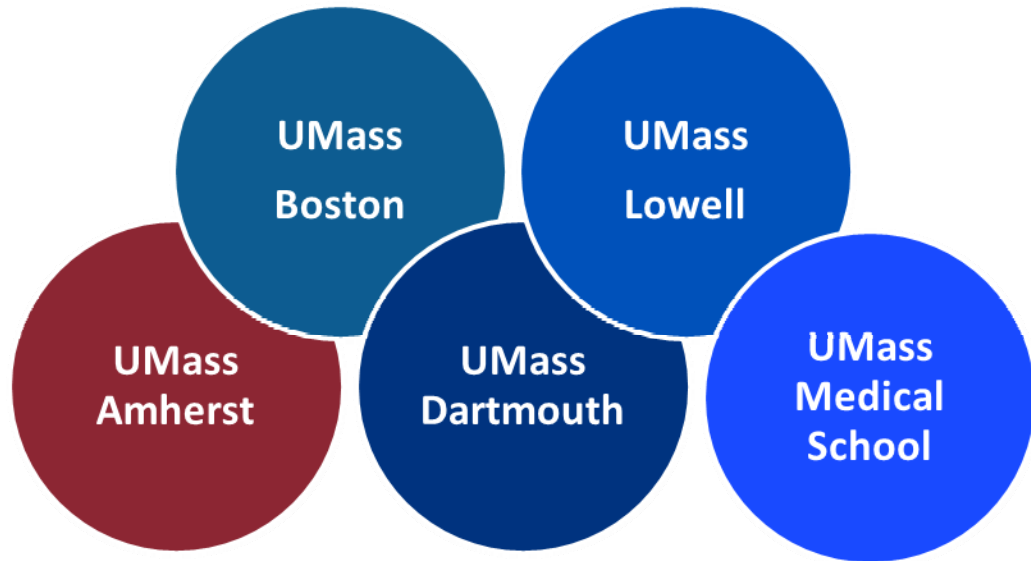




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FY 2014 Annual R&D Expenditures Report

February 2015

TABLE OF CONTENTS

TOTAL R&D EXPENDITURES – UMASS SYSTEM AND CAMPUSES

• INTRODUCTION AND HIGHLIGHTS	<i>1</i>
• FY 2010 – FY 2014	
○ UMASS SYSTEM	<i>2</i>
○ UMASS AMHERST	<i>3</i>
○ UMASS BOSTON	<i>4</i>
○ UMASS DARTMOUTH	<i>5</i>
○ UMASS LOWELL	<i>6</i>
○ UMASS MEDICAL SCHOOL	<i>7</i>
○ UMASS PRESIDENT’S OFFICE	<i>7</i>
• TOTAL R&D EXPENDITURES BY FIELD FY2014	<i>9</i>
• R&D EXPENDITURES BY SOURCE OF FUNDS FY2014	<i>12</i>
• FEDERAL GOVERNMENT AGENCY SOURCES FY2014	<i>15</i>

LIFE SCIENCES R&D EXPENDITURES

• TOTAL LIFE SCIENCES R&D EXPENDITURES BY UMASS CAMPUSES FY2010-FY2014	<i>16</i>
• TOTAL LIFE SCIENCES R&D EXPENDITURES BY FIELD UMASS SYSTEM FY2010-FY2014	<i>16</i>
• UMASS SYSTEM LIFE SCIENCES R&D EXPENDITURES BY FIELD AND UMASS CAMPUSES FY2010-FY 2014	<i>17</i>

Introduction

The *FY2014 Annual Research and Development Expenditures Report* presents information on the research and development expenditures for the University of Massachusetts System. This report is based on data that our five UMass campuses and the UMass President's Office provide to the National Science Foundation (NSF) through its Higher Education Research and Development Survey (previously known as the annual Survey of Research and Development Expenditures at Universities and Colleges). In addition to the FY2014 data, this report also provides trend data in many cases. All comparison data presented in this report are sourced from the NSF HERD Data tables. These tables can be found at <http://ncesdata.nsf.gov/herd/2013/>.

The report is comprised of two sections: Total R&D Expenditures (pages 1-15) and Life Sciences R&D Expenditures (pages 16-18).

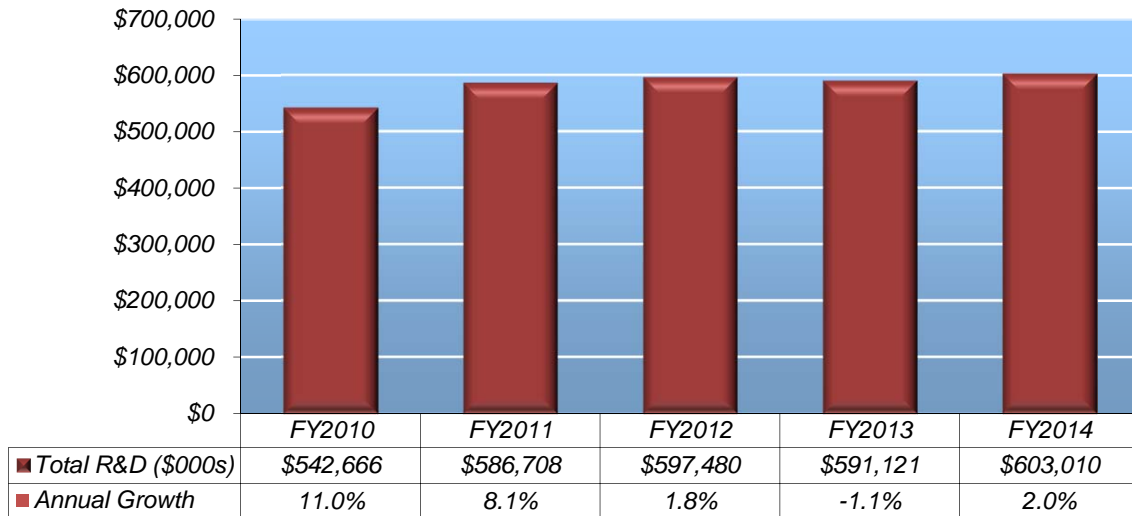
Major Highlights:

- **UMASS Total R&D Expenditures** – Total FY2014 R&D Expenditures for the University of Massachusetts System was reported at \$603.01 million, which represents a two percent increase from the FY2013 total of \$591.12 million.
- **Growth in Total R&D Expenditures (UMASS versus All U.S. Institutions)** – In FY2013 (most recent comparison data available), while the UMass system reflected a decline in annual growth rate by one percent over the previous year, All U.S. Institutions reflected a growth rate of two percent.
- **UMASS R&D Expenditures in Science and Engineering** – In FY2014, an estimated \$533.91 million (89%) of our R&D expenditures were in sciences and engineering (S&E).
- **UMASS State Ranking in Total R&D Expenditures** – Among Massachusetts' colleges and universities, UMass ranked 3rd in Total R&D Expenditures, behind only MIT and Harvard. In FY 2013, UMass comprised nearly one-fifth (17%) of the Total Expenditures of all MA institutions. UMass, MIT, Harvard and BU together account for 81% of the academic science and engineering R&D expenditures in the state (Rankings based on FY2013 data).
- **UMASS R&D Expenditures by Funding Source (FY2014)** – In terms of funding sources, 60% is from the federal government, 28% is from institutional sources, 4% is from state and local government, 3% from businesses, 5% from non-profit organizations, and 1% is from other sources (e.g., private foundations).
- **UMASS Areas of Funding Growth** – Between the reporting cycles FY2013-14, industry/business sponsorship stayed steady at 8%, and institutional funds increased one percentage point from 27% to 28%. State and local government funding also increased slightly from 3% to 4% of all funds. Federal funding dropped from 62% to 60% of all funds.
- **Life Sciences Continues to Comprise More Than Half of all R&D Expenditures at UMass** – At \$337.4 million, the life sciences constitute more than half of UMass's total R&D expenditures (55.9%). FY2014 distribution of R&D expenditures by field is:

Life Sciences	55.9%	Social Sciences	2.7%
Physical Sciences	8.6%	Non-Science and Engineering	11.5%
Engineering	11.2%	Psychology	1.7%
Computer Sciences	4.3%	Mathematical Sciences	0.5%
Environmental Sciences	2.9%	Other Sciences	0.6%

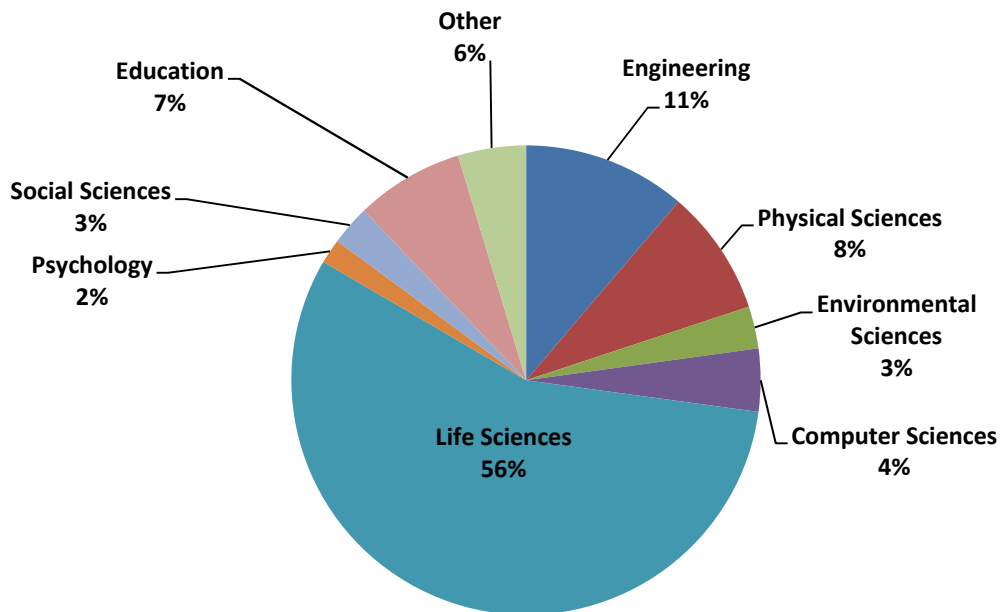
UMASS System

Total R&D Expenditures FY2010 - FY2014



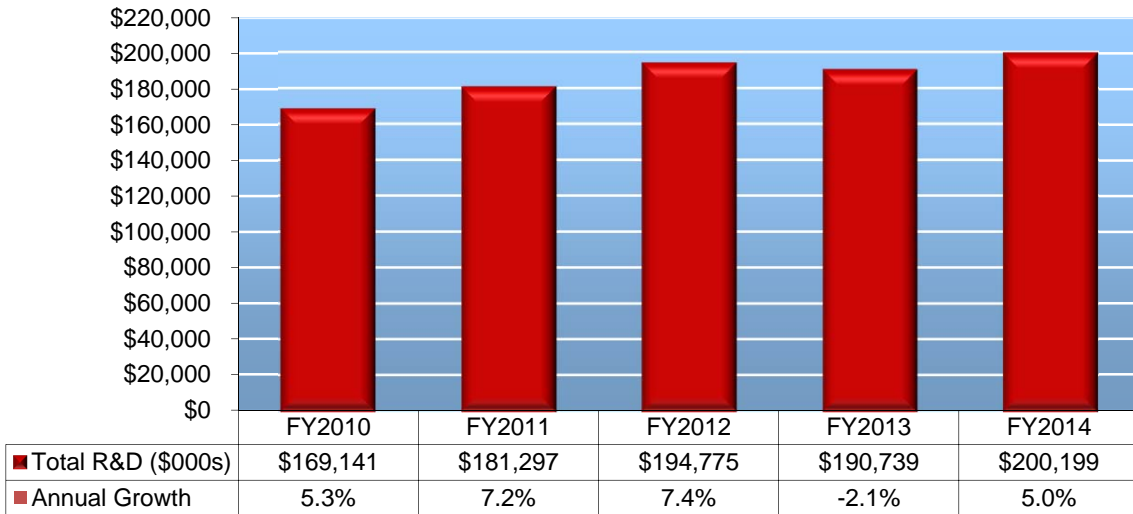
FY 2010 figures have been revised from the FY 2010 R&D Report publication (\$542,668).

