,200	0	7,227	46,973	0
13	U. CA, Los Angeles	75,370	0	20,225	54,117	1,028	56,531	0	15,458	41,073	0
14	FL State U.	70,453	42	12,741	57,570	100	37,707	42	8,457	29,208	0
15	Harvard U.	61,983	9,481	29,007	22,792	703	56,860	9,408	24,326	22,432	694
16	U. CA, San Diego	61,649	0	27,326	31,908	2,415	48,437	0	23,022	24,311	1,104
17	PA State U. University Park and Hershey Medical Ctr.	61,155	10,406	22,714	28,035	0	38,871	6,017	12,786	20,068	0
18	U. IL, Urbana-Champaign	61,153	3,342	29,306	28,505	0	49,408	2,204	23,670	23,534	0
19	U. Chicago	59,605	14,199	19,583	16,627	9,196	49,923	11,956	15,510	13,825	8,632
20	Rutgers, State U. NJ, New Brunswick	56,386	917	37,302	16,377	1,790	42,949	917	32,088	9,308	636
21	U. WA, Seattle	52,793	8,653	23,616	20,524	0	47,669	6,043	21,241	20,385	0
22	Princeton U.	49,344	6,028	17,608	25,708	0	30,937	4,235	7,849	18,853	0
23	Columbia U. in the City of New York	49,274	8,768	13,457	27,049	0	44,740	8,262	11,910	24,568	0
24	U. MI, Ann Arbor	48,100	5,593	21,939	20,568	0	32,723	4,080	15,102	13,541	0
25	GA Institute of Technology	46,568	0	31,424	15,144	0	29,905	0	19,595	10,310	0
26	TX A&M U., College Station	46,309	167	24,608	19,200	2,334	21,486	108	9,996	10,687	695
27	U. HI, Manoa	45,083	36,411	3,235	3,710	1,727	26,852	20,450	2,122	2,553	1,727
28	Northwestern U.	43,403	0	32,213	8,750	2,440	31,930	0	23,581	6,358	1,991
29	IN U., Bloomington	40,963	1,360	19,699	19,904	0	19,151	580	8,208	10,363	0
30	U. CA, Santa Barbara	40,049	2,964	11,465	23,643	1,977	28,645	1,966	8,492	18,187	0
31	Yale U.	38,897	3,718	13,704	21,475	0	24,495	2,210	8,344	13,941	0
32	U. CA, Santa Cruz	38,058	19,951	6,920	11,058	129	16,152	4,347	5,164	6,641	0
33	U. MN, Minneapolis	37,985	1,821	13,041	23,123	0	28,784	1,359	9,100	18,325	0
34	U. CA, Irvine	37,354	0	16,939	20,415	0	24,732	0	12,331	12,401	0
35	U. FL	35,696	5,384	14,550	14,877	885	24,209	3,533	8,939	11,654	83
36	U. NC, Chapel Hill	35,595	0	26,806	8,789	0	28,456	0	21,311	7,145	0
37	U. MA, Amherst	34,761	5,198	22,893	6,670	0	22,750	3,301	14,768	4,681	0
38	Vanderbilt U.	34,148	0	24,577	9,571	0	29,196	0	21,155	8,041	0
39	Boston U.	34,041	1,642	11,632	8,858	11,909	30,377	1,560	9,962	7,683	11,172
40	Purdue U., West Lafayette	32,914	0	21,800	10,944	170	25,228	0	16,113	9,115	0
41	OH State U.	32,237	3,081	11,290	17,615	251	26,494	2,693	9,257	14,544	0
42	SUNY, Stony Brook U.	32,086	1,236	15,333	15,297	220	19,889	974	9,477	9,438	0
43	U. UT	30,893	0	23,175	7,718	0	15,603	0	10,812	4,791	0



**Appendix K. R&D Expenditures in the Physical Sciences at Universities and Colleges, Ranked by all FY 2011 Physical Sciences for the First 100 Institutions: FY 2011 and by Subfield for FY 2011**

(Dollars in Thousands)

Rank	Institution	Total					Federally financed				
		All physical sciences	Astronomy	Chemistry	Physics	Physical sciences, nec	All physical sciences	Astronomy	Chemistry	Physics	Physical sciences, nec
44	U. PA	30,065	0	13,374	16,691	0	27,242	0	12,383	14,859	0
45	U. CA, Davis	29,308	0	13,412	11,451	4,445	20,464	0	10,507	7,476	2,481
46	U. Pittsburgh, Pittsburgh	28,579	1,940	18,082	8,557	0	17,236	614	11,330	5,292	0
47	U. IA	27,777	1,055	6,662	20,060	0	24,007	979	4,418	18,610	0
48	WA State U.	25,605	60	9,351	16,101	93	16,488	0	5,764	10,656	68
49	Brown U.	25,437	1,158	8,407	8,383	7,489	16,312	103	5,638	4,256	6,315
50	Rice U.	24,837	0	12,249	12,588	0	17,411	0	7,401	10,010	0
51	AZ State U.	23,778	839	12,699	10,240	0	17,941	524	9,341	8,076	0
52	U. Notre Dame	23,502	0	10,630	12,872	0	19,488	0	8,744	10,744	0
53	VA Polytechnic Institute and State U.	23,209	0	14,956	7,778	475	11,985	0	8,234	3,500	251
54	U. SC, Columbia	22,440	0	15,759	6,681	0	9,045	0	7,237	1,808	0
55	LA State U., Baton Rouge	22,216	0	10,524	11,651	41	12,412	0	6,053	6,359	0
56	Wayne State U.	21,757	0	10,419	6,816	4,522	11,231	0	6,165	4,886	180
57	U. VA main campus	21,260	3,347	9,387	8,526	0	18,500	2,724	8,269	7,507	0
58	Duke U.	20,883	0	8,836	12,047	0	15,815	0	4,806	11,009	0
59	MT State U., Bozeman	20,705	0	11,872	8,226	607	16,641	0	9,593	6,806	242
60	U. Central FL	20,397	0	4,411	15,986	0	13,796	0	3,291	10,505	0
61	U. OR	19,853	0	9,177	10,676	0	15,693	0	6,146	9,547	0
62	Catholic U. America	19,687	0	760	6,203	12,724	15,495	0	582	5,958	8,955
63	U. NE, Lincoln	19,528	0	6,116	13,412	0	11,777	0	2,129	9,648	0
64	U. DE	19,371	2,691	8,695	7,985	0	16,433	2,265	7,447	6,721	0
65	NC State U.	19,343	0	10,527	8,816	0	10,347	0	4,918	5,429	0
66	IA State U.	19,199	0	10,513	8,686	0	9,377	0	5,222	4,155	0
67	U. Akron	18,192	0	17,793	399	0	3,150	0	3,136	14	0
68	U. KS	18,192	434	13,754	4,004	0	15,148	432	11,011	3,705	0
69	U. TN, Knoxville	17,990	0	6,362	11,628	0	14,155	0	4,515	9,640	0
70	NM State U.	17,794	6,060	9,937	1,553	244	11,748	2,344	7,804	1,368	232
71	SUNY, U. Buffalo	16,516	0	11,951	4,482	83	9,764	0	6,947	2,817	0
72	ND State U.	16,461	0	6,974	433	9,054	12,805	0	5,549	332	6,924
73	U. TX, M. D. Anderson Cancer Ctr.	16,181	0	16,181	0	0	9,278	0	9,278	0	0
74	U. Rochester	16,016	0	6,201	9,815	0	13,670	0	5,148	8,522	0
75	Washington U., St. Louis	15,998	0	6,643	9,355	0	12,609	0	4,798	7,811	0
76	U. MS and U. MS Medical Ctr.	15,795	0	1,447	14,348	0	12,507	0	1,306	11,201	0
77	Jackson State U.	15,626	0	3,265	3,736	8,625	14,299	0	3,117	3,397	7,785
78	U. Southern MS	15,266	0	14,044	1,222	0	13,933	0	12,711	1,222	0
79	U. Southern CA	15,186	127	12,842	1,900	317	11,616	127	9,681	1,495	313
80	U. PR, Rio Piedras	15,161	0	9,890	5,271	0	12,994	0	8,750	4,244	0
81	U. IL, Chicago	15,054	0	7,732	7,322	0	11,438	0	5,504	5,934	0
82	Northeastern U.	14,942	0	7,547	7,395	0	12,049	0	5,630	6,419	0
83	NJ Institute of Technology	14,818	0	1,990	12,828	0	9,943	0	955	8,988	0
84	Emory U.	14,787	0	13,230	1,557	0	8,818	0	7,472	1,346	0
85	AL A&M U.	14,442	0	5	14,363	74	14,442	0	5	14,363	74
86	NM Institute of Mining and Technology	14,370	0	666	13,704	0	10,828	0	643	10,185	0
87	U. Toledo	14,300	1,205	2,893	9,209	993	7,679	892	1,451	5,228	108
88	U. CA, Riverside	14,143	8	7,767	6,368	0	11,590	0	6,087	5,503	0

**Appendix K. R&D Expenditures in the Physical Sciences at Universities and Colleges, Ranked by all FY 2011 Physical Sciences for the First 100 Institutions: FY 2011 and by Subfield for FY 2011**

(Dollars in Thousands)

Rank	Institution	Total					Federally financed				
		All physical sciences	Astronomy	Chemistry	Physics	Physical sciences, nec	All physical sciences	Astronomy	Chemistry	Physics	Physical sciences, nec
89	U. CA, San Francisco	13,993	0	13,993	0	0	12,775	0	12,775	0	0
90	U. CA, Office of the President	13,781	13,781	0	0	0	0	0	0	0	0
91	Rensselaer Polytechnic Institute	13,704	0	3,996	9,708	0	10,639	0	3,028	7,611	0
92	U. AR, Fayetteville	13,621	527	5,229	7,865	0	8,737	74	3,295	5,368	0
93	NY U.	12,952	0	7,332	5,620	0	11,704	0	7,135	4,569	0
94	U. NM	12,912	0	3,000	9,171	741	10,675	0	2,424	7,938	313
95	U. TX, Dallas	12,701	0	0	0	12,701	6,984	0	0	0	6,984
96	U. OK	12,654	0	6,800	5,854	0	8,425	0	4,388	4,037	0
97	U. MA, Lowell	12,440	0	2,734	9,706	0	8,177	0	1,205	6,972	0
98	CO State U., Ft. Collins	12,267	0	8,487	3,663	117	9,341	0	6,172	3,066	103
99	Carnegie Mellon U.	11,946	12	3,993	6,589	1,352	9,586	12	2,752	5,475	1,347
100	Case Western Reserve U.	11,827	313	4,287	6,912	315	8,299	251	3,252	4,784	12
<b>All Other Institutions</b>		<b>886,645</b>	<b>36,014</b>	<b>432,128</b>	<b>365,770</b>	<b>52,733</b>	<b>630,232</b>	<b>29,769</b>	<b>284,692</b>	<b>277,657</b>	<b>38,114</b>

i = imputed.

nec = not elsewhere classified.

<sup>a</sup> Johns Hopkins University includes Applied Physics Laboratory, with \$148,775 thousand in total and \$147,085 thousand in federally financed R&D expenditures in physical sciences in FY 2011.

NOTES: Institutions reporting zero expenditures in ranked total for FY 2011 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, FY 2011.

**Appendix L. Total and Federally Financed Higher Education R&D Expenditures in Psychology, Ranked by Psychology R&D Total: FY 2011**

(Dollars in thousands)

Rank	Institution	Total	Federally financed
	All institutions	1,119,167	816,492
1	PA State U. University Park and Hershey Medical Ctr.	29,686	21,713
2	U. CA, San Diego	25,418	19,287
3	Duke U.	23,325	14,584
4	U. CT	23,165	18,031
5	FL State U.	22,933	15,939
6	U. MN, Minneapolis	22,779	18,139
7	U. TX, M. D. Anderson Cancer Ctr.	22,452	8,735
8	U. MI, Ann Arbor	22,281	14,211
9	San Diego State U.	18,694	13,826
10	NY U.	17,826	15,464
11	U. Rochester	17,643	14,680
12	U. CA, Los Angeles	17,347	12,427
13	U. CO, Boulder	17,105	15,250
14	U. IL, Urbana-Champaign	16,045	11,045
15	Rutgers, State U. NJ, New Brunswick	15,595	7,285
16	IN U., Bloomington	15,162	9,491
17	U. GA	14,896	11,745
18	San Jose State U.	14,356	14,041
19	Stanford U.	13,865	11,031
20	U. South FL, Tampa	13,855	9,777
21	Vanderbilt U.	13,821	11,610
22	OH State U.	13,326	10,908
23	U. Miami	13,057	11,351
24	U. NE, Lincoln	12,791	8,493
25	AZ State U.	12,726	10,109
26	Uniformed Services U. of the Health Sciences	12,411	8,700
27	U. KY	12,112	9,824
28	U. NM	11,906	9,769
29	Temple U.	11,591	8,913
30	Boston U.	11,226	10,367
31	U. IL, Chicago	10,848	8,214
32	U. NC, Chapel Hill	10,791	9,926
33	U. CA, Berkeley	10,401	6,680
34	Yale U.	10,335	4,769
35	U. Houston	10,172	7,756
36	Carnegie Mellon U.	9,829	8,536
37	U. Pittsburgh, Pittsburgh	9,787	8,066
38	U. OR	9,734	8,652
39	U. FL	9,584	6,025
40	SUNY, U. Binghamton	9,445	4,741
41	U. WA, Seattle	9,379	8,745
42	U. PA	9,128	8,346
43	U. TX, Austin	8,988	7,531
44	Princeton U.	8,909	5,694
45	U. IA	8,635	6,458
46	CUNY, Hunter C.	8,318	6,026
47	U. Southern CA	8,303	7,479
48	U. Memphis	8,295	4,096

**Appendix L. Total and Federally Financed Higher Education R&D Expenditures in Psychology, Ranked by Psychology R&D Total: FY 2011**

(Dollars in thousands)

Rank	Institution	Total	Federally financed
49	U. CA, Santa Barbara	8,125	5,372
50	SUNY, Stony Brook U.	8,087	4,801
51	U. CA, Irvine	7,825	6,169
52	Washington U., St. Louis	7,804	5,696
53	U. Chicago	7,796	7,718
54	Columbia U. in the City of New York	7,614	6,921
55	Cornell U.	7,603	3,739
56	U. VA main campus	7,575	6,817
57	U. WI, Madison	7,251	4,623
58	MI State U.	7,153	5,226
<b>59</b>	<b>U. MA, Boston</b>	<b>7,035</b>	<b>2,825</b>
60	GA Institute of Technology	6,773	4,102
61	U. MD, College Park	6,566	4,955
62	UT State U.	6,512	4,883
63	Dartmouth C.	6,336	4,660
64	GA State U.	6,146	3,576
65	George Mason U.	5,861	4,918
66	SUNY, U. Buffalo	5,857	4,193
67	Harvard U.	5,821	5,496
68	U. SC, Columbia	5,559	4,554
69	Johns Hopkins U. <sup>a</sup>	5,374	4,881
70	Teachers C., Columbia U.	5,236	4,737
<b>71</b>	<b>U. MA, Amherst</b>	<b>5,166</b>	<b>3,066</b>
72	CO State U., Ft. Collins	5,028	4,063
73	Wayne State U.	4,993	2,909
74	George Washington U.	4,880	2,638
75	Purdue U., West Lafayette	4,809	4,295
76	Syracuse U.	4,713	3,254
77	FL International U.	4,608	3,116
78	VA Polytechnic Institute and State U.	4,497	3,036
79	Tufts U.	4,351	1,954
80	U. TX, El Paso	4,350	2,829
81	TX A&M U., College Station	4,338	3,181
82	U. DE	4,306	3,796
83	U. CA, Davis	4,210	2,647
84	U. Denver	4,114	3,595
85	Brown U.	4,088	2,894
86	VA Commonwealth U.	4,004	3,464
87	FL Atlantic U.	3,903	2,316
88	Northwestern U.	3,880	3,088
89	U. Notre Dame	3,809	2,480
90	U. AZ	3,625	2,111
91	Drexel U.	3,593	2,102
92	Emory U.	3,547	2,968
93	U. TX, Dallas	3,152	2,173
94	Rensselaer Polytechnic Institute	3,085	2,862
95	U. VT	3,082	3,012
96	Old Dominion U.	3,004	1,043
97	Kent State U.	2,935	1,826

**Appendix L. Total and Federally Financed Higher Education R&D Expenditures in Psychology, Ranked by Psychology R&D Total: FY 2011**

(Dollars in thousands)

Rank	Institution	Total	Federally financed
98	ND State U.	2,895	2,714
99	Rush U.	2,827	2,790
100	U. AL, Tuscaloosa	2,796	1,790
All Other Institutions		170,394	117,133

i = imputed.