Total R&D Expenditures FY2014



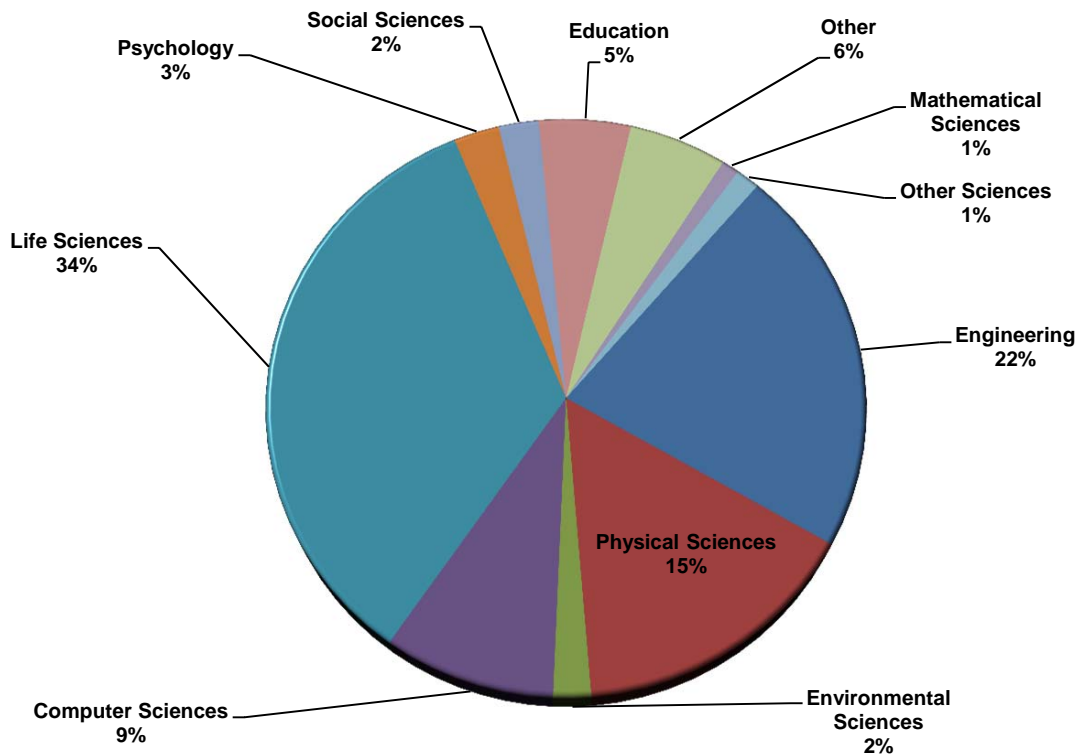
Amherst

Total R&D Expenditures FY2010 - FY2014



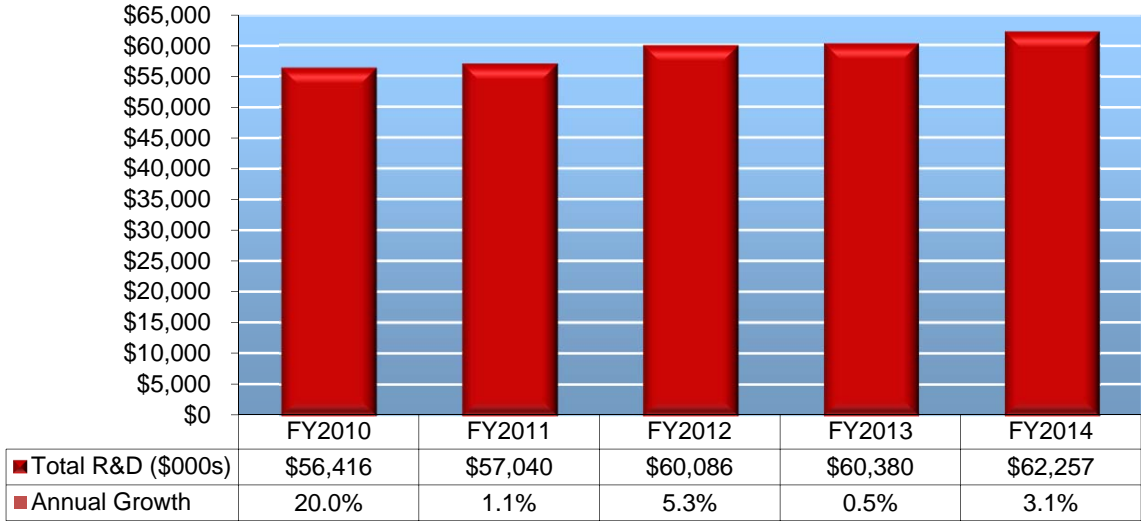
Note: UMA FY2010 figures have been revised since the FY2010 R&D Report publication.

Total R&D Expenditures FY2014

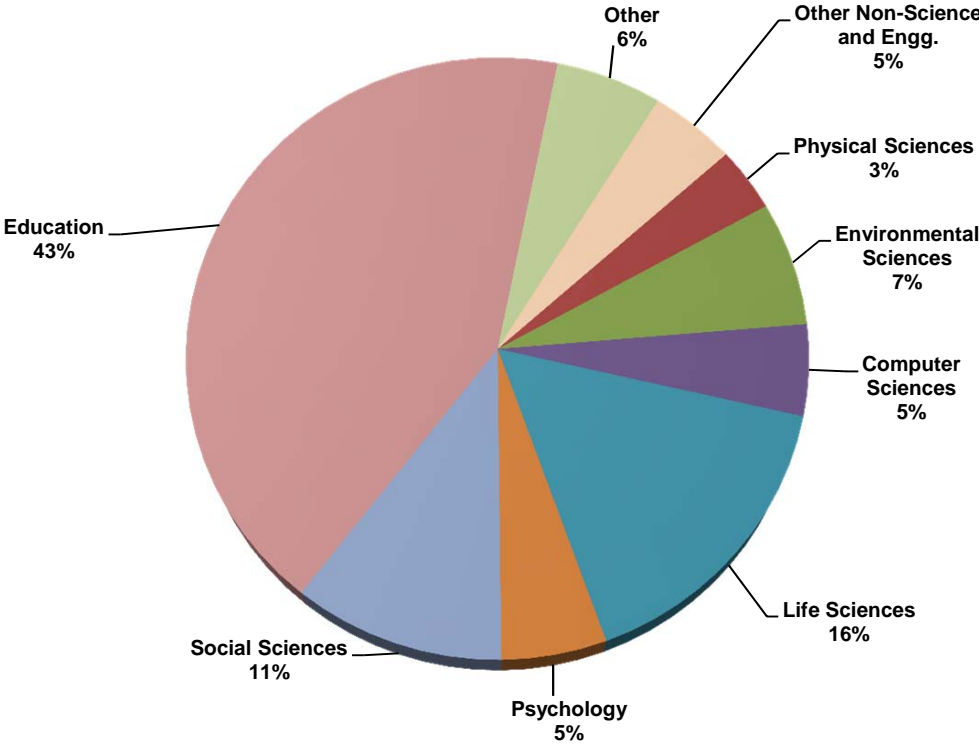


Boston

Total R&D Expenditures FY2010 - FY2014



Total R&D Expenditures FY2014

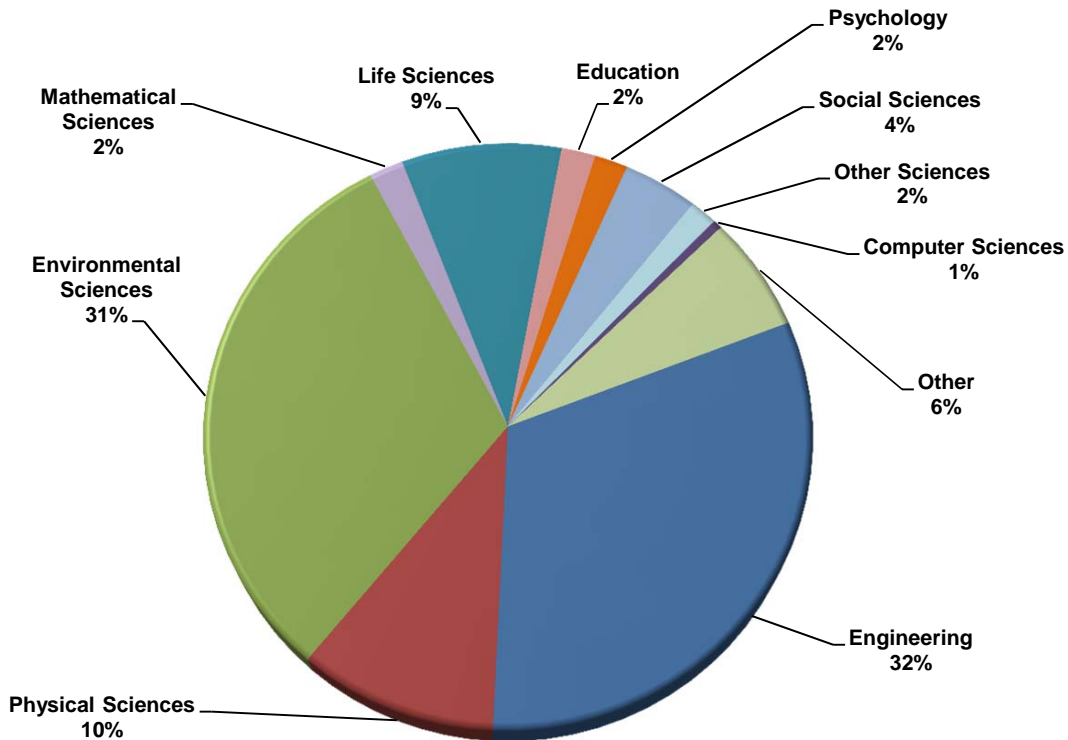


Dartmouth

Total R&D Expenditures FY2010 - FY2014

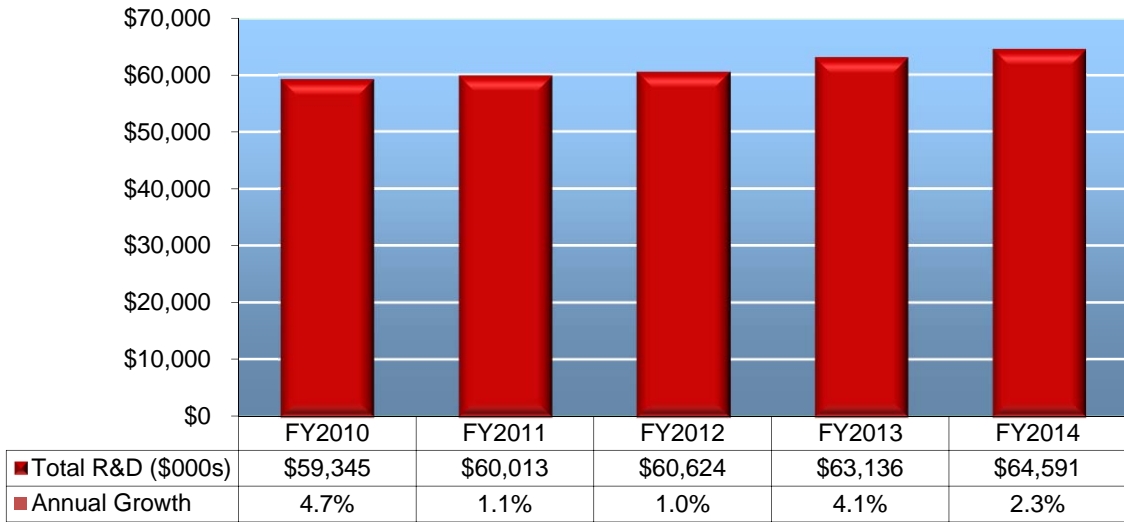


Total R&D Expenditures FY2014