<sup>a</sup> Johns Hopkins University includes Applied Physics Laboratory, with \$0 thousand in both total and federally financed R&D expenditures in psychology in FY 2011.

NOTES: Institutions reporting zero expenditures in ranked total for FY 2011 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, FY 2011.

**Appendix M. Total and Federally Financed R&D Expenditures in the Social Sciences at Universities and Colleges, Ranked by Total FY 2011 R&D in Social Sciences for the First 100 Institutions**

(Dollars in Thousands)

Rank	Institution	Total					Federally Financed				
		All social sciences	Economics	Political sciences	Sociology	Social sciences, nec	All social sciences	Economics	Political sciences	Sociology	Social sciences, nec
	All institutions	2,044,534	389,112	363,913	425,285	866,224	947,386	150,391	148,672	231,507	416,816
1	U. MI, Ann Arbor	141,559	27,891	21,756	18,081	73,831	88,628	23,050	14,263	8,175	43,140
2	U. MD, College Park	92,005	7,397	8,896	1,816	73,896	66,735	4,164	2,964	1,214	58,393
3	U. NC, Chapel Hill	59,544	22	190	52,481	6,851	46,546	0	181	43,318	3,047
4	Rutgers, State U. NJ, New Brunswick	48,706	2,764	5,603	2,531	37,808	18,385	735	1,832	832	14,986
5	U. WI, Madison	48,203	10,875	3,262	6,644	27,422	23,002	5,808	137	1,075	15,982
6	U. CA, Berkeley	47,310	18,696	5,512	4,573	18,529	9,214	4,961	748	1,560	1,945
7	WA State U.	47,172	11,533	3,004	3,208	29,427	12,576	2,429	1,294	1,365	7,488
8	AZ State U.	36,198	2,528	8,287	17,413	7,970	14,268	185	2,036	7,649	4,398
9	MI State U.	33,975	15,714	3,361	2,001	12,899	13,587	6,623	944	1,040	4,980
10	U. CA, Los Angeles	32,680	436	989	3,857	27,398	5,605	0	67	489	5,049
11	Cornell U.	30,114	14,827	63	11,280	3,944	12,679	5,949	0	5,085	1,645
12	Purdue U., West Lafayette	29,972	11,505	555	11,313	6,599	6,370	2,507	167	3,439	257
13	IN U., Bloomington	29,909	4,392	7,919	5,782	11,816	5,479	160	1,915	1,514	1,890
14	George Washington U.	29,373	1,257	12,550	584	14,982	16,732	161	3,565	204	12,802
15	Harvard U.	28,472	1,401	9,307	323	17,441	11,849	411	1,707	287	9,444
16	U. MN, Minneapolis	28,457	5,975	7,146	12,816	2,520	13,767	1,612	2,007	9,760	388
17	PA State U. University Park and Hershey Medical Ctr.	28,099	3,323	3,648	21,128	0	11,603	781	2,109	8,713	0
18	George Mason U.	24,837	6,646	11,074	1,585	5,532	14,959	193	9,591	1,146	4,029
19	U. CA, Davis	23,258	4,930	3,028	1,637	13,663	7,987	702	469	963	5,853
20	Stanford U.	22,741	6,412	1,942	2,057	12,330	8,312	2,643	1,155	976	3,538
21	OH State U.	22,713	4,420	5,579	2,950	9,764	15,455	2,339	4,729	2,215	6,172
22	Columbia U. in the City of New York	22,484	1,935	6,274	8,203	6,072	8,303	1,417	2,923	3,417	546
23	Duke U.	21,157	4,492	9,540	5,835	1,290	12,045	3,214	4,177	4,615	39
24	U. AZ	20,195	5,934	1,263	8,057	4,941	9,157	2,142	387	4,773	1,855
25	U. PA	20,083	1,183	2,691	5,805	10,404	15,563	1,078	642	3,888	9,955
26	U. FL	19,838	8,313	84	3,524	7,917	5,823	1,319	23	1,961	2,520
27	Princeton U.	18,766	1,246	16,187	831	502	8,687	620	7,859	208	0
28	Brown U.	18,210	4,210	2,294	4,618	7,088	3,359	496	67	1,182	1,614
29	MS State U.	18,131	1,921	1,196	1,110	13,904	8,212	705	41	195	7,271
30	U. TX, Austin	17,350	257	467	5,821	10,805	9,414	201	354	3,900	4,959
31	Brandeis U.	16,618	32	187	14,013	2,386	9,799	32	26	9,741	0
32	IA State U.	16,302	3,878	427	11,838	159	8,807	741	74	7,992	0
33	U. IL, Urbana-Champaign	15,108	5,325	6,395	986	2,402	4,930	1,800	1,614	391	1,125
34	U. CO, Boulder	14,946	109	1,829	8,387	4,621	8,077	109	1,417	2,872	3,679
35	U. CA, San Diego	14,826	1,870	8,608	2,644	1,704	5,010	378	3,075	1,215	342
36	GA Institute of Technology	14,500	9,661	3,556	1	1,282	5,337	2,612	2,590	0	135
37	ND State U.	14,118	4,446	30	169	9,473	7,344	1,137	3	52	6,152
38	TX Tech U.	14,078	2,327	612	0	11,139	2,529	1,237	45	0	1,247
39	U. CA, Santa Barbara	13,602	1,222	434	3,608	8,338	6,524	619	0	2,632	3,273
40	Georgetown U.	13,307	0	13,000	0	307	2,651	0	2,421	0	230
41	FL International U.	13,067	0	1,211	69	11,787	7,759	0	452	16	7,291
42	TX A&M U., College Station	13,040	2,274	820	2,079	7,867	4,408	94	271	768	3,275
43	Portland State U.	13,019	48	497	4,747	7,727	6,425	10	355	1,129	4,931

**Appendix M. Total and Federally Financed R&D Expenditures in the Social Sciences at Universities and Colleges, Ranked by Total FY 2011 R&D in Social Sciences for the First 100 Institutions**

(Dollars in Thousands)

Rank	Institution	Total					Federally Financed				
		All social sciences	Economics	Political sciences	Sociology	Social sciences, nec	All social sciences	Economics	Political sciences	Sociology	Social sciences, nec
44	U. NE, Lincoln	12,903	5,101	3,291	2,409	2,102	4,726	554	2,014	1,203	955
45	American U.	12,845	1,589	6,877	1,444	2,935	4,195	458	1,076	463	2,198
46	SUNY, U. Albany	12,707	321	3,001	4,563	4,822	6,433	318	406	3,712	1,997
47	U. TX, M. D. Anderson Cancer Ctr.	12,536	0	0	12,536	0	7,188	0	0	7,188	0
48	Northwestern U.	12,185	1,308	8,924	871	1,082	5,951	671	4,747	139	394
49	U. Southern CA	12,132	114	456	651	10,911	6,917	114	9	417	6,377
50	GA State U.	11,423	6,734	2,216	1,650	823	1,837	972	307	517	41
51	MA Institute of Technology	11,345	5,282	3,532	0	2,531	4,548	1,145	2,430	0	973
52	SUNY, U. Binghamton	11,200	1,351	2,401	3,127	4,321	2,069	0	557	0	1,512
53	NC State U.	11,133	5,203	278	830	4,822	3,902	1,265	144	208	2,285
54	Syracuse U.	10,916	4,893	3,707	778	1,538	2,582	1,308	509	373	392
55	U. CA, Irvine	10,823	377	4,675	2,303	3,468	3,862	90	1,887	783	1,102
56	U. KY	10,751	4,327	1,914	1,494	3,016	2,989	921	512	860	696
57	U. MD, Baltimore County	10,638	0	9,768	870	0	6,082	0	5,960	122	0
58	U. DE	10,610	2,151	191	5,264	3,004	6,257	411	0	3,987	1,859
59	VA Polytechnic Institute and State U.	10,535	1,222	2,909	98	6,306	2,980	39	1,102	5	1,834
60	Teachers C., Columbia U.	10,399	7,928	0	0	2,471	2,766	2,086	0	0	680
61	U. IL, Chicago	10,103	171	738	143	9,051	5,118	69	374	0	4,675
62	FL State U.	9,624	1,466	2,332	884	4,942	2,833	578	165	247	1,843
63	Rutgers, State U. NJ, Newark	9,615	4,852	2,885	84	1,794	3,865	2,964	0	0	901
64	U. GA	9,413	3,349	1,407	940	3,717	4,509	1,106	760	456	2,187
65	U. South FL, Tampa	8,643	425	1,132	1,739	5,347	3,996	53	148	1,100	2,695
66	LA State U., Baton Rouge	8,597	5,330	202	1,145	1,920	4,147	2,288	91	482	1,286
67	U. WA, Seattle	8,521	0	2,545	4,002	1,974	5,354	0	469	3,729	1,156
68	U. IA	8,386	278	4,814	514	2,780	3,418	0	2,764	359	295
69	Johns Hopkins U. <sup>a</sup>	8,026	853	13	445	6,715	6,241	793	10	239	5,199
<b>70</b>	<b>U. MA, Boston</b>	<b>7,845</b>	<b>147</b>	<b>3,183</b>	<b>1,757</b>	<b>2,758</b>	<b>2,775</b>	<b>69</b>	<b>1,037</b>	<b>925</b>	<b>744</b>
71	U. HI, Manoa	7,833	7	0	350	7,476	2,994	0	0	323	2,671
72	NY U.	7,542	1,312	3,824	576	1,830	3,556	954	907	356	1,339
73	Naval Postgraduate School	7,518	0	7,034	0	484	6,777	0	6,293	0	484
74	U. NM	7,425	608	114	2,581	4,122	4,162	304	35	1,873	1,950
75	U. NH	7,292	132	0	6,157	1,003	3,612	47	0	2,795	770
76	U. OK	7,288	520	2,452	1,113	3,203	1,370	34	11	837	488
77	San Diego State U.	7,164	421	1,964	2,434	2,345	4,154	0	1,434	1,288	1,432
78	Yale U.	7,155	2,696	140	23	4,296	3,497	1,267	71	6	2,153
79	U. Cincinnati	7,121	15	956	578	5,572	1,720	0	251	94	1,375
80	IN U.-Purdue U., Indianapolis	7,119	84	4,011	887	2,137	1,096	30	473	539	54
81	U. OR	7,010	449	2,770	588	3,203	5,047	309	2,060	279	2,399
82	CO State U., Ft. Collins	6,984	1,835	213	2,844	2,092	4,404	1,044	18	2,179	1,163
83	OK State U., Stillwater	6,973	3,827	20	227	2,899	1,563	1,117	15	206	225
84	Clemson U.	6,796	3,306	1,106	562	1,822	1,939	748	351	151	689
85	Carnegie Mellon U.	6,016	1,544	1,208	386	2,878	3,825	534	791	326	2,174
86	U.S. Military Academy	6,012	421	2,487	3,104	0	6,012	421	2,487	3,104	0

**Appendix M. Total and Federally Financed R&D Expenditures in the Social Sciences at Universities and Colleges, Ranked by Total FY 2011 R&D in Social Sciences for the First 100 Institutions**

(Dollars in Thousands)

Rank	Institution	Total					Federally Financed				
		All social sciences	Economics	Political sciences	Sociology	Social sciences, nec	All social sciences	Economics	Political sciences	Sociology	Social sciences, nec
87	U. CA, Santa Cruz	5,942	436	86	1,065	4,355	2,226	218	50	721	1,237
88	U. ME	5,921	1,020	165	26	4,710	3,830	668	0	22	3,140
89	U. TN, Knoxville	5,794	2,991	168	1,696	939	2,647	982	82	1,017	566
90	U. TN, Institute of Agriculture	5,604	5,604	0	0	0	1,303	1,303	0	0	0
91	U. Memphis	5,590	2,883	667	828	1,212	1,985	1,081	30	274	600
92	U. Central FL	5,579	1,379	790	308	3,102	3,767	1,098	372	119	2,178
93	KS State U.	5,420	3,826	0	486	1,108	2,389	1,913	0	241	235
94	U. CT	5,134	2,461	703	958	1,012	2,681	1,284	264	382	751
<b>95</b>	<b>U. MA, Amherst</b>	<b>5,123</b>	<b>2,489</b>	<b>928</b>	<b>1,211</b>	<b>495</b>	<b>2,176</b>	<b>756</b>	<b>618</b>	<b>488</b>	<b>314</b>
96	Vanderbilt U.	5,055	122	3,287	1,230	416	3,917	122	2,445	1,034	316
97	Ball State U.	4,923	12	177	151	4,583	313	11	0	69	233
98	SUNY, U. Buffalo	4,862	173	46	865	3,778	2,303	18	0	513	1,772
99	U. SC, Columbia	4,802	146	706	1,623	2,327	4,070	12	488	1,363	2,207
100	U. Pittsburgh, Pittsburgh	4,783	396	1,109	225	3,053	3,899	297	895	178	2,529

i = imputed.

nec = not elsewhere classified.

<sup>a</sup> Johns Hopkins University includes Applied Physics Laboratory, with \$3,817 thousand in both total and federally financed R&D expenditures in social sciences in FY 2011.

NOTES: Institutions reporting zero expenditures in ranked total for FY 2011 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, FY 2011.



**Appendix N. Higher Education R&D Expenditures in Non-Science and Engineering Fields, Ranked by all Non-S&E R&D, by Subfield: FY 2011 (First 300 Institutions)**

(Dollars in thousands)

Rank	Institution	Communication, journalism, and library science							Visual and performing arts	Other
		All non-S&E fields	Business and management	Education	Humanities	Law	Social work			
	All institutions	3,182,608	394,541	148,114	1,104,340	296,444	119,128	190,775	72,729	856,537
1	Brown U.	120,635	2,865	801	7,837	15,865	0	0	3,116	90,151
2	U. MO, Columbia	100,688	140	224	3,190	50	1	0	0	97,083
3	U. WI, Madison	88,919	30,127	2,918	35,924	12,665	2,124	469	1,034	3,658
4	U. TX, Austin	73,794	8,986	5,831	31,084	1,637	95	4,408	409	21,344
5	U. MI, Ann Arbor	66,133	10,129	1,572	17,918	15,516	3,722	5,597	1,440	10,239
6	Purdue U., West Lafayette	58,230	11,940	2,226	5,689	3,623	0	0	446	34,306
7	U. FL	53,883	3,107	3,536	8,002	1,139	126	50	265	37,658
8	U. South FL, Tampa	51,597	5,749	5,404	23,167	884	0	2,791	1,307	12,295
9	U. AK, Fairbanks	42,638	2,856	22	2,286	180	0	0	0	37,294
10	U. CA, Los Angeles	39,907	5,932	156	24,865	5,486	1,939	0	1,529	0
11	Stanford U.	39,578	855	791	34,542	431	487	0	0	2,472
12	GA State U.	38,504	7,991	48	11,156	2,974	1,354	609	692	13,680
13	OH State U.	38,103	1,930	908	29,394	3,319	1	1,375	236	940
14	Columbia U. in the City of New York	37,727	2,846	7,117	728	4,553	6,283	9,538	357	6,305
15	U. CA, Berkeley	37,019	3,750	1,570	18,102	3,726	9,545	0	326	0
16	U. WA, Seattle	36,007	1,310	485	10,830	1,799	632	18,679	293	1,979
17	TX Tech U.	34,751	8,787	14,104	6,894	2,011	585	650	1,720	0
18	U. PA	34,514	11,906	6,573	7,415	2,720	1,038	4,223	639	0
19	AZ State U.	31,648	2,039	1,080	2,601	4,135	623	2,625	1,252	17,293
20	Vanderbilt U.	31,225	36	11,544	17,182	1,026	1,159	0	36	242
21	Clemson U.	30,669	762	53	5,497	977	0	0	104	23,276
22	U. Louisville	30,520	708	181	10,653	513	432	3,003	162	14,868
23	MI State U.	30,482	2,413	3,022	16,679	739	947	708	99	5,875
24	MA Institute of Technology	29,896	11,572	0	5,179	1,872	0	0	355	10,918
25	U. Cincinnati	29,480	1,728	131	2,856	3,419	1,060	353	5,487	14,446
26	U. KS	28,501	279	267	20,011	1,067	24	5,525	142	1,186
27	NY U.	28,425	1,900	0	19,401	1,696	2,654	1,345	674	755
28	American U.	28,399	3,770	5,923	4,358	2,252	11,252	0	844	0
29	Syracuse U.	27,088	1,937	1,712	11,573	1,073	8,312	737	790	954
30	Harvard U.	26,658	0	1,889	20,428	1,045	2,655	0	641	0
31	U. OK	25,469	197	0	8,810	0	0	0	50	16,412
32	WA State U.	25,296	3,207	2,042	8,585	1,909	0	6,348	112	3,093
<b>33</b>	<b>U. MA, Boston</b>	<b>25,176</b>	<b>653</b>	<b>0</b>	<b>21,331</b>	<b>98</b>	<b>0</b>	<b>0</b>	<b>35</b>	<b>3,059</b>
34	Emory U.	24,416	2,365	0	18	0	882	0	0	21,151
35	IN U., Bloomington	24,058	3,183	5,984	7,729	1,504	396	0	1,407	3,855
36	Northwestern U.	23,778	5,927	3,923	7,801	1,758	934	0	629	2,806
37	U. Southern CA	23,577	573	5,657	7,494	4,742	78	2,854	2,084	95
38	TX A&M U., College Station	23,167	4,793	2	14,784	1,588	688	0	20	1,292
39	U. MN, Minneapolis	22,930	5,609	650	8,590	2,242	2,022	579	1,258	1,980
40	U. IL, Urbana-Champaign	22,900	1,432	3,959	5,247	2,740	1,344	3,752	519	3,907
41	VA Commonwealth U.	22,190	327	22	14,953	184	0	3,102	803	2,799
42	Boston C.	21,807	7,119	20	12,258	156	12	1,972	48	222
43	Old Dominion U.	21,496	5,514	0	11,484	1,918	0	0	1,764	816
44	FL A&M U.	19,607	0	7	13,521	409	251	116	0	5,303

**Appendix N. Higher Education R&D Expenditures in Non-Science and Engineering Fields, Ranked by all Non-S&E R&D, by Subfield: FY 2011 (First 300 Institutions)**

(Dollars in thousands)

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
45	U. Pittsburgh, Pittsburgh	18,961	770	3	5,798	173	524	10,816	0	877
46	U. CO, Boulder	18,643	3,760	430	11,206	536	2,170	458	83	0
47	U. West FL	18,159	11,736	221	5,454	66	0	628	1	53
48	U. MD, Baltimore	17,980	0	7	0	0	348	13,604	0	4,021
49	PA State U. University Park and Hershey Medical Ctr.	17,901	4,040	1,115	9,337	2,668	515	0	226	0
50	Washington U., St. Louis	17,635	634	0	826	123	31	15,907	13	101
51	Portland State U.	17,283	3	113	4,145	138	0	12,883	1	0
52	Tulane U.	17,173	5,727	0	30	1,445	2,315	0	27	7,629
53	Rutgers, State U. NJ, New Brunswick	16,804	329	724	9,639	3,004	6	63	134	2,905
54	CA State U., Northridge	15,859	858	26	10,589	472	0	1,288	312	2,314
55	U. OR	15,858	0	210	15,330	299	19	0	0	0
56	U. CA, Irvine	15,808	757	0	5,505	9,378	43	0	125	0
57	U. TN, Knoxville	15,642	11,763	521	1,268	1,200	142	314	44	390
58	U. Houston	15,478	1,514	0	2,846	327	455	0	0	10,336
59	SUNY, U. Buffalo	15,389	302	607	11,871	819	226	1,392	172	0
60	U. NE, Lincoln	15,155	2,179	725	3,039	5,179	2,039	0	1,994	0
61	FL Atlantic U.	14,997	5,201	644	2,499	1,949	0	0	1,541	3,163
62	San Diego State U.	14,802	4,537	1,081	2,029	3,632	0	1,624	752	1,147
63	U. NH	14,654	2,128	0	10,254	605	0	901	0	766
64	OH U.	14,244	17	730	1,234	162	0	9	288	11,804
65	TX State U., San Marcos	14,244	341	0	6,608	0	3,447	0	354	3,494
66	CA State U., Fullerton	13,856	3,394	27	7,423	509	0	1,459	602	442
67	Fordham U.	13,856	2,243	1,019	3,778	1,681	2,438	1,745	429	523
68	U. LA, Lafayette	13,665	1,410	420	8,405	2,306	0	0	764	360
69	FL State U.	13,542	1,618	1,168	8,525	648	397	513	314	359
70	FL Gulf Coast U.	13,440	778	2,818	5,956	0	0	2	0	3,886
71	U. HI, Hilo	13,374	0	9	12,884	14	0	160	30	277
72	U. Notre Dame	12,944	1,146	25	0	6,468	12	0	420	4,873
73	U. AZ	12,577	210	706	10,137	1,431	53	0	40	0
74	U. CA, Santa Barbara	12,558	4,875	278	3,879	2,751	9	0	766	0
75	U. TX, Arlington	12,480	313	0	829	299	0	4,385	0	6,654
76	IL State U.	12,341	1,255	7	10,747	48	0	220	12	52
77	Fayetteville State U.	12,240	320	195	7,397	0	0	1,210	11	3,107
78	FL International U.	12,202	1,363	279	7,818	989	498	0	1,255	0
79	U. New Orleans	12,069	1,732	0	1,620	914	0	0	0	7,803
80	U. Central FL	11,881	9,343	9	2,103	77	0	100	191	58
81	MT State U., Bozeman	11,722	43	0	4,994	103	0	0	48	6,534
82	Miami U.	11,298	197	13	1,402	75	0	81	1	9,529
83	NJ Institute of Technology	11,241	609	0	2,637	85	0	0	0	7,910
84	U. IA	10,805	1,213	500	3,389	2,123	509	413	454	2,204
85	U. MD, College Park	10,304	897	647	5,614	2,858	0	0	288	0
86	Jackson State U.	10,131	0	25	8,682	144	0	80	0	1,200

**Appendix N. Higher Education R&D Expenditures in Non-Science and Engineering Fields, Ranked by all Non-S&E R&D, by Subfield: FY 2011 (First 300 Institutions)**

(Dollars in thousands)

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
87	C. of William and Mary and VA Institute of Marine Science	10,084	274	0	8,215	843	105	0	47	600
88	U. CO Denver and Health Sciences Ctr.	10,070	578	1	4,443	67	0	73	186	4,722
89	U. NC, Greensboro	9,891	99	74	8,384	576	0	88	121	549
90	Johns Hopkins U. <sup>a</sup>	9,761	0	4,453	0	5,308	0	0	0	0
91	U. CA, Davis	9,703	66	6	5,356	911	25	0	3,218	121
92	U. Southern ME	9,702	0	0	228	6	0	0	0	9,468
93	U. AR, Fayetteville	9,697	3,463	9	1,941	1,154	293	598	25	2,214
94	CO State U., Ft. Collins	9,654	1,596	372	739	228	0	0	113	6,606
95	Ball State U.	9,606	283	167	3,298	147	0	51	138	5,522
96	U. MS and U. MS Medical Ctr.	9,484	2	86	416	31	3,103	0	4	5,842
97	Temple U.	9,347	403	0	3,832	437	2,586	1,471	610	8
98	U. Akron	9,288	692	201	856	703	7	16	816	5,997
99	U. DE	9,243	1,357	0	7,078	808	0	0	0	0
100	Western MI U.	9,176	26	21	8,433	163	0	44	0	489
101	U. Memphis	9,006	2,258	110	3,913	855	2	39	635	1,194
102	U. WI, Milwaukee	8,803	2,254	708	1,926	890	0	297	56	2,672
103	U. KY	8,757	923	1,322	2,231	607	342	1,132	646	1,554
104	IN U.-Purdue U., Indianapolis	8,613	1,468	2,412	1,921	35	16	278	265	2,218
105	U. MD, Baltimore County	8,502	122	0	674	2,449	0	0	1,016	4,241
106	MS State U.	8,277	993	324	2,523	1,712	0	0	197	2,528
107	Purdue U., Calumet	8,221	753	1	2,503	192	0	0	282	4,490
108	George Washington U.	8,194	3,623	783	1,175	2,520	0	0	93	0
109	U. TX, San Antonio	8,171	2,353	131	4,707	959	0	21	0	0
110	U. North TX, Denton	8,054	604	2,018	3,167	1,285	0	0	980	0
111	Princeton U.	7,852	0	114	212	5,828	0	0	1,406	292
112	George Mason U.	7,805	112	24	2,506	4,914	112	102	35	0
113	Boston U.	7,323	172	141	3,303	1,290	140	2,065	84	128
114	Wayne State U.	7,275	1,009	193	2,026	563	234	1,459	401	1,390
115	WV U.	7,214	1,021	248	3,314	1,157	419	212	98	745
116	Fairfield U.	7,172	1,637	157	434	2,876	0	0	431	1,637
117	Brigham Young U., Provo	7,162	1,065	85	927	4,196	18	1	804	66
118	U. IL, Chicago	7,078	700	176	2,400	648	0	3,054	73	27
119	U. Chicago	7,050	1,261	0	0	164	0	4,512	0	1,113
120	CUNY, Graduate Ctr.	7,010	0	0	6,054	861	0	0	95	0
121	SUNY, U. Binghamton	6,723	518	0	643	3,901	0	1,011	238	412
122	Universidad del Turabo	6,688	0	0	6,688	0	0	0	0	0
123	IA State U.	6,625	1,544	389	1,994	2,298	0	0	400	0
124	LA State U., Baton Rouge	6,620	527	196	1,994	925	942	184	603	1,249
125	Eastern MI U.	6,599	240	269	4,899	304	0	750	0	137
126	U. CT	6,540	839	343	1,968	393	38	2,851	108	0
127	U. TX, El Paso	6,493	296	17	2,651	683	16	0	0	2,830
128	U. CA, Riverside	6,336	240	0	3,850	1,184	0	0	114	948

**Appendix N. Higher Education R&D Expenditures in Non-Science and Engineering Fields, Ranked by all Non-S&E R&D, by Subfield: FY 2011 (First 300 Institutions)**

(Dollars in thousands)