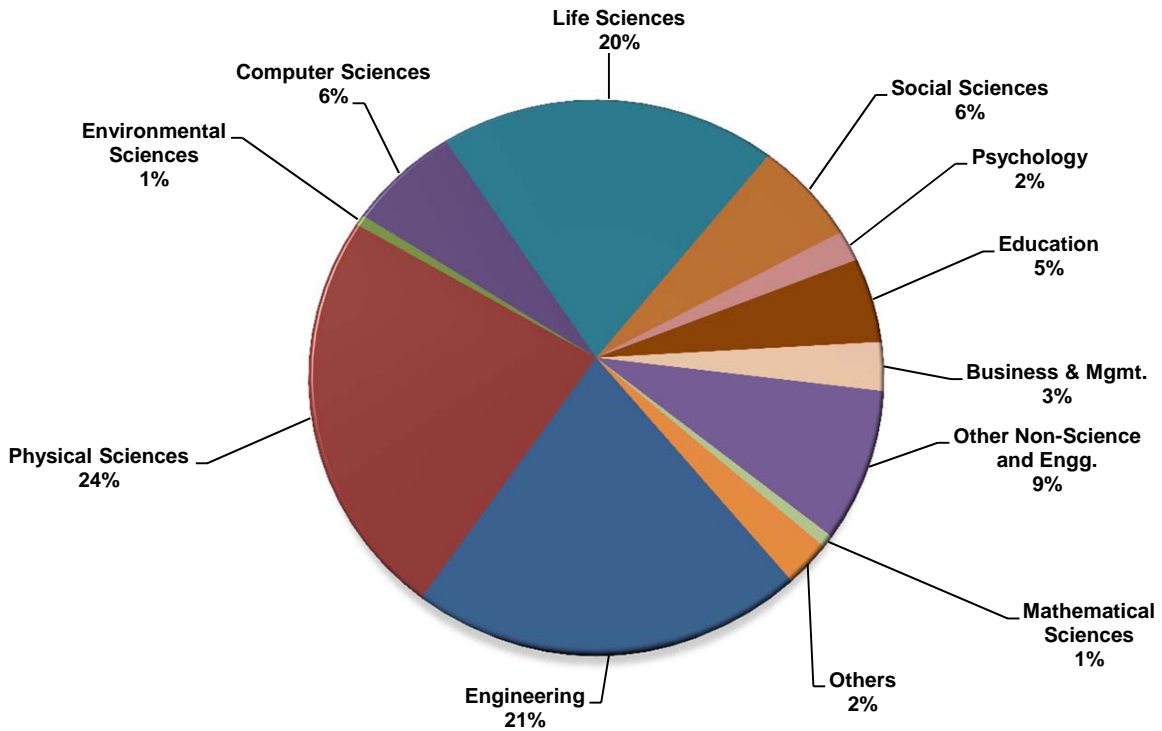


Lowell

Total R&D Expenditures FY2010 - FY2014

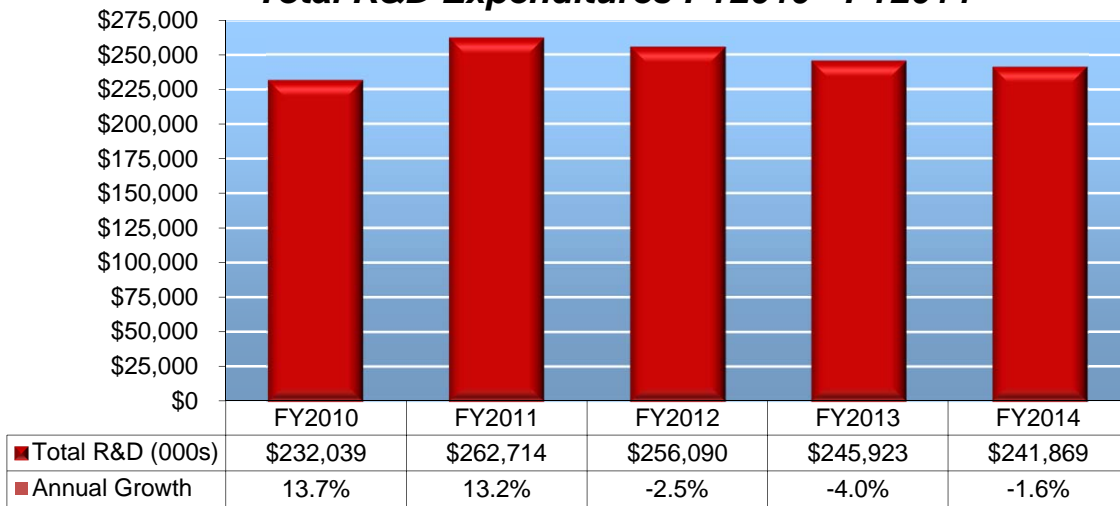


Total R&D Expenditures FY2014



Medical School

Total R&D Expenditures FY2010 - FY2014



All of the Medical School's R&D expenditures are in the Life Sciences.