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
129	U. AK, Anchorage	6,240	224	0	570	268	575	0	0	4,603
130	Naval Postgraduate School	6,210	6,210	0	0	0	0	0	0	0
131	U. MO, St. Louis	6,117	831	0	1,052	127	0	1,062	0	3,045
132	San Jose State U.	6,074	4,650	183	57	55	0	514	25	590
133	U. AL, Birmingham	6,018	0	0	3,716	0	0	0	0	2,302
134	LA Tech U.	5,942	4,687	27	408	294	0	0	486	40
135	U. CA, Santa Cruz	5,915	0	37	2,716	2,239	0	0	923	0
136	U. CA, San Diego	5,794	501	177	2,738	866	0	0	925	587
137	U. MO, Kansas City	5,769	483	145	181	263	14	338	8	4,337
138	RI C.	5,711	0	0	5,545	68	0	93	5	0
139	Wheeling Jesuit U.	5,693	3,230	0	2,016	0	0	447	0	0
140	KS State U.	5,673	431	52	2,450	421	0	0	11	2,308
141	Georgetown U.	5,615	108	92	181	1,269	3,965	0	0	0
142	Embry-Riddle Aeronautical U.	5,584	707	0	3,256	0	0	0	0	1,621
143	U. GA	5,572	272	159	4,092	449	32	395	79	94
144	Northeastern U.	5,553	578	357	2,493	1,100	1,025	0	0	0
145	Claremont Graduate U.	5,489	0	0	3,825	80	0	0	20	1,564
146	Dillard U.	5,400	318	1,189	0	0	0	0	0	3,893
147	Drexel U.	5,291	86	277	1,634	184	40	0	31	3,039
148	U. South AL	5,258	119	7	602	159	0	0	0	4,371
149	MO U. of Science and Technology	5,256	9	1	6	20	0	0	0	5,220
150	Rochester Institute of Technology	5,180	270	0	3,714	8	0	0	0	1,188
151	SUNY, Stony Brook U.	5,149	21	163	0	540	0	0	1,120	3,305
152	U. VA main campus	4,847	0	0	3,216	1,308	155	0	163	5
153	U. NC, Chapel Hill	4,830	933	435	310	484	0	1,906	0	762
154	GA Institute of Technology	4,787	0	560	13	2,083	10	0	0	2,121
155	FL Institute of Technology	4,774	184	0	0	66	0	0	0	4,524
156	U. SC, Columbia	4,772	1,050	340	2,472	507	7	313	10	73
<b>157</b>	<b>U. MA, Lowell</b>	<b>4,756</b>	<b>1,174</b>	<b>13</b>	<b>1,425</b>	<b>252</b>	<b>0</b>	<b>0</b>	<b>315</b>	<b>1,577</b>
158	VA Polytechnic Institute and State U.	4,756	1,200	8	2,570	62	30	0	88	798
<b>159</b>	<b>U. MA, Amherst</b>	<b>4,752</b>	<b>423</b>	<b>453</b>	<b>3,498</b>	<b>254</b>	<b>60</b>	<b>0</b>	<b>46</b>	<b>18</b>
160	CA State U., San Bernardino	4,325	3,731	0	376	218	0	0	0	0
161	IL Institute of Technology	4,264	0	0	699	59	473	0	305	2,728
162	CUNY, Hunter C.	4,127	0	36	2,464	735	0	642	250	0
163	Northern IL U.	4,076	66	1	247	176	172	434	6	2,974
164	Rutgers, State U. NJ, Newark	4,060	3,467	0	19	0	401	54	0	119
165	MI Technological U.	4,040	1,584	0	449	1,071	0	0	173	763
166	U. Denver	3,986	0	0	851	0	2,390	745	0	0
167	U. Toledo	3,985	529	7	2,211	16	223	182	3	814
168	Duke U.	3,966	1,926	0	88	1,277	342	0	279	54
169	U. UT	3,924	78	720	1,543	840	587	0	156	0
170	CUNY, City U.	3,914	125	0	679	90	0	125	5	2,890
171	St. Edward's U.	3,861	0	0	0	0	0	0	0	3,861
172	Winthrop U.	3,739	0	0	2,386	0	0	487	0	866
173	NC State U.	3,708	0	0	2,382	562	764	0	0	0

**Appendix N. Higher Education R&D Expenditures in Non-Science and Engineering Fields, Ranked by all Non-S&E R&D, by Subfield: FY 2011 (First 300 Institutions)**

(Dollars in thousands)

Rank	Institution	(Dollars in thousands)								Other
		All non-S&E fields	Business and management	Communication, journalism, and library science	Education	Humanities	Law	Social work	Visual and performing arts	
174	IN U.-Purdue U., Ft. Wayne	3,658	219	4	123	239	0	0	56	3,017
175	U. SD	3,638	298	199	529	823	83	35	0	1,671
176	U. South FL, St. Petersburg	3,614	604	98	2,636	39	0	5	0	232
177	Bryn Mawr C.	3,581	0	0	37	2,577	0	853	105	9
178	U. TX, Dallas	3,463	1,361	0	127	1,975	0	0	0	0
179	U. NV, Reno	3,368	474	0	54	832	127	1,376	0	505
180	U. NM	3,359	7	1,284	743	275	930	0	96	24
181	Marquette U.	3,351	1,328	15	363	584	1	0	0	1,060
182	U.S. Air Force Academy	3,322	343	0	1,817	817	200	0	0	145
183	Brandeis U.	3,251	79	0	1,025	147	286	0	28	1,686
184	Duquesne U.	3,211	1,200	24	1,002	0	371	0	140	474
185	U. NC, Charlotte	3,210	88	90	1,908	267	0	332	7	518
186	Southern CT State U.	3,184	8	23	1,090	55	22	403	24	1,559
187	Sam Houston State U.	3,179	0	0	284	0	0	0	0	2,895
188	Wellesley C.	3,112	356	0	0	3	0	0	12	2,741
189	Kent State U.	3,067	112	55	2,053	836	0	0	0	11
190	CO School of Mines	2,888	0	0	2,689	199	0	0	0	0
191	CA Institute of Technology	2,878	0	0	0	2,878	0	0	0	0
192	Central MI U.	2,806	1,194	0	65	131	0	0	0	1,416
193	Gallaudet U.	2,757	0	0	2,614	0	124	19	0	0
194	U. AL, Huntsville	2,736	2,152	0	405	9	0	0	0	170
195	Yale U.	2,708	0	0	0	1,387	1,321	0	0	0
196	U. NC, Wilmington	2,632	816	6	1,018	0	0	275	66	451
197	New School	2,591	29	13	1,083	741	0	0	255	470
198	TX A&M U., Kingsville	2,542	33	0	2,179	5	0	0	0	325
199	Creighton U.	2,536	25	5	112	0	115	0	0	2,279
200	CA State U., Sacramento	2,522	106	549	675	273	0	92	0	827
201	Loyola Marymount U.	2,517	289	129	317	997	710	0	75	0
202	CA State Polytechnic U., Pomona	2,461	0	0	0	0	0	0	0	2,461
203	Lehigh U.	2,447	35	0	2,361	48	0	0	0	3
204	Southern Methodist U.	2,445	365	0	1,623	171	58	0	164	64
205	U. PR, Rio Piedras	2,443	90	0	254	220	3	403	0	1,473
206	East Carolina U.	2,387	0	0	2,161	79	0	0	21	126
207	TX A&M U., Corpus Christi	2,363	2	0	467	77	0	0	0	1,817
208	U. WA, Bothell	2,360	2	0	11	90	0	0	0	2,257
209	Carleton C.	2,301	0	0	0	2,301	0	0	0	0
210	Rutgers, State U. NJ, Camden	2,287	23	0	1,743	88	294	87	0	52
211	Loma Linda U.	2,240	0	0	0	0	0	2,179	0	61
212	U. WY	2,229	396	0	694	0	6	5	0	1,128
213	Northern AZ U.	2,204	7	10	1,881	248	0	0	27	31
214	Middle TN State U.	2,144	13	2	757	961	0	0	10	401
215	Seton Hall U.	2,141	0	0	853	0	599	0	0	689
216	CUNY, John Jay C. of Criminal Justice	2,080	0	80	92	197	1,521	0	0	190
217	Baylor U.	2,066	602	65	140	730	0	362	18	149
218	TX Southern U.	2,063	0	0	77	0	0	0	0	1,986

**Appendix N. Higher Education R&D Expenditures in Non-Science and Engineering Fields, Ranked by all Non-S&E R&D, by Subfield: FY 2011 (First 300 Institutions)**

(Dollars in thousands)

Rank	Institution	(Dollars in thousands)								Other
		All non-S&E fields	Business and management	Communication, journalism, and library science	Education	Humanities	Law	Social work	Visual and performing arts	
219	Mills C.	2,027	0	0	2,027	0	0	0	0	0
220	CUNY, C. Staten Island	2,026	0	0	0	0	0	0	0	2,026
221	U. TN, Chattanooga	1,943	1,188	0	393	327	0	0	3	32
222	U. MA, Dartmouth	1,936	0	0	1,627	151	0	0	16	142
223	Carnegie Mellon U.	1,926	0	0	0	46	0	0	23	1,857
224	U. ID	1,884	0	66	110	102	0	0	23	1,583
225	C. Charleston	1,874	405	404	391	221	0	0	53	400
226	Cornell U.	1,842	582	619	0	641	0	0	0	0
227	U. NV, Las Vegas	1,815	799	106	740	138	13	4	0	15
228	Air Force Institute of Technology	1,789	1,740	0	25	0	0	0	0	24
229	TX A&M International U.	1,785	50	0	650	2	0	0	0	1,083
230	Cheyney U. PA	1,775	0	0	637	0	0	0	0	1,138
231	Wabash C.	1,768	0	0	217	1,551	0	0	0	0
232	NM State U.	1,761	5	11	140	19	0	0	1	1,585
233	Western WA U.	1,760	501	23	361	0	0	0	339	536
234	TX Christian U.	1,754	20	7	1,633	68	0	12	14	0
235	Western OR U.	1,723	0	0	1,723	0	0	0	0	0
236	Loyola U., Chicago	1,714	0	48	1,127	321	121	67	0	30
237	Wiley C.	1,684	0	0	1,684	0	0	0	0	0
238	U. Miami	1,656	0	0	1,655	0	0	0	1	0
239	Stevens Institute of Technology	1,649	1,123	0	513	0	0	0	0	13
240	SUNY, U. Albany	1,638	86	311	287	67	0	0	0	887
241	Tufts U.	1,635	0	50	39	951	39	0	0	556
242	Hamilton C.	1,633	0	8	1,566	25	0	13	6	15
243	U. NE, Omaha	1,606	1,280	2	234	29	0	0	9	52
244	UT State U.	1,604	491	0	1,105	4	0	0	0	4
245	West Liberty U.	1,559	1,159	0	400	0	0	0	0	0
246	Auburn U., Auburn	1,550	966	0	584	0	0	0	0	0
247	West TX A&M U.	1,540	818	0	2	16	0	0	0	704
248	U. Dayton	1,520	12	33	1,113	302	0	0	60	0
249	TN State U.	1,507	89	0	1,418	0	0	0	0	0
250	U. Baltimore	1,492	522	77	32	0	861	0	0	0
251	Worcester Polytechnic Institute	1,490	656	8	509	317	0	0	0	0
252	U.S. Military Academy	1,485	856	0	385	244	0	0	0	0
253	U. of the Pacific	1,463	0	271	336	32	622	0	10	192
254	Chapman U.	1,449	0	32	182	29	1,156	0	50	0
255	U. RI	1,428	40	0	112	0	0	0	0	1,276
256	Stetson U.	1,427	0	0	0	0	1,427	0	0	0
257	U. New Haven	1,414	0	0	0	0	1,414	0	0	0
258	U. TX, Pan American	1,414	21	0	1,178	72	0	0	0	143
259	St. Cloud State U.	1,412	3	6	842	55	0	56	0	450
260	Amherst C.	1,393	0	19	0	977	0	95	259	43
261	U. West GA	1,393	202	2	1,089	66	0	0	2	32
262	U. Southern MS	1,384	71	0	165	36	0	292	0	820
263	Stephen F. Austin State U.	1,382	0	0	702	243	0	4	18	415

## Appendix N. Higher Education R&D Expenditures in Non-Science and Engineering Fields, Ranked by all Non-S&E R&D, by Subfield: FY 2011 (First 300 Institutions)

(Dollars in thousands)

Rank	Institution	(Dollars in thousands)								Other
		All non-S&E fields	Business and management	Communication, journalism, and library science	Education	Humanities	Law	Social work	Visual and performing arts	
264	Hofstra U.	1,377	0	70	1,256	43	0	0	6	2
265	Tuskegee U.	1,364	0	0	1,364	0	0	0	0	0
266	U. Central AR	1,364	15	0	979	0	84	0	3	283
267	St. Bonaventure U.	1,348	6	15	420	695	0	0	23	189
268	ND State U.	1,347	8	128	1,111	100	0	0	0	0
269	Seattle Pacific U.	1,313	0	0	1,313	0	0	0	0	0
270	Macalester C.	1,310	0	0	28	1,029	0	0	253	0
271	CUNY, Baruch C.	1,303	116	13	52	72	1	0	19	1,030
272	Purdue U., North Central	1,299	0	0	25	2	0	0	0	1,272
273	Rider U.	1,299	3	0	0	0	0	0	0	1,296
274	Lewis and Clark C.	1,274	0	23	19	56	1,162	0	14	0
275	Keene State C.	1,261	103	0	1,033	24	0	0	15	86
276	St. Joseph's U.	1,233	771	0	425	37	0	0	0	0
277	U. WA, Tacoma	1,217	0	0	449	210	0	49	0	509
278	Erikson Institute	1,212	0	0	902	0	0	0	0	310
279	Pepperdine U.	1,207	171	48	587	8	21	0	0	372 i
280	U. of the Sciences Philadelphia	1,190	0	0	0	0	0	0	0	1,190
281	Oakland U.	1,143	129	75	309	8	0	0	18	604
282	U. San Diego	1,143	25	0	531	36	224	0	0	327
283	Arcadia U.	1,100	0	0	988	44	0	0	22	46
284	U. MN, Duluth	1,099	334	100	379	103	0	4	98	81
285	Daemen C.	1,072	0	0	1,072	0	0	0	0	0 i
286	Calvin C.	1,068	11	114	250	629	0	0	0	64
287	OR State U.	1,062	0	0	0	0	0	0	0	1,062
288	St. Louis U.	1,045	57	1	7	326	0	226	0	428
289	CA Polytechnic State U., San Luis Obispo	1,043	796	196	0	51	0	0	0	0
290	Rice U.	1,038	164	24	492	353	0	0	5	0
291	U. AL, Tuscaloosa	1,032	153	10	498	188	0	41	142	0
292	DE State U.	1,026	146	0	12	0	0	829	39	0
293	Pace U.	1,023	140	1	133	278	393	0	0	78
294	U. CA, Merced	1,021	0	0	442	63	0	0	0	516
295	U. Richmond	1,013	307	25	19	114	3	0	114	431
296	Roger Williams U.	1,011	0	0	635	6	344	0	0	26
297	Wesleyan U.	1,011	0	76	234	555	0	0	136	10
298	Case Western Reserve U.	1,000	80	0	275	169	39	0	127	310
299	Shippensburg U. PA	980	0	0	0	0	973	0	7	0
300	Salisbury U.	972	38	19	23	0	0	0	19	873
All Other Institutions		99,236	10,247	3,776	33,339	16,015	3,944	2,948	5,092	23,875

i = imputed.

S&E = science and engineering.

<sup>a</sup> Non-S&E data represent higher education R&D expenditures in non-S&E fields for Johns Hopkins University, excluding its Applied Physics Laboratory (APL). APL did not report on non-S&E expenditures.

NOTES: Institutions reporting zero expenditures in ranked total for FY 2011 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, FY 2011.

**APPENDIX O. Federally Financed higher education R&D Expenditures, ranked by all Federal R&D Expenditures, by Federal Agency for Top 250 Institutions: FY 2011**

(Dollars in thousands)

Rank	Institution	All federal R&D expenditures							
		DOD	DOE	HHS	NASA	NSF	USDA	Other <sup>a</sup>	
	All institutions	40,764,823	4,831,041	1,868,521	22,988,091	1,430,307	5,133,663	1,006,322	3,506,878
1	Johns Hopkins U. <sup>b</sup>	1,884,025	609,279	7,467	686,156	202,999	34,364	1,898	341,862
2	U. WA, Seattle	948,976	74,050	32,435	620,541	14,037	145,677	5,870	56,366
3	U. MI, Ann Arbor	820,125	59,831	35,097	593,823	15,301	73,301	737	42,035
4	U. PA	707,051	42,160	11,080	597,158	2,703	35,927	1,604	16,419
5	U. Pittsburgh, Pittsburgh	662,471	33,284	9,055	575,847	829	27,275	210	15,971
6	Stanford U.	656,114	71,659	24,336	445,027	22,473	79,479	220	12,920
7	Columbia U. in the City of New York	645,233	26,273	22,019	456,881	18,164	90,984	454	30,458
8	U. CA, San Diego	636,879	63,794	18,990	431,405	5,834	90,066	242	26,548
9	U. WI, Madison	593,633	25,097	76,007	319,578	12,078	94,160	12,007	54,706
10	Duke U.	585,262	39,002	10,586	487,710	1,518	35,879	499	10,068
11	U. CA, San Francisco	570,116	5,177	857	542,877	746	11,801	0	8,658
12	U. CA, Los Angeles	563,560	42,370	24,072	395,135	15,382	62,332	33	24,236
13	U. NC, Chapel Hill	561,708	14,011	9,648	464,500	659	27,341	269	45,280
14	Harvard U.	543,097	32,264	11,651	428,366	9,908	46,630	124	14,154
15	Yale U.	519,844	18,035	11,762	452,330	3,747	28,343	1,203	4,424
16	OH State U.	493,130	39,596	23,153	290,578	5,661	52,960	27,350	53,832
17	U. MN, Minneapolis	489,480	12,723	20,380	335,522	9,121	70,609	20,448	20,677
18	MA Institute of Technology	489,080	111,219	89,797	154,974	28,600	86,715	0	17,775
19	Cornell U.	476,583	27,468	19,919	242,321	12,492	126,416	32,779	15,188
20	Washington U., St. Louis	469,490	5,387	8,829	429,608	7,541	16,763	156	1,206
21	PA State U. University Park and Hershey Medical Ctr.	468,705	178,361	27,044	129,435	16,926	59,414	22,349	35,176
22	Vanderbilt U.	458,173	23,090	11,261	384,577	2,682	17,255	37	19,271
23	U. Southern CA	453,283	88,912	15,309	288,154	2,427	43,485	252	14,744
24	GA Institute of Technology	427,867	262,286	20,543	33,879	15,450	64,884	614	30,211
25	Northwestern U.	399,719	32,740	25,907	282,622	1,483	42,531	203	14,233
26	U. Chicago	372,288	9,262	10,873	268,276	5,047	74,735	166	3,929
27	Emory U.	369,982	5,543	1,128	336,568	1,559	6,167	856	18,161
28	U. CA, Davis	362,976	13,756	14,647	215,639	2,639	48,149	28,011	40,135
29	U. TX, Austin	355,437	122,399	42,675	72,059	13,214	76,521	643	27,926
30	Case Western Reserve U.	353,470	13,560	4,136	318,778	679	15,155	3	1,159
31	U. AL, Birmingham	344,164	11,912	990	312,377	5,435	6,016	144	7,290
32	CA Institute of Technology	342,945	30,860	25,506	63,437	84,026	133,204	0	5,912
33	U. MD, College Park	338,780	98,400	15,709	48,208	47,553	56,606	15,291	57,013
34	U. Rochester	337,907	13,003	67,482	239,710	832	15,104	90	1,686
35	U. CA, Berkeley	336,191	32,760	13,454	125,860	23,259	109,529	4,767	26,562
36	U. AZ	327,565	23,505	12,719	120,416	72,563	64,277	12,499	21,586
37	U. IL, Urbana-Champaign	323,454	43,167	50,153	82,658	5,912	100,127	19,789	21,648
38	U. CO, Boulder	323,078	20,039	16,396	59,690	105,622	67,622	1,153	52,556
39	Scripps Research Institute, The	317,201	4,198	1,283	289,828	754	2,183	0	18,955
40	U. CO Denver and Health Sciences Ctr.	307,395	8,224	0	233,749	302	4,230	545	60,345
41	U. FL	306,349	20,907	12,328	166,098	4,655	35,640	23,226	43,495
42	Boston U.	305,476	19,477	6,074	229,364	6,898	33,222	48	10,393
43	NY U.	302,221	8,982	3,904	256,918	2,374	24,322	0	5,721
44	Baylor C. of Medicine	295,529	12,416	24	243,660	22,977	1,310	14,900	242
45	Mt. Sinai School of Medicine	295,291	3,512	0	288,190	742	448	0	2,399



**APPENDIX O. Federally Financed higher education R&D Expenditures, ranked by all Federal R&D Expenditures, by Federal Agency for Top 250 Institutions: FY 2011**

(Dollars in thousands)

Rank	Institution	All federal R&D expenditures	DOD	DOE	HHS	NASA	NSF	USDA	Other <sup>a</sup>
46	TX A&M U., College Station	291,812	36,197	28,455	31,937	5,385	107,026	30,764	52,048
47	U. Cincinnati	287,182	14,722	2,668	253,836	559	9,131	84	6,182
48	U. IA	283,627	13,473	3,883	228,836	14,897	10,220	759	11,559
49	OR Health and Science U.	268,777	4,514	1,707	251,904	1,038	6,076	32	3,506
50	U. UT	264,234	14,835	24,178	191,818	1,955	24,548	361	6,539
51	Purdue U., West Lafayette	259,948	32,671	27,455	58,626	5,973	87,064	23,508	24,651
52	U. IL, Chicago	248,936	18,122	3,594	184,798	506	19,699	1,002	21,215
53	U. South FL, Tampa	243,030	17,959	1,584	152,804	1,573	13,709	214	55,187
54	MI State U.	240,837	11,539	37,787	55,921	2,766	76,839	26,182	29,803
55	Rutgers, State U. NJ, New Brunswick	239,908	26,024	9,174	96,151	3,542	49,836	14,499	40,682
56	CO State U., Ft. Collins	236,566	29,652	9,736	52,918	11,131	38,136	48,471	46,522
57	U. TX, M. D. Anderson Cancer Ctr.	236,400	12,510	54	223,557	0	199	0	80
58	U. VA main campus	232,525	23,379	8,750	166,090	4,760	20,231	51	9,264
59	U. TX, Southwestern Medical Ctr., Dallas	231,639	3,965	527	214,878	3,972	862	121	7,314
60	U. MD, Baltimore	229,706	13,025	924	211,269	418	2,636	173	1,261
61	U. Miami	225,352	23,271	1,114	157,384	4,164	18,327	358	20,734
62	U. CA, Irvine	209,117	11,574	8,291	142,847	4,667	33,979	69	7,690
<b>63</b>	<b>U. MA, Medical School</b>	<b>208,244</b>	<b>1,176</b>	<b>0</b>	<b>204,931</b>	<b>83</b>	<b>540</b>	<b>225</b>	<b>1,289</b>
64	U. HI, Manoa	201,700	45,774	7,561	55,749	14,359	38,856	5,564	33,837
65	Carnegie Mellon U.	200,967	63,071	12,444	35,834	5,761	68,998	2,412	12,447
66	Yeshiva U.	192,241	296	518	190,320	0	843	263	1
67	VA Polytechnic Institute and State U.	189,198	25,332	16,354	36,941	3,352	38,322	18,501	50,396
68	AZ State U.	185,766	35,481	15,812	53,831	17,495	45,877	1,103	16,167
69	SUNY, U. Buffalo	182,585	26,770	2,281	114,424	1,504	24,506	241	12,859
70	U. KY	179,161	5,970	10,865	119,244	1,710	15,059	11,603	14,710
71	Wake Forest U.	173,130	7,909	423	160,465	87	2,660	204	1,382
72	U. KS	169,382	3,496	5,427	116,985	2,776	20,940	111	19,647
73	Woods Hole Oceanographic Institution	165,819	29,450	331	2,308	4,228	105,467	0	24,035
74	Princeton U.	163,438	33,143	16,975	49,374	6,356	48,789	100	8,701
75	U. NM	162,854	21,499	10,863	96,315	2,190	25,193	383	6,411
76	U. TX, Health Science Ctr., Houston	156,790	11,894	49	139,636	379	459	39	4,334
77	IN U.-Purdue U., Indianapolis	156,607	6,749	75	143,790	825	2,203	279	2,686
78	NC State U.	155,293	13,111	10,711	23,028	2,623	37,894	14,042	53,884
79	VA Commonwealth U.	153,228	7,118	2,872	119,428	300	6,275	2,785	14,450
80	OR State U.	146,882	15,276	12,169	25,565	5,356	35,613	27,442	25,461
81	U. CT	144,280	10,055	5,398	85,701	1,533	19,501	6,353	15,739
82	Medical U. SC	143,464	6,010	3,959	127,403	0	191	0	5,901
83	FL State U.	140,850	19,654	8,210	28,429	2,153	57,786	2,715	21,903
84	U. GA	137,328	2,979	14,855	61,318	1,163	25,390	20,943	10,680
85	U. CA, Santa Barbara	136,244	41,123	10,321	19,136	4,141	52,170	49	9,304
86	Wayne State U.	134,735	7,135	5,123	106,518	253	8,081	263	7,362
87	Medical C. WI	133,929	810	0	128,830	0	683	59	3,547
88	Dartmouth C.	131,583	7,054	592	103,555	3,262	12,554	536	4,030
89	Brown U.	128,628	10,453	6,065	77,451	5,124	25,836	1	3,698
90	U. TX, Medical Branch	128,098	4,878	387	116,477	4,132	228	104	1,892
91	SUNY, U. Albany	125,189	1,364	1,085	110,007	615	4,782	16	7,320
92	SUNY, Stony Brook U.	125,102	8,265	12,892	74,876	3,991	18,942	966	5,170

**APPENDIX O. Federally Financed higher education R&D Expenditures, ranked by all Federal R&D Expenditures, by Federal Agency for Top 250 Institutions: FY 2011**

(Dollars in thousands)

Rank	Institution	All federal R&D expenditures	DOD	DOE	HHS	NASA	NSF	USDA	Other <sup>a</sup>
93	U. of Medicine and Dentistry of NJ	124,585	4,279	67	116,761	348	1,230	0	1,900
94	Georgetown U.	123,540	23,848	750	84,547	1,259	4,841	663	7,632
95	WA State U.	123,502	8,891	10,232	20,646	395	20,383	30,077	32,878
96	Tufts U.	122,208	6,082	2,307	86,396	786	6,680	15,702	4,255
97	U. TX, Health Science Ctr., San Antonio	121,200	12,579	287	101,048	0	305	0	6,981
98	U. DE	118,673	21,059	14,108	29,870	3,667	30,411	5,131	14,427
99	Uniformed Services U. of the Health Sciences	117,781	99,011	0	17,661	0	0	0	1,109
100	IA State U.	117,522	12,078	10,265	23,635	1,471	32,106	23,417	14,550
101	George Washington U.	116,611	9,367	1,920	73,451	1,595	8,182	250	21,846
102	U. MO, Columbia	116,403	13,155	6,132	55,168	362	17,107	14,487	9,992
103	UT State U.	113,871	49,123	11,477	11,159	6,006	6,250	14,037	15,819
104	U. TN, Knoxville	111,942	17,670	32,487	7,239	2,590	37,158	851	13,947
105	Tulane U.	111,007	8,800	2,272	82,130	317	6,883	717	9,888
<b>106</b>	<b>U. MA, Amherst</b>	<b>107,683</b>	<b>9,440</b>	<b>13,654</b>	<b>22,583</b>	<b>3,407</b>	<b>42,407</b>	<b>8,074</b>	<b>8,118</b>
107	U. NH	106,806	1,221	2,284	9,251	40,615	13,329	6,033	34,073
108	U. NE, Lincoln	105,724	12,355	5,960	26,605	1,577	27,185	8,704	23,338
109	U. AK, Fairbanks	105,522	8,690	4,150	9,313	17,495	25,489	5,113	35,272
110	U. SC, Columbia	103,296	18,381	11,439	41,485	2,333	21,079	388	8,191
111	U. VT	101,471	1,591	1,633	77,932	2,547	6,325	7,097	4,346
112	MS State U.	98,998	20,652	17,228	3,723	2,398	9,168	21,892	23,937
113	U. CA, Santa Cruz	97,817	4,567	4,557	24,350	35,391	22,042	658	6,252
114	Rockefeller U.	97,710	9,741	572	86,474	28	895	0	0
115	LA State U., Baton Rouge	97,517	6,757	6,216	37,061	2,414	17,426	10,078	17,565
116	U. Louisville	96,010	6,888	6,546	64,535	1,968	3,494	4	12,575
117	U. OK	95,505	5,552	4,138	47,283	2,610	17,130	266	18,526
118	Naval Postgraduate School	94,278	87,974	1,326	0	189	3,061	0	1,728
119	NM State U.	90,598	25,544	8,266	9,459	26,107	10,637	7,833	2,752
120	Temple U.	89,074	2,256	2,018	67,868	286	10,479	681	5,486
121	WV U.	88,419	5,605	15,901	32,064	3,979	7,679	9,163	14,028
122	MT State U., Bozeman	87,528	8,862	6,571	27,413	7,384	16,160	7,973	13,165
123	U. NE, Medical Ctr.	86,295	9,332	579	74,314	250	581	117	1,122
124	U. OR	84,997	11,932	5,186	33,420	176	17,726	268	16,289
125	U. MS and U. MS Medical Ctr.	84,317	10,741	5,496	49,261	2,481	3,285	4,744	8,309
126	Drexel U.	83,702	17,456	1,025	36,988	1,048	13,490	547	13,148
127	OK State U., Stillwater	81,855	41,917	2,700	6,541	1,012	8,789	10,482	10,414
128	Thomas Jefferson U.	80,027	2,546	0	75,164	669	530	19	1,099
129	U. Notre Dame	79,716	14,228	13,189	17,481	1,066	21,535	181	12,036
130	Rice U.	78,730	19,702	7,476	20,382	3,373	26,774	103	920
131	U. RI	78,303	6,451	2,787	18,888	781	17,737	7,295	24,364
132	KS State U.	76,953	15,332	7,480	13,788	302	13,269	19,864	6,918
133	U. AR for Medical Sciences	75,924	1,324	0	72,397	0	259	0	1,944
134	IN U., Bloomington	74,143	5,227	4,694	33,522	861	26,254	223	3,362
135	U. AL, Huntsville	72,665	45,458	1,730	652	19,021	2,337	516	2,951
136	U. Dayton	70,996	67,564	366	609	220	580	47	1,610
137	U. Central FL	69,098	27,239	8,874	12,945	2,565	9,265	447	7,763
138	Northeastern U.	67,938	6,575	3,221	27,999	404	18,634	0	11,105
139	FL International U.	65,446	6,079	5,710	21,948	1,318	11,856	221	18,314

**APPENDIX O. Federally Financed higher education R&D Expenditures, ranked by all Federal R&D Expenditures, by Federal Agency for Top 250 Institutions: FY 2011**

(Dollars in thousands)