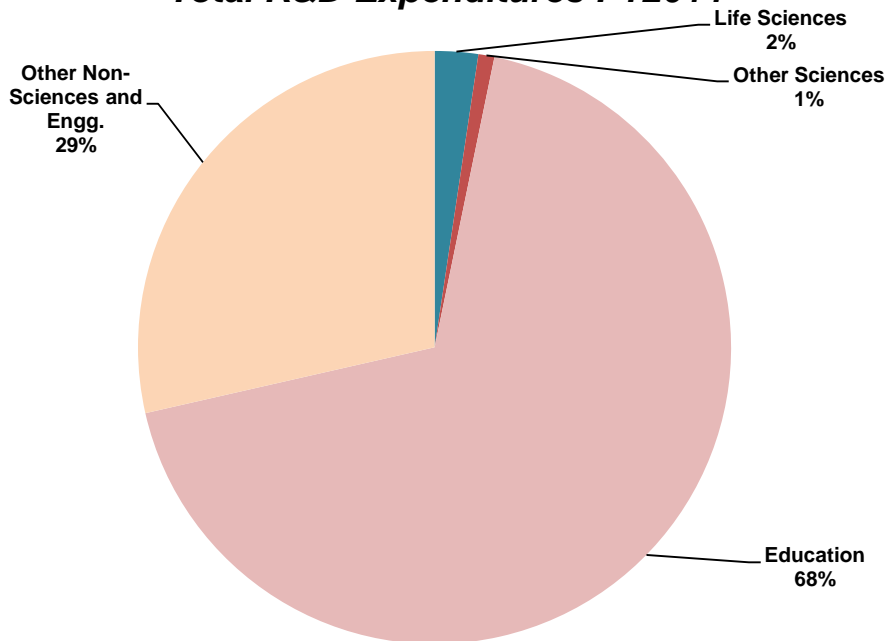
President's Office

Total R&D Expenditures FY2012 - FY2014



President's Office

Total R&D Expenditures FY2014



FY 2014 Total R&D Expenditures by Field (Federal and Non-Federal)

FIELD	UMA					UMB				
	Federal	Non-Federal	UMA Total	% of UMA Total	% of Field	Federal	Non-Federal	UMB Total	% of UMB Total	% of Field
Engineering (Total)	\$25,507	\$19,360	\$44,867	22.4%	66.4%	\$120	\$113	\$233	0.4%	0.3%
Aeronautical & Astronomical	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%
Bioengineering/Biomedical	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%
Chemical	\$9,040	\$5,870	\$14,910	7.4%	74.3%	\$0	\$0	\$0	0.0%	0.0%
Civil	\$3,712	\$5,309	\$9,021	4.5%	75.7%	\$37	\$0	\$37	0.1%	0.0%
Electrical	\$9,154	\$4,486	\$13,640	6.8%	70.8%	\$83	\$113	\$196	0.3%	1.0%
Mechanical	\$3,525	\$3,248	\$6,773	3.4%	66.6%	\$0	\$0	\$0	0.0%	0.0%
Metallurgical & Materials	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%
Other	\$76	\$447	\$523	0.3%	14.5%	\$0	\$0	\$0	0.0%	0.0%
Physical Sciences (Total)	\$21,059	\$10,542	\$31,601	15.8%	60.7%	\$1,821	\$348	\$2,169	3.5%	4.2%
Astronomy	\$2,264	\$861	\$3,125	1.6%	100.0%	\$0	\$0	\$0	0.0%	0.0%
Chemistry	\$13,491	\$6,637	\$20,128	10.1%	73.5%	\$803	\$270	\$1,073	1.7%	3.9%
Physics	\$5,304	\$3,044	\$8,348	4.2%	38.8%	\$1,018	\$78	\$1,096	1.8%	5.1%
Other	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%
Environmental Sciences (Total)	\$2,861	\$1,168	\$4,029	2.0%	22.9%	\$2,580	\$1,584	\$4,164	6.7%	23.7%
Atmospheric	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%
Earth Sciences	\$2,861	\$1,168	\$4,029	2.0%	90.7%	\$0	\$0	\$0	0.0%	0.0%
Oceanography	\$0	\$0	\$0	0.0%	0.0%	\$2,552	\$1,426	\$3,978	6.4%	31.1%
Other	\$0	\$0	\$0	0.0%	0.0%	\$28	\$158	\$186	0.3%	54.7%
Mathematical Sciences (Total)	\$1,334	\$673	\$2,007	1.0%	65.0%	\$48	\$53	\$101	0.2%	3.3%
Computer Sciences (Total)	\$13,028	\$5,419	\$18,447	9.2%	71.1%	\$1,843	\$1,205	\$3,048	4.9%	11.7%
Life Sciences (Total)	\$33,215	\$36,534	\$69,749	34.8%	20.7%	\$4,981	\$4,941	\$9,922	15.9%	2.9%
Agricultural	\$13,461	\$10,618	\$24,079	12.0%	99.2%	\$0	\$0	\$0	0.0%	0.0%
Biological	\$13,059	\$9,826	\$22,885	11.4%	20.8%	\$1,851	\$1,062	\$2,913	4.7%	2.6%
Medical	\$5,567	\$8,314	\$13,881	6.9%	11.2%	\$333	\$1,961	\$2,294	3.7%	1.8%
Other	\$1,128	\$7,776	\$8,904	4.4%	11.3%	\$2,797	\$1,918	\$4,715	7.6%	6.0%
Psychology (Total)	\$3,500	\$1,709	\$5,209	2.6%	50.8%	\$1,654	\$1,647	\$3,301	5.3%	32.2%
Social Sciences (Total)	\$1,230	\$3,351	\$4,581	2.3%	27.8%	\$1,110	\$5,548	\$6,658	10.7%	40.4%
Economics	\$125	\$715	\$840	0.4%	44.5%	\$47	\$118	\$165	0.3%	8.7%
Political Science	\$100	\$540	\$640	0.3%	11.7%	\$69	\$3,658	\$3,727	6.0%	67.8%
Sociology	\$430	\$1,578	\$2,008	1.0%	47.9%	\$880	\$909	\$1,789	2.9%	42.7%
Other	\$575	\$518	\$1,093	0.5%	22.2%	\$114	\$863	\$977	1.6%	19.9%
Other Sciences (Total)	\$948	\$1,772	\$2,720	1.4%	75.2%	\$387	\$38	\$425	0.7%	0.0%
TOTAL, SCI & ENG FIELDS	\$102,682	\$80,528	\$183,210	91.5%	34.3%	\$14,544	\$15,477	\$30,021	48.2%	5.6%
FIELD	Federal	Non-Federal	UMA Total	% of UMA Total	% of Field	Federal	Non-Federal	UMB Total	% of UMB Total	% of Field
Education	\$5,949	\$4,547	\$10,496	5.2%	23.4%	\$13,382	\$13,190	\$26,572	42.7%	59.4%
Law	\$0	\$2	\$2	0.0%	100.0%	\$0	\$0	\$0	0.0%	0.0%
Humanities	\$136	\$1,899	\$2,035	1.0%	60.9%	\$0	\$556	\$556	0.9%	16.7%
Visual and Performing Arts	\$75	\$661	\$736	0.4%	50.3%	\$0	\$85	\$85	0.1%	5.8%
Business and Management	\$104	\$943	\$1,047	0.5%	19.8%	\$0	\$1,079	\$1,079	1.7%	20.4%
Comm., Journalism & Library Sci	\$66	\$534	\$600	0.3%	88.6%	\$12	\$42	\$54	0.1%	0.0%
Social Work	\$20	\$28	\$48	0.0%	0.0%	\$373	\$642	\$1,015	1.6%	0.0%
Other Non-Science and Engin.	\$1,157	\$868	\$2,025	1.0%	16.2%	\$155	\$2,720	\$2,875	4.6%	23.0%
TOTAL, NON-SCI & ENG FIELDS	\$7,507	\$9,482	\$16,989	8.5%	24.6%	\$13,922	\$18,314	\$32,236	51.8%	46.7%
TOTAL, SCI & ENG FIELDS	\$102,682	\$80,528	\$183,210	91.5%	34.3%	\$14,544	\$15,477	\$30,021	48.2%	
GRAND TOTAL	\$110,189	\$90,010	\$200,199	100.0%		\$28,466	\$33,791	\$62,257	100.0%	