Rank	Institution	All federal R&D expenditures	DOD	DOE	HHS	NASA	NSF	USDA	Other <sup>a</sup>
140	George Mason U.	65,301	20,732	2,680	8,613	8,205	7,598	351	17,122
141	San Diego State U.	64,056	8,353	784	42,025	504	9,825	365	2,200
142	U. CA, Riverside	62,312	10,369	4,732	17,408	421	18,374	4,838	6,170
143	U.S. Air Force Academy	62,118	59,457	47	0	240	86	0	2,288
144	U. MD, Baltimore County	61,172	4,849	171	13,823	30,812	4,945	507	6,065
145	U. ME	59,800	6,083	6,689	3,708	2,022	14,291	9,139	17,868
146	U. Houston	59,580	5,002	6,323	25,349	3,328	14,441	0	5,137
147	Auburn U., Auburn	59,559	14,883	4,575	8,553	1,587	7,863	11,265	10,833
148	Rensselaer Polytechnic Institute	59,284	14,399	7,665	11,033	879	20,835	6	4,467
149	Rush U.	57,978	617	263	56,972	0	126	0	0
150	U. NV, Reno	57,220	3,454	14,041	16,683	1,043	8,283	4,199	9,517
151	Cold Spring Harbor Lab.	55,450	4,901	1,950	38,635	1,357	5,723	341	2,543
152	U. PR, Medical Sciences Campus	54,381	473	0	53,255	0	650	0	3
153	GA Health Sciences U.	54,254	1,086	242	52,852	0	74	0	0
154	NJ Institute of Technology	54,250	8,738	1,334	6,721	4,287	9,406	9	23,755
155	U. ID	54,243	4,623	6,626	11,583	2,504	9,319	10,888	8,700
156	U. ND	54,058	8,359	22,464	9,925	6,004	3,393	2,273	1,640
157	ND State U.	53,451	14,805	5,884	6,989	102	7,915	10,502	7,254
158	Clemson U.	52,919	2,146	3,511	7,424	754	10,586	3,885	24,613
159	U. TN, Health Science Ctr.	51,842	1,867	234	49,357	0	126	0	258
160	U. WY	48,932	2,837	3,247	8,332	3,658	13,178	2,993	14,687
161	Brandeis U.	48,235	1,732	1,194	36,865	69	5,470	82	2,823
162	LA State U., Health Sciences Ctr., New Orleans	45,581	730	0	42,561	14	191	30	2,055
163	FL A&M U.	44,905	3,433	1,070	6,571	704	4,278	8,456	20,393
164	U. Toledo	44,881	5,436	1,587	21,133	4,184	5,240	2,831	4,470
165	Jackson State U.	43,001	6,709	1,331	12,051	438	6,895	357	15,220
166	Cleveland State U.	42,575	465	214	38,540	1,118	1,019	0	1,219
167	SD State U.	41,904	7,190	5,663	5,927	2,791	6,334	8,747	5,252
168	Portland State U.	41,580	5,916	1,881	14,603	1,124	6,140	749	11,167
169	U. Southern MS	40,984	11,093	1,666	4,479	2,309	4,952	1,898	14,587
170	CUNY, City U.	40,595	4,572	3,874	12,019	1,916	9,037	230	8,947
171	Old Dominion U.	39,534	9,302	2,890	3,981	4,955	7,548	34	10,824
172	U. MT	38,565	2,444	470	14,226	1,737	7,899	5,862	5,927
173	St. Louis U.	38,323	2,431	53	32,837	92	1,114	6	1,790
174	U. HI, Hilo	37,703	181	0	14,227	3,562	4,888	1,422	13,423
175	U. AR, Fayetteville	37,587	5,294	2,470	4,320	370	9,804	11,408	3,921
176	NM Institute of Mining and Technology	37,316	15,875	6,634	27	384	7,240	0	7,156
177	Howard U.	36,060	1,315	331	22,227	1,948	6,121	18	4,100
178	U. TX, El Paso	35,399	3,359	1,145	11,545	2,236	10,554	243	6,317
179	TX Tech U.	35,191	8,245	4,566	3,158	542	9,097	4,654	4,929
180	IL Institute of Technology	34,858	2,066	11,533	11,959	158	4,730	1,265	3,147
181	SUNY Health Science Ctr. Brooklyn	33,964	2,874	13	31,063	0	7	0	7
182	Syracuse U.	33,850	3,468	1,780	6,775	413	10,552	197	10,665
183	CO School of Mines	33,789	4,629	14,229	1,802	607	10,678	0	1,844
184	TX A&M Health Science Ctr.	33,405	1,669	0	31,140	0	412	149	35
185	U. TX, Dallas	33,216	8,518	2,852	10,934	1,309	6,465	78	3,060
186	U. AL, Tuscaloosa	32,999	2,278	8,236	4,587	1,355	10,537	353	5,653

**APPENDIX O. Federally Financed higher education R&D Expenditures, ranked by all Federal R&D Expenditures, by Federal Agency for Top 250 Institutions: FY 2011**

(Dollars in thousands)

Rank	Institution	All federal R&D expenditures	DOD	DOE	HHS	NASA	NSF	USDA	Other <sup>a</sup>
187	MI Technological U.	32,724	11,739	4,858	2,530	1,562	6,046	2,308	3,681
188	Stevens Institute of Technology	32,570	19,490	496	640	245	7,041	0	4,658
189	Loma Linda U.	32,187	9,635	2,548	14,059	4,496	262	398	789
190	Touro C.	32,107	3,323	0	25,562	2,455	140	29	598
191	U. TX, San Antonio	31,972	3,140	268	15,392	697	5,099	77	7,299
192	Boston C.	31,953	6,928	1,267	8,536	182	4,208	0	10,832
193	U. TX, Arlington	30,659	6,645	2,442	6,329	466	8,822	84	5,871
194	U. WI, Milwaukee	30,479	1,652	2,164	12,029	58	11,056	647	2,873
195	U. NV, Las Vegas	30,457	1,659	13,323	2,159	929	4,549	2,506	5,332
196	U. MS and U. MS Medical Ctr.	30,361	3,146	2,138	2,048	912	8,096	119	13,902
197	SUNY, Upstate Medical U.	28,663	0	128	24,388	0	3	0	4,144
198	Loyola U., Chicago	28,633	2,346	44	22,380	99	1,585	19	2,160
199	Desert Research Institute	28,489	3,412	14,606	0	1,775	3,659	1,026	4,011
200	GA State U.	28,210	1,834	763	12,497	822	4,853	147	7,294
201	Morehouse School of Medicine	28,128	701	0	27,202	125	23	0	77
202	SD School of Mines and Technology	28,105	5,001	1,014	0	2,509	18,827	161	593
203	MO U. of Science and Technology	27,961	11,200	4,489	1,493	214	6,213	90	4,262
<b>204</b>	<b>U. MA, Lowell</b>	<b>27,960</b>	<b>9,970</b>	<b>1,200</b>	<b>6,799</b>	<b>370</b>	<b>5,875</b>	<b>219</b>	<b>3,527</b>
205	Wright State U.	27,422	11,153	305	11,584	509	2,708	42	1,121
<b>206</b>	<b>U. MA, Boston</b>	<b>26,958</b>	<b>714</b>	<b>559</b>	<b>9,222</b>	<b>2,023</b>	<b>3,840</b>	<b>193</b>	<b>10,407</b>
207	Meharry Medical C.	26,779	356	0	26,240	0	0	54	129
208	San Jose State U.	26,389	264	110	1,403	15,353	3,158	133	5,968
209	U. North TX, Health Science Ctr.	26,132	2,381	0	18,912	0	127	0	4,712
210	Eastern VA Medical School	25,319	522	0	4,774	264	0	0	19,759
211	U. PR, Rio Piedras	24,887	76	549	11,250	2,360	10,258	197	197
212	Brigham Young U., Provo	24,273	5,346	1,529	4,833	1,133	6,039	1,203	4,190
213	AL A&M U.	23,988	12,996	0	865	394	3,406	3,248	3,079
214	Southern IL U., Carbondale	23,696	2,158	1,423	13,026	0	3,345	1,249	2,495
215	OH U.	23,051	3,065	3,427	4,820	1,028	6,125	173	4,413
216	CUNY, Hunter C.	22,901	404	1,036	17,330	171	2,253	0	1,707
217	NC Agricultural and Technical State U.	22,652	3,217	715	1,976	1,250	7,560	5,502	2,432
218	Lehigh U.	22,390	3,234	3,634	2,966	614	9,976	0	1,966
219	Marshall U.	21,852	5,240	756	10,592	340	3,466	382	1,076
220	SUNY, U. Binghamton	21,244	4,848	1,125	8,583	351	3,825	0	2,512
221	NY Medical C.	21,013	292	0	20,721	0	0	0	0
222	U. NC, Greensboro	20,868	352	70	8,951	1	2,470	409	8,615
223	Charles R. Drew U. of Medicine and Science	20,679	3,076	0	17,603	0	0	0	0
224	Rochester Institute of Technology	20,396	6,623	3,262	1,849	2,540	4,037	64	2,021
225	U. Memphis	20,348	1,883	115	4,482	285	3,901	0	9,682
226	Air Force Institute of Technology	20,196	19,853	175	0	14	25	0	129
227	Catholic U. America	19,890	1,260	8,300	1,799	5,698	2,077	0	756
228	CA State U., Northridge	19,769	972	265	6,233	271	3,860	73	8,095
229	East Carolina U.	19,675	1,286	0	13,385	226	1,662	82	3,034
230	U. New Orleans	19,000	9,633	266	1,368	417	1,923	40	5,353
231	U. MO, Kansas City	18,988	1,655	322	14,229	128	2,169	60	425
232	Boise State U.	18,811	4,780	3,829	1,850	876	5,434	153	1,889
233	Western MI U.	18,736	1,792	2,666	1,987	467	4,780	309	6,735

**APPENDIX O. Federally Financed higher education R&D Expenditures, ranked by all Federal R&D Expenditures, by Federal Agency for Top 250 Institutions: FY 2011**

(Dollars in thousands)

Rank	Institution	All federal R&D expenditures	DOD	DOE	HHS	NASA	NSF	USDA	Other <sup>a</sup>
234	U. PR, Mayaguez	18,568	1,117	551	3,193	130	5,546	736	7,295
235	Southern Methodist U.	18,502	7,562	3,745	3,351	0	2,457	47	1,340
236	Rutgers, State U. NJ, Newark	18,226	786	580	7,525	13	5,113	36	4,173
237	U. MD, Ctr. for Environmental Science	18,007	464	1	390	399	4,952	186	11,615
238	Mercer U.	17,904	15,377	20	2,451	0	50	0	6
239	Northern AZ U.	17,765	1,094	2,293	2,939	649	4,006	1,535	5,249
240	San Francisco State U.	17,337	577	236	8,095	315	6,111	0	2,003
241	ID State U.	17,149	2,186	7,019	2,692	256	3,581	96	1,319
242	U. South AL	16,758	139	141	11,893	683	1,703	0	2,199
243	U. of the VI	16,338	0	0	3,243	0	3,166	2,256	7,673
244	CA State U., Fullerton	16,159	1,105	246	3,039	459	3,341	0	7,969
245	U. NC, Charlotte	15,930	1,778	327	3,706	92	7,094	264	2,669
246	Worcester Polytechnic Institute	15,714	2,230	2,159	2,766	289	5,425	32	2,813
247	FL Atlantic U.	15,579	3,412	786	5,256	109	2,726	529	2,761
248	CUNY, Queens C.	15,573	181	6,299	6,453	0	1,889	99	652
249	U. TN, Institute of Agriculture	15,512	819	2,672	3,079	0	390	6,156	2,396
250	LA State U., Medical Ctr., Shreveport	15,316	676	0	14,240	0	311	89	0

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 = U.S. Department of Agriculture.

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

<sup>b</sup> Johns Hopkins University includes Applied Physics Laboratory, with \$1,102,048 thousand in federally financed R&D expenditures in FY 2011.

NOTES: Agency specific rankings available on request. Institutions reporting zero federal expenditures for FY 2011 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, FY 2011.

**Appendix P. Federally Financed Higher Education R&D Expenditures, Ranked by All Federal R&D Expenditures, by Federal Agency: FY 2011 (First 300 Institutions)**

(Dollars in thousands)

Rank	Institution	All federal R&D expenditures	DOD	DOE	HHS	NASA	NSF	USDA	Other <sup>a</sup>
	All institutions	40,764,823	4,831,041	1,868,521	22,988,091	1,430,307	5,133,663	1,006,322	3,506,878
1	Johns Hopkins U. <sup>b</sup>	1,884,025	609,279	7,467	686,156	202,999	34,364	1,898	341,862
2	U. WA, Seattle	948,976	74,050	32,435	620,541	14,037	145,677	5,870	56,366
3	U. MI, Ann Arbor	820,125	59,831	35,097	593,823	15,301	73,301	737	42,035
4	U. PA	707,051	42,160	11,080	597,158	2,703	35,927	1,604	16,419
5	U. Pittsburgh, Pittsburgh	662,471	33,284	9,055	575,847	829	27,275	210	15,971
6	Stanford U.	656,114	71,659	24,336	445,027	22,473	79,479	220	12,920
7	Columbia U. in the City of New York	645,233	26,273	22,019	456,881	18,164	90,984	454	30,458
8	U. CA, San Diego	636,879	63,794	18,990	431,405	5,834	90,066	242	26,548
9	U. WI, Madison	593,633	25,097	76,007	319,578	12,078	94,160	12,007	54,706
10	Duke U.	585,262	39,002	10,586	487,710	1,518	35,879	499	10,068
11	U. CA, San Francisco	570,116	5,177	857	542,877	746	11,801	0	8,658
12	U. CA, Los Angeles	563,560	42,370	24,072	395,135	15,382	62,332	33	24,236
13	U. NC, Chapel Hill	561,708	14,011	9,648	464,500	659	27,341	269	45,280
14	Harvard U.	543,097	32,264	11,651	428,366	9,908	46,630	124	14,154
15	Yale U.	519,844	18,035	11,762	452,330	3,747	28,343	1,203	4,424
16	OH State U.	493,130	39,596	23,153	290,578	5,661	52,960	27,350	53,832
17	U. MN, Minneapolis	489,480	12,723	20,380	335,522	9,121	70,609	20,448	20,677
18	MA Institute of Technology	489,080	111,219	89,797	154,974	28,600	86,715	0	17,775
19	Cornell U.	476,583	27,468	19,919	242,321	12,492	126,416	32,779	15,188
20	Washington U., St. Louis	469,490	5,387	8,829	429,608	7,541	16,763	156	1,206
21	PA State U. University Park and Hershey Medical Ctr.	468,705	178,361	27,044	129,435	16,926	59,414	22,349	35,176
22	Vanderbilt U.	458,173	23,090	11,261	384,577	2,682	17,255	37	19,271
23	U. Southern CA	453,283	88,912	15,309	288,154	2,427	43,485	252	14,744
24	GA Institute of Technology	427,867	262,286	20,543	33,879	15,450	64,884	614	30,211
25	Northwestern U.	399,719	32,740	25,907	282,622	1,483	42,531	203	14,233
26	U. Chicago	372,288	9,262	10,873	268,276	5,047	74,735	166	3,929
27	Emory U.	369,982	5,543	1,128	336,568	1,559	6,167	856	18,161
28	U. CA, Davis	362,976	13,756	14,647	215,639	2,639	48,149	28,011	40,135
29	U. TX, Austin	355,437	122,399	42,675	72,059	13,214	76,521	643	27,926
30	Case Western Reserve U.	353,470	13,560	4,136	318,778	679	15,155	3	1,159
31	U. AL, Birmingham	344,164	11,912	990	312,377	5,435	6,016	144	7,290
32	CA Institute of Technology	342,945	30,860	25,506	63,437	84,026	133,204	0	5,912
33	U. MD, College Park	338,780	98,400	15,709	48,208	47,553	56,606	15,291	57,013
34	U. Rochester	337,907	13,003	67,482	239,710	832	15,104	90	1,686
35	U. CA, Berkeley	336,191	32,760	13,454	125,860	23,259	109,529	4,767	26,562
36	U. AZ	327,565	23,505	12,719	120,416	72,563	64,277	12,499	21,586
37	U. IL, Urbana-Champaign	323,454	43,167	50,153	82,658	5,912	100,127	19,789	21,648
38	U. CO, Boulder	323,078	20,039	16,396	59,690	105,622	67,622	1,153	52,556
39	Scripps Research Institute, The	317,201	4,198	1,283	289,828	754	2,183	0	18,955
40	U. CO Denver and Health Sciences Ctr.	307,395	8,224	0	233,749	302	4,230	545	60,345
41	U. FL	306,349	20,907	12,328	166,098	4,655	35,640	23,226	43,495
42	Boston U.	305,476	19,477	6,074	229,364	6,898	33,222	48	10,393
43	NY U.	302,221	8,982	3,904	256,918	2,374	24,322	0	5,721
44	Baylor C. of Medicine	295,529	12,416	24	243,660	22,977	1,310	14,900	242
45	Mt. Sinai School of Medicine	295,291	3,512	0	288,190	742	448	0	2,399
46	TX A&M U., College Station	291,812	36,197	28,455	31,937	5,385	107,026	30,764	52,048