Source: Campus NSF HERD Surveys. All dollars are in thousands.

Note: Percent of Total is the percent each field represents of total campus or system R&D expenditures in all fields. Percent of Field is the percent of the UMass system's expenditures in a particular field represented by that campus.

FY 2014 Total R&D ExpenFY 2014 Total R&D Expenditures by Field (Federal and Non-Federal) – Cont'd

FIELD	UMD					UML				
	Federal	Non-Federal	UMD Total	% of UMD Total	% of Field	Federal	Non-Federal	UML Total	% of UML Total	% of Field
Engineering (Total)	\$2,945	\$5,972	\$8,917	31.6%	13.2%	\$4,740	\$8,800	\$13,540	21.0%	20.0%
Aeronautical & Astronomical	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%
Bioengineering/Biomedical	\$1,320	\$718	\$2,038	7.2%	100.0%	\$0	\$0	\$0	0.0%	0.0%
Chemical	\$0	\$0	\$0	0.0%	0.0%	\$1,840	\$3,315	\$5,155	8.0%	25.7%
Civil	\$474	\$1,049	\$1,523	5.4%	12.8%	\$883	\$445	\$1,328	2.1%	11.2%
Electrical	\$891	\$1,601	\$2,492	8.8%	12.9%	\$1,112	\$1,828	\$2,940	4.6%	15.3%
Mechanical	\$260	\$907	\$1,167	4.1%	11.5%	\$905	\$1,327	\$2,232	3.5%	21.9%
Metallurgical & Materials	\$0	\$3	\$3	0.0%	0.6%	\$0	\$484	\$484	0.7%	99.4%
Other	\$0	\$1,694	\$1,694	6.0%	46.8%	\$0	\$1,401	\$1,401	2.2%	38.7%
Physical Sciences (Total)	\$836	\$2,061	\$2,897	10.3%	5.6%	\$10,311	\$5,062	\$15,373	23.8%	29.5%
Astronomy	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%
Chemistry	\$488	\$1,443	\$1,931	6.8%	7.0%	\$2,259	\$2,006	\$4,265	6.6%	15.6%
Physics	\$348	\$618	\$966	3.4%	4.5%	\$8,052	\$3,056	\$11,108	17.2%	51.6%
Other	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%
Environmental Sciences (Total)	\$3,479	\$5,333	\$8,812	31.2%	50.1%	\$184	\$233	\$417	0.6%	2.4%
Atmospheric	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%
Earth Sciences	\$0	\$0	\$0	0.0%	0.0%	\$184	\$229	\$413	0.6%	9.3%
Oceanography	\$3,479	\$5,333	\$8,812	31.2%	68.9%	\$0	\$4	\$4	0.0%	0.0%
Other	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%
Mathematical Sciences (Total)	\$251	\$279	\$530	1.9%	17.2%	\$98	\$351	\$449	0.7%	14.5%
Computer Sciences (Total)	\$53	\$87	\$140	0.5%	0.5%	\$2,528	\$1,785	\$4,313	6.7%	16.6%
Life Sciences (Total)	\$713	\$1,769	\$2,482	8.8%	0.7%	\$6,402	\$6,799	\$13,201	20.4%	3.9%
Agricultural	\$74	\$128	\$202	0.7%	0.8%	\$0	\$0	\$0	0.0%	0.0%
Biological	\$639	\$1,580	\$2,219	7.9%	2.0%	\$1,134	\$703	\$1,837	2.8%	1.7%
Medical	\$0	\$13	\$13	0.0%	0.0%	\$86	\$27	\$113	0.2%	0.1%
Other	\$0	\$48	\$48	0.2%	0.1%	\$5,182	\$6,069	\$11,251	17.4%	14.3%
Psychology (Total)	\$90	\$426	\$516	1.8%	5.0%	\$285	\$935	\$1,220	1.9%	11.9%
Social Sciences (Total)	\$12	\$1,150	\$1,162	4.1%	7.0%	\$1,326	\$2,756	\$4,082	6.3%	24.8%
Economics	\$0	\$261	\$261	0.9%	13.8%	\$39	\$582	\$621	1.0%	32.9%
Political Science	\$12	\$817	\$829	2.9%	15.1%	\$0	\$297	\$297	0.5%	5.4%
Sociology	\$0	\$72	\$72	0.3%	1.7%	\$0	\$319	\$319	0.5%	7.6%
Other	\$0	\$0	\$0	0.0%	0.0%	\$1,287	\$1,558	\$2,845	4.4%	57.9%
Other Sciences (Total)	\$34	\$389	\$423	1.5%	11.7%	\$0	\$0	\$0	0.0%	0.0%
TOTAL, SCI & ENG FIELDS	\$8,413	\$17,466	\$25,879	91.7%	4.8%	\$25,874	\$26,721	\$52,595	81.4%	9.9%
FIELD	Federal	Non-Federal	UMD Total	% of UMD		Federal	Non-Federal	UML Total	% of UML	
				Total	% of Field				Total	% of Field
Education	\$136	\$391	\$527	1.9%	1.2%	\$2,008	\$1,256	\$3,264	5.1%	7.3%
Law	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%
Humanities	\$0	\$64	\$64	0.2%	1.9%	\$0	\$684	\$684	1.1%	20.5%
Visual and Performing Arts	\$0	\$149	\$149	0.5%	10.2%	\$0	\$494	\$494	0.8%	33.7%
Business and Management	\$0	\$1,314	\$1,314	4.7%	24.9%	\$262	\$1,584	\$1,846	2.9%	34.9%
Comm., Journalism & Library Sci	\$0	\$0	\$0	0.0%	0.0%	\$13	\$10	\$23	0.0%	3.4%
Social Work	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%
Other Non-Science and Engin.	\$0	\$286	\$286	1.0%	2.3%	\$497	\$5,188	\$5,685	8.8%	45.5%
TOTAL, NON-SCI & ENG FIELDS	\$136	\$2,204	\$2,340	8.3%	3.4%	\$2,780	\$9,216	\$11,996	18.6%	17.4%
TOTAL, SCI & ENG FIELDS	\$8,413	\$17,466	\$25,879	91.7%	4.8%	\$25,874	\$26,721	\$52,595	81.4%	9.9%
GRAND TOTAL	\$8,549	\$19,670	\$28,219	100.0%		\$28,654	\$35,937	\$64,591	100.0%	

Source: Campus NSF HERD Surveys. All dollars are in thousands.

Note: Percent of Total is the percent each field represents of total campus or system R&D expenditures in all fields. Percent of Field is the percent of the UMass system's expenditures in a particular field represented by that campus.

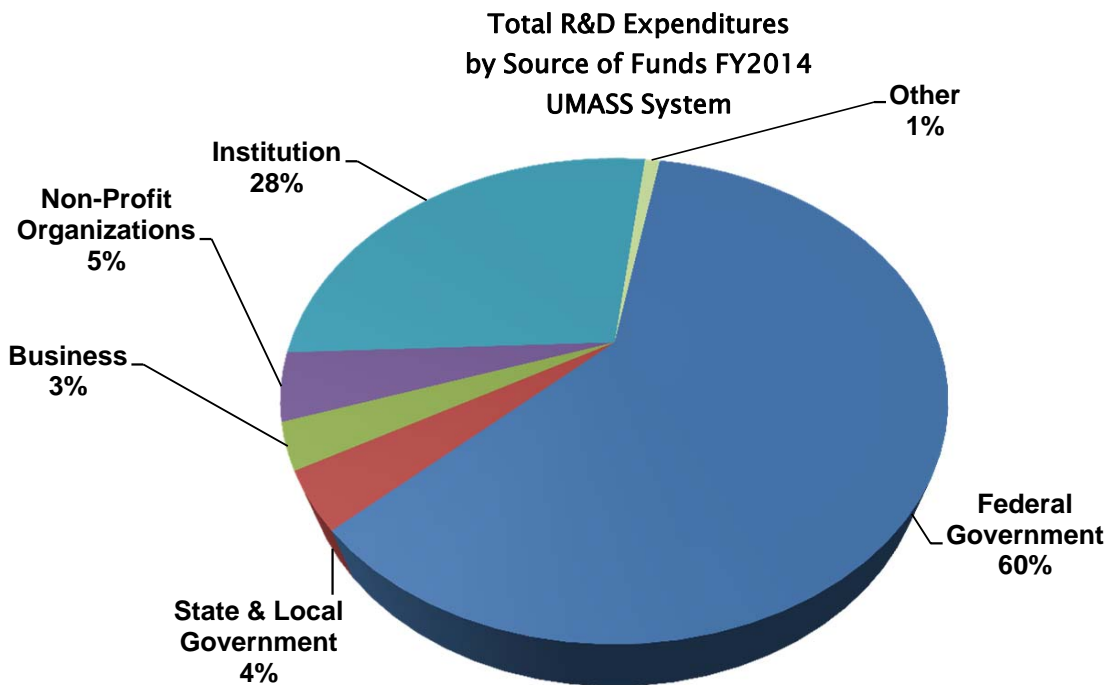