**Appendix P. Federally Financed Higher Education R&D Expenditures, Ranked by All Federal R&D Expenditures, by Federal Agency: FY 2011 (First 300 Institutions)**

(Dollars in thousands)

Rank	Institution	All federal R&D expenditures	DOD	DOE	HHS	NASA	NSF	USDA	Other <sup>a</sup>
47	U. Cincinnati	287,182	14,722	2,668	253,836	559	9,131	84	6,182
48	U. IA	283,627	13,473	3,883	228,836	14,897	10,220	759	11,559
49	OR Health and Science U.	268,777	4,514	1,707	251,904	1,038	6,076	32	3,506
50	U. UT	264,234	14,835	24,178	191,818	1,955	24,548	361	6,539
51	Purdue U., West Lafayette	259,948	32,671	27,455	58,626	5,973	87,064	23,508	24,651
52	U. IL, Chicago	248,936	18,122	3,594	184,798	506	19,699	1,002	21,215
53	U. South FL, Tampa	243,030	17,959	1,584	152,804	1,573	13,709	214	55,187
54	MI State U.	240,837	11,539	37,787	55,921	2,766	76,839	26,182	29,803
55	Rutgers, State U. NJ, New Brunswick	239,908	26,024	9,174	96,151	3,542	49,836	14,499	40,682
56	CO State U., Ft. Collins	236,566	29,652	9,736	52,918	11,131	38,136	48,471	46,522
57	U. TX, M. D. Anderson Cancer Ctr.	236,400	12,510	54	223,557	0	199	0	80
58	U. VA main campus	232,525	23,379	8,750	166,090	4,760	20,231	51	9,264
59	U. TX, Southwestern Medical Ctr., Dallas	231,639	3,965	527	214,878	3,972	862	121	7,314
60	U. MD, Baltimore	229,706	13,025	924	211,269	418	2,636	173	1,261
61	U. Miami	225,352	23,271	1,114	157,384	4,164	18,327	358	20,734
62	U. CA, Irvine	209,117	11,574	8,291	142,847	4,667	33,979	69	7,690
<b>63</b>	<b>U. MA, Medical School</b>	<b>208,244</b>	<b>1,176</b>	<b>0</b>	<b>204,931</b>	<b>83</b>	<b>540</b>	<b>225</b>	<b>1,289</b>
64	U. HI, Manoa	201,700	45,774	7,561	55,749	14,359	38,856	5,564	33,837
65	Carnegie Mellon U.	200,967	63,071	12,444	35,834	5,761	68,998	2,412	12,447
66	Yeshiva U.	192,241	296	518	190,320	0	843	263	1
67	VA Polytechnic Institute and State U.	189,198	25,332	16,354	36,941	3,352	38,322	18,501	50,396
68	AZ State U.	185,766	35,481	15,812	53,831	17,495	45,877	1,103	16,167
69	SUNY, U. Buffalo	182,585	26,770	2,281	114,424	1,504	24,506	241	12,859
70	U. KY	179,161	5,970	10,865	119,244	1,710	15,059	11,603	14,710
71	Wake Forest U.	173,130	7,909	423	160,465	87	2,660	204	1,382
72	U. KS	169,382	3,496	5,427	116,985	2,776	20,940	111	19,647
73	Woods Hole Oceanographic Institution	165,819	29,450	331	2,308	4,228	105,467	0	24,035
74	Princeton U.	163,438	33,143	16,975	49,374	6,356	48,789	100	8,701
75	U. NM	162,854	21,499	10,863	96,315	2,190	25,193	383	6,411
76	U. TX, Health Science Ctr., Houston	156,790	11,894	49	139,636	379	459	39	4,334
77	IN U.-Purdue U., Indianapolis	156,607	6,749	75	143,790	825	2,203	279	2,686
78	NC State U.	155,293	13,111	10,711	23,028	2,623	37,894	14,042	53,884
79	VA Commonwealth U.	153,228	7,118	2,872	119,428	300	6,275	2,785	14,450
80	OR State U.	146,882	15,276	12,169	25,565	5,356	35,613	27,442	25,461
81	U. CT	144,280	10,055	5,398	85,701	1,533	19,501	6,353	15,739
82	Medical U. SC	143,464	6,010	3,959	127,403	0	191	0	5,901
83	FL State U.	140,850	19,654	8,210	28,429	2,153	57,786	2,715	21,903
84	U. GA	137,328	2,979	14,855	61,318	1,163	25,390	20,943	10,680
85	U. CA, Santa Barbara	136,244	41,123	10,321	19,136	4,141	52,170	49	9,304
86	Wayne State U.	134,735	7,135	5,123	106,518	253	8,081	263	7,362
87	Medical C. WI	133,929	810	0	128,830	0	683	59	3,547
88	Dartmouth C.	131,583	7,054	592	103,555	3,262	12,554	536	4,030
89	Brown U.	128,628	10,453	6,065	77,451	5,124	25,836	1	3,698
90	U. TX, Medical Branch	128,098	4,878	387	116,477	4,132	228	104	1,892
91	SUNY, U. Albany	125,189	1,364	1,085	110,007	615	4,782	16	7,320
92	SUNY, Stony Brook U.	125,102	8,265	12,892	74,876	3,991	18,942	966	5,170
93	U. of Medicine and Dentistry of NJ	124,585	4,279	67	116,761	348	1,230	0	1,900
94	Georgetown U.	123,540	23,848	750	84,547	1,259	4,841	663	7,632

**Appendix P. Federally Financed Higher Education R&D Expenditures, Ranked by All Federal R&D Expenditures, by Federal Agency: FY 2011 (First 300 Institutions)**

(Dollars in thousands)

Rank	Institution	All federal R&D expenditures	DOD	DOE	HHS	NASA	NSF	USDA	Other <sup>a</sup>
95	WA State U.	123,502	8,891	10,232	20,646	395	20,383	30,077	32,878
96	Tufts U.	122,208	6,082	2,307	86,396	786	6,680	15,702	4,255
97	U. TX, Health Science Ctr., San Antonio	121,200	12,579	287	101,048	0	305	0	6,981
98	U. DE	118,673	21,059	14,108	29,870	3,667	30,411	5,131	14,427
99	Uniformed Services U. of the Health Sciences	117,781	99,011	0	17,661	0	0	0	1,109
100	IA State U.	117,522	12,078	10,265	23,635	1,471	32,106	23,417	14,550
101	George Washington U.	116,611	9,367	1,920	73,451	1,595	8,182	250	21,846
102	U. MO, Columbia	116,403	13,155	6,132	55,168	362	17,107	14,487	9,992
103	UT State U.	113,871	49,123	11,477	11,159	6,006	6,250	14,037	15,819
104	U. TN, Knoxville	111,942	17,670	32,487	7,239	2,590	37,158	851	13,947
105	Tulane U.	111,007	8,800	2,272	82,130	317	6,883	717	9,888
<b>106</b>	<b>U. MA, Amherst</b>	<b>107,683</b>	<b>9,440</b>	<b>13,654</b>	<b>22,583</b>	<b>3,407</b>	<b>42,407</b>	<b>8,074</b>	<b>8,118</b>
107	U. NH	106,806	1,221	2,284	9,251	40,615	13,329	6,033	34,073
108	U. NE, Lincoln	105,724	12,355	5,960	26,605	1,577	27,185	8,704	23,338
109	U. AK, Fairbanks	105,522	8,690	4,150	9,313	17,495	25,489	5,113	35,272
110	U. SC, Columbia	103,296	18,381	11,439	41,485	2,333	21,079	388	8,191
111	U. VT	101,471	1,591	1,633	77,932	2,547	6,325	7,097	4,346
112	MS State U.	98,998	20,652	17,228	3,723	2,398	9,168	21,892	23,937
113	U. CA, Santa Cruz	97,817	4,567	4,557	24,350	35,391	22,042	658	6,252
114	Rockefeller U.	97,710	9,741	572	86,474	28	895	0	0
115	LA State U., Baton Rouge	97,517	6,757	6,216	37,061	2,414	17,426	10,078	17,565
116	U. Louisville	96,010	6,888	6,546	64,535	1,968	3,494	4	12,575
117	U. OK	95,505	5,552	4,138	47,283	2,610	17,130	266	18,526
118	Naval Postgraduate School	94,278	87,974	1,326	0	189	3,061	0	1,728
119	NM State U.	90,598	25,544	8,266	9,459	26,107	10,637	7,833	2,752
120	Temple U.	89,074	2,256	2,018	67,868	286	10,479	681	5,486
121	WV U.	88,419	5,605	15,901	32,064	3,979	7,679	9,163	14,028
122	MT State U., Bozeman	87,528	8,862	6,571	27,413	7,384	16,160	7,973	13,165
123	U. NE, Medical Ctr.	86,295	9,332	579	74,314	250	581	117	1,122
124	U. OR	84,997	11,932	5,186	33,420	176	17,726	268	16,289
125	U. MS and U. MS Medical Ctr.	84,317	10,741	5,496	49,261	2,481	3,285	4,744	8,309
126	Drexel U.	83,702	17,456	1,025	36,988	1,048	13,490	547	13,148
127	OK State U., Stillwater	81,855	41,917	2,700	6,541	1,012	8,789	10,482	10,414
128	Thomas Jefferson U.	80,027	2,546	0	75,164	669	530	19	1,099
129	U. Notre Dame	79,716	14,228	13,189	17,481	1,066	21,535	181	12,036
130	Rice U.	78,730	19,702	7,476	20,382	3,373	26,774	103	920
131	U. RI	78,303	6,451	2,787	18,888	781	17,737	7,295	24,364
132	KS State U.	76,953	15,332	7,480	13,788	302	13,269	19,864	6,918
133	U. AR for Medical Sciences	75,924	1,324	0	72,397	0	259	0	1,944
134	IN U., Bloomington	74,143	5,227	4,694	33,522	861	26,254	223	3,362
135	U. AL, Huntsville	72,665	45,458	1,730	652	19,021	2,337	516	2,951
136	U. Dayton	70,996	67,564	366	609	220	580	47	1,610
137	U. Central FL	69,098	27,239	8,874	12,945	2,565	9,265	447	7,763
138	Northeastern U.	67,938	6,575	3,221	27,999	404	18,634	0	11,105
139	FL International U.	65,446	6,079	5,710	21,948	1,318	11,856	221	18,314
140	George Mason U.	65,301	20,732	2,680	8,613	8,205	7,598	351	17,122
141	San Diego State U.	64,056	8,353	784	42,025	504	9,825	365	2,200



**Appendix P. Federally Financed Higher Education R&D Expenditures, Ranked by All Federal R&D Expenditures, by Federal Agency: FY 2011 (First 300 Institutions)**

(Dollars in thousands)

Rank	Institution	All federal R&D expenditures	DOD	DOE	HHS	NASA	NSF	USDA	Other <sup>a</sup>
142	U. CA, Riverside	62,312	10,369	4,732	17,408	421	18,374	4,838	6,170
143	U.S. Air Force Academy	62,118	59,457	47	0	240	86	0	2,288
144	U. MD, Baltimore County	61,172	4,849	171	13,823	30,812	4,945	507	6,065
145	U. ME	59,800	6,083	6,689	3,708	2,022	14,291	9,139	17,868
146	U. Houston	59,580	5,002	6,323	25,349	3,328	14,441	0	5,137
147	Auburn U., Auburn	59,559	14,883	4,575	8,553	1,587	7,863	11,265	10,833
148	Rensselaer Polytechnic Institute	59,284	14,399	7,665	11,033	879	20,835	6	4,467
149	Rush U.	57,978	617	263	56,972	0	126	0	0
150	U. NV, Reno	57,220	3,454	14,041	16,683	1,043	8,283	4,199	9,517
151	Cold Spring Harbor Lab.	55,450	4,901	1,950	38,635	1,357	5,723	341	2,543
152	U. PR, Medical Sciences Campus	54,381	473	0	53,255	0	650	0	3
153	GA Health Sciences U.	54,254	1,086	242	52,852	0	74	0	0
154	NJ Institute of Technology	54,250	8,738	1,334	6,721	4,287	9,406	9	23,755
155	U. ID	54,243	4,623	6,626	11,583	2,504	9,319	10,888	8,700
156	U. ND	54,058	8,359	22,464	9,925	6,004	3,393	2,273	1,640
157	ND State U.	53,451	14,805	5,884	6,989	102	7,915	10,502	7,254
158	Clemson U.	52,919	2,146	3,511	7,424	754	10,586	3,885	24,613
159	U. TN, Health Science Ctr.	51,842	1,867	234	49,357	0	126	0	258
160	U. WY	48,932	2,837	3,247	8,332	3,658	13,178	2,993	14,687
161	Brandeis U.	48,235	1,732	1,194	36,865	69	5,470	82	2,823
162	LA State U., Health Sciences Ctr., New Orleans	45,581	730	0	42,561	14	191	30	2,055
163	FL A&M U.	44,905	3,433	1,070	6,571	704	4,278	8,456	20,393
164	U. Toledo	44,881	5,436	1,587	21,133	4,184	5,240	2,831	4,470
165	Jackson State U.	43,001	6,709	1,331	12,051	438	6,895	357	15,220
166	Cleveland State U.	42,575	465	214	38,540	1,118	1,019	0	1,219
167	SD State U.	41,904	7,190	5,663	5,927	2,791	6,334	8,747	5,252
168	Portland State U.	41,580	5,916	1,881	14,603	1,124	6,140	749	11,167
169	U. Southern MS	40,984	11,093	1,666	4,479	2,309	4,952	1,898	14,587
170	CUNY, City U.	40,595	4,572	3,874	12,019	1,916	9,037	230	8,947
171	Old Dominion U.	39,534	9,302	2,890	3,981	4,955	7,548	34	10,824
172	U. MT	38,565	2,444	470	14,226	1,737	7,899	5,862	5,927
173	St. Louis U.	38,323	2,431	53	32,837	92	1,114	6	1,790
174	U. HI, Hilo	37,703	181	0	14,227	3,562	4,888	1,422	13,423
175	U. AR, Fayetteville	37,587	5,294	2,470	4,320	370	9,804	11,408	3,921
176	NM Institute of Mining and Technology	37,316	15,875	6,634	27	384	7,240	0	7,156
177	Howard U.	36,060	1,315	331	22,227	1,948	6,121	18	4,100
178	U. TX, El Paso	35,399	3,359	1,145	11,545	2,236	10,554	243	6,317
179	TX Tech U.	35,191	8,245	4,566	3,158	542	9,097	4,654	4,929
180	IL Institute of Technology	34,858	2,066	11,533	11,959	158	4,730	1,265	3,147
181	SUNY Health Science Ctr. Brooklyn	33,964	2,874	13	31,063	0	7	0	7
182	Syracuse U.	33,850	3,468	1,780	6,775	413	10,552	197	10,665
183	CO School of Mines	33,789	4,629	14,229	1,802	607	10,678	0	1,844
184	TX A&M Health Science Ctr.	33,405	1,669	0	31,140	0	412	149	35
185	U. TX, Dallas	33,216	8,518	2,852	10,934	1,309	6,465	78	3,060
186	U. AL, Tuscaloosa	32,999	2,278	8,236	4,587	1,355	10,537	353	5,653
187	MI Technological U.	32,724	11,739	4,858	2,530	1,562	6,046	2,308	3,681
188	Stevens Institute of Technology	32,570	19,490	496	640	245	7,041	0	4,658

**Appendix P. Federally Financed Higher Education R&D Expenditures, Ranked by All Federal R&D Expenditures, by Federal Agency: FY 2011 (First 300 Institutions)**

(Dollars in thousands)

Rank	Institution	All federal R&D expenditures	DOD	DOE	HHS	NASA	NSF	USDA	Other <sup>a</sup>
189	Loma Linda U.	32,187	9,635	2,548	14,059	4,496	262	398	789
190	Touro C.	32,107	3,323	0	25,562	2,455	140	29	598
191	U. TX, San Antonio	31,972	3,140	268	15,392	697	5,099	77	7,299
192	Boston C.	31,953	6,928	1,267	8,536	182	4,208	0	10,832
193	U. TX, Arlington	30,659	6,645	2,442	6,329	466	8,822	84	5,871
194	U. WI, Milwaukee	30,479	1,652	2,164	12,029	58	11,056	647	2,873
195	U. NV, Las Vegas	30,457	1,659	13,323	2,159	929	4,549	2,506	5,332
196	U. MS and U. MS Medical Ctr.	30,361	3,146	2,138	2,048	912	8,096	119	13,902
197	SUNY, Upstate Medical U.	28,663	0	128	24,388	0	3	0	4,144
198	Loyola U., Chicago	28,633	2,346	44	22,380	99	1,585	19	2,160
199	Desert Research Institute	28,489	3,412	14,606	0	1,775	3,659	1,026	4,011
200	GA State U.	28,210	1,834	763	12,497	822	4,853	147	7,294
201	Morehouse School of Medicine	28,128	701	0	27,202	125	23	0	77
202	SD School of Mines and Technology	28,105	5,001	1,014	0	2,509	18,827	161	593
203	MO U. of Science and Technology	27,961	11,200	4,489	1,493	214	6,213	90	4,262
<b>204</b>	<b>U. MA, Lowell</b>	<b>27,960</b>	<b>9,970</b>	<b>1,200</b>	<b>6,799</b>	<b>370</b>	<b>5,875</b>	<b>219</b>	<b>3,527</b>
205	Wright State U.	27,422	11,153	305	11,584	509	2,708	42	1,121
<b>206</b>	<b>U. MA, Boston</b>	<b>26,958</b>	<b>714</b>	<b>559</b>	<b>9,222</b>	<b>2,023</b>	<b>3,840</b>	<b>193</b>	<b>10,407</b>
207	Meharry Medical C.	26,779	356	0	26,240	0	0	54	129
208	San Jose State U.	26,389	264	110	1,403	15,353	3,158	133	5,968
209	U. North TX, Health Science Ctr.	26,132	2,381	0	18,912	0	127	0	4,712
210	Eastern VA Medical School	25,319	522	0	4,774	264	0	0	19,759
211	U. PR, Rio Piedras	24,887	76	549	11,250	2,360	10,258	197	197
212	Brigham Young U., Provo	24,273	5,346	1,529	4,833	1,133	6,039	1,203	4,190
213	AL A&M U.	23,988	12,996	0	865	394	3,406	3,248	3,079
214	Southern IL U., Carbondale	23,696	2,158	1,423	13,026	0	3,345	1,249	2,495
215	OH U.	23,051	3,065	3,427	4,820	1,028	6,125	173	4,413
216	CUNY, Hunter C.	22,901	404	1,036	17,330	171	2,253	0	1,707
217	NC Agricultural and Technical State U.	22,652	3,217	715	1,976	1,250	7,560	5,502	2,432
218	Lehigh U.	22,390	3,234	3,634	2,966	614	9,976	0	1,966
219	Marshall U.	21,852	5,240	756	10,592	340	3,466	382	1,076
220	SUNY, U. Binghamton	21,244	4,848	1,125	8,583	351	3,825	0	2,512
221	NY Medical C.	21,013	292	0	20,721	0	0	0	0
222	U. NC, Greensboro	20,868	352	70	8,951	1	2,470	409	8,615
223	Charles R. Drew U. of Medicine and Science	20,679	3,076	0	17,603	0	0	0	0
224	Rochester Institute of Technology	20,396	6,623	3,262	1,849	2,540	4,037	64	2,021
225	U. Memphis	20,348	1,883	115	4,482	285	3,901	0	9,682
226	Air Force Institute of Technology	20,196	19,853	175	0	14	25	0	129
227	Catholic U. America	19,890	1,260	8,300	1,799	5,698	2,077	0	756
228	CA State U., Northridge	19,769	972	265	6,233	271	3,860	73	8,095
229	East Carolina U.	19,675	1,286	0	13,385	226	1,662	82	3,034
230	U. New Orleans	19,000	9,633	266	1,368	417	1,923	40	5,353
231	U. MO, Kansas City	18,988	1,655	322	14,229	128	2,169	60	425
232	Boise State U.	18,811	4,780	3,829	1,850	876	5,434	153	1,889
233	Western MI U.	18,736	1,792	2,666	1,987	467	4,780	309	6,735
234	U. PR, Mayaguez	18,568	1,117	551	3,193	130	5,546	736	7,295
235	Southern Methodist U.	18,502	7,562	3,745	3,351	0	2,457	47	1,340

**Appendix P. Federally Financed Higher Education R&D Expenditures, Ranked by All Federal R&D Expenditures, by Federal Agency: FY 2011 (First 300 Institutions)**

(Dollars in thousands)

Rank	Institution	All federal R&D expenditures	DOD	DOE	HHS	NASA	NSF	USDA	Other <sup>a</sup>
236	Rutgers, State U. NJ, Newark	18,226	786	580	7,525	13	5,113	36	4,173
237	U. MD, Ctr. for Environmental Science	18,007	464	1	390	399	4,952	186	11,615
238	Mercer U.	17,904	15,377	20	2,451	0	50	0	6
239	Northern AZ U.	17,765	1,094	2,293	2,939	649	4,006	1,535	5,249
240	San Francisco State U.	17,337	577	236	8,095	315	6,111	0	2,003
241	ID State U.	17,149	2,186	7,019	2,692	256	3,581	96	1,319
242	U. South AL	16,758	139	141	11,893	683	1,703	0	2,199
243	U. of the VI	16,338	0	0	3,243	0	3,166	2,256	7,673
244	CA State U., Fullerton	16,159	1,105	246	3,039	459	3,341	0	7,969
245	U. NC, Charlotte	15,930	1,778	327	3,706	92	7,094	264	2,669
246	Worcester Polytechnic Institute	15,714	2,230	2,159	2,766	289	5,425	32	2,813
247	FL Atlantic U.	15,579	3,412	786	5,256	109	2,726	529	2,761
248	CUNY, Queens C.	15,573	181	6,299	6,453	0	1,889	99	652
249	U. TN, Institute of Agriculture	15,512	819	2,672	3,079	0	390	6,156	2,396
250	LA State U., Medical Ctr., Shreveport	15,316	676	0	14,240	0	311	89	0
251	Kent State U.	15,085	1,620	1,273	4,639	15	5,124	42	2,372
252	TX Tech U., Health Sciences Ctr.	14,790	1,065	0	13,489	0	42	20	174
253	U. North TX, Denton	14,754	3,542	1,226	899	77	6,695	42	2,273
254	U. LA, Lafayette	14,659	1,273	1,363	7,050	218	2,523	104	2,128
255	U. SD	14,490	455	1,092	8,618	118	3,443	6	758
256	U. NC, Wilmington	14,218	1,719	51	2,389	51	2,472	393	7,143
257	Creighton U.	14,140	425	462	12,826	35	225	6	161
258	U. Denver	14,042	689	447	6,716	488	2,149	9	3,544
259	Albany Medical C.	13,884	1,086	0	12,798	0	0	0	0
260	CA State U., Long Beach	13,811	4,245	128	3,332	1,255	1,958	217	2,676
261	U.S. Military Academy	13,799	13,799	0	0	0	0	0	0
<b>262</b>	<b>U. MA, Dartmouth</b>	<b>13,657</b>	<b>1,565</b>	<b>986</b>	<b>720</b>	<b>55</b>	<b>3,084</b>	<b>546</b>	<b>6,701</b>
263	Miami U.	13,210	1,083	302	4,179	264	5,323	172	1,887
264	U. West FL	13,156	922	0	325	0	44	0	11,865
265	Wichita State U.	12,972	5,432	595	2,536	1,193	798	0	2,418
266	DE State U.	12,822	1,254	216	1,910	963	1,920	5,389	1,170
267	Tuskegee U.	12,397	217	148	4,111	804	62	3,568	3,487
268	AL State U.	12,340	0	0	0	0	12,340	0	0
269	Hampton U.	12,292	928	996	1,134	4,166	3,684	0	1,384
270	U. Akron	12,130	1,793	1,680	1,826	1,667	4,005	158	1,001
271	LA Tech U.	11,952	3,421	1,484	1,168	514	2,491	327	2,547
272	Northern IL U.	11,807	3,145	2,787	1,978	98	2,355	197	1,247
273	Embry-Riddle Aeronautical U.	11,444	184	72	0	207	1,464	177	9,340
274	Marquette U.	11,291	909	466	5,209	13	2,493	33	2,168
275	Prairie View A&M U.	11,058	470	706	291	1,323	1,593	5,078	1,597
276	Elizabeth City State U.	10,402	677	0	1,519	106	1,796	0	6,304
277	FL Gulf Coast U.	10,328	1,584	0	0	36	296	0	8,412
278	TX State U., San Marcos	10,319	1,833	20	2,515	1	1,713	657	3,580
279	U.S. Naval Academy	10,243	8,232	296	0	927	759	0	29
280	U. MO, St. Louis	10,157	231	344	4,388	9	3,503	166	1,516
281	U. CA, Merced	10,140	483	655	2,550	70	4,129	197	2,056
282	Fayetteville State U.	10,029	255	0	404	36	731	0	8,603
283	CA State U., San Bernardino	9,953	4,213	0	2,764	73	1,938	350	615

**Appendix P. Federally Financed Higher Education R&D Expenditures, Ranked by All Federal R&D Expenditures, by Federal Agency: FY 2011 (First 300 Institutions)**

(Dollars in thousands)

Rank	Institution	All federal R&D expenditures	DOD	DOE	HHS	NASA	NSF	USDA	Other <sup>a</sup>
284	C. Nanoscale S&E of the U. at Albany SUNY	9,887	4,021	670	1,181	89	1,668	0	2,258
285	Morgan State U.	9,884	497	282	1,842	4,456	1,064	6	1,737
286	U. AK, Anchorage	9,858	146	229	4,384	222	2,186	258	2,433
287	SUNY, C. of Environmental Science and Forestry	9,645	273	1,323	27	334	2,241	2,178	3,269
288	Clarkson U.	9,531	3,074	126	592	246	2,684	156	2,653
289	NC Central U.	9,496	538	98	6,793	0	1,525	32	510
290	Ponce School of Medicine	9,318	0	0	9,318	0	0	0	0
291	Rosalind Franklin U. of Medicine and Science	9,317	494	0	8,823	0	0	0	0
292	American U.	9,208	345	0	857	1,319	1,162	0	5,525
293	Oakland U.	9,178	2,925	518	3,671	6	1,859	6	193
294	CA Polytechnic State U., San Luis Obispo	8,658	2,331	87	258	2,194	2,057	1,191	540
295	Alcorn State U.	8,655	431	167	737	10	94	6,626	590
296	AR State U., Jonesboro	8,644	4,463	1,068	420	66	2,224	232	171
297	U. AR, Little Rock	8,615	1,514	1,260	615	2,071	2,341	3	811
298	U. MD, Eastern Shore	8,587	6	0	1,163	7	75	3,887	3,449
299	U. MN, Duluth	8,564	387	614	1,096	0	3,589	473	2,405
300	Teachers C., Columbia U.	8,526	0	0	2,481	0	784	103	5,158
All Other Institutions		875,544	105,037	55,420	214,227	40,509	229,341	69,228	161,782

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 = U.S. Department of Agriculture.

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

<sup>b</sup> Johns Hopkins University includes Applied Physics Laboratory, with \$1,102,048 thousand in federally financed R&D expenditures in FY 2011.

NOTES: Agency specific rankings available on request. Institutions reporting zero federal expenditures for FY 2011 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, FY 2011.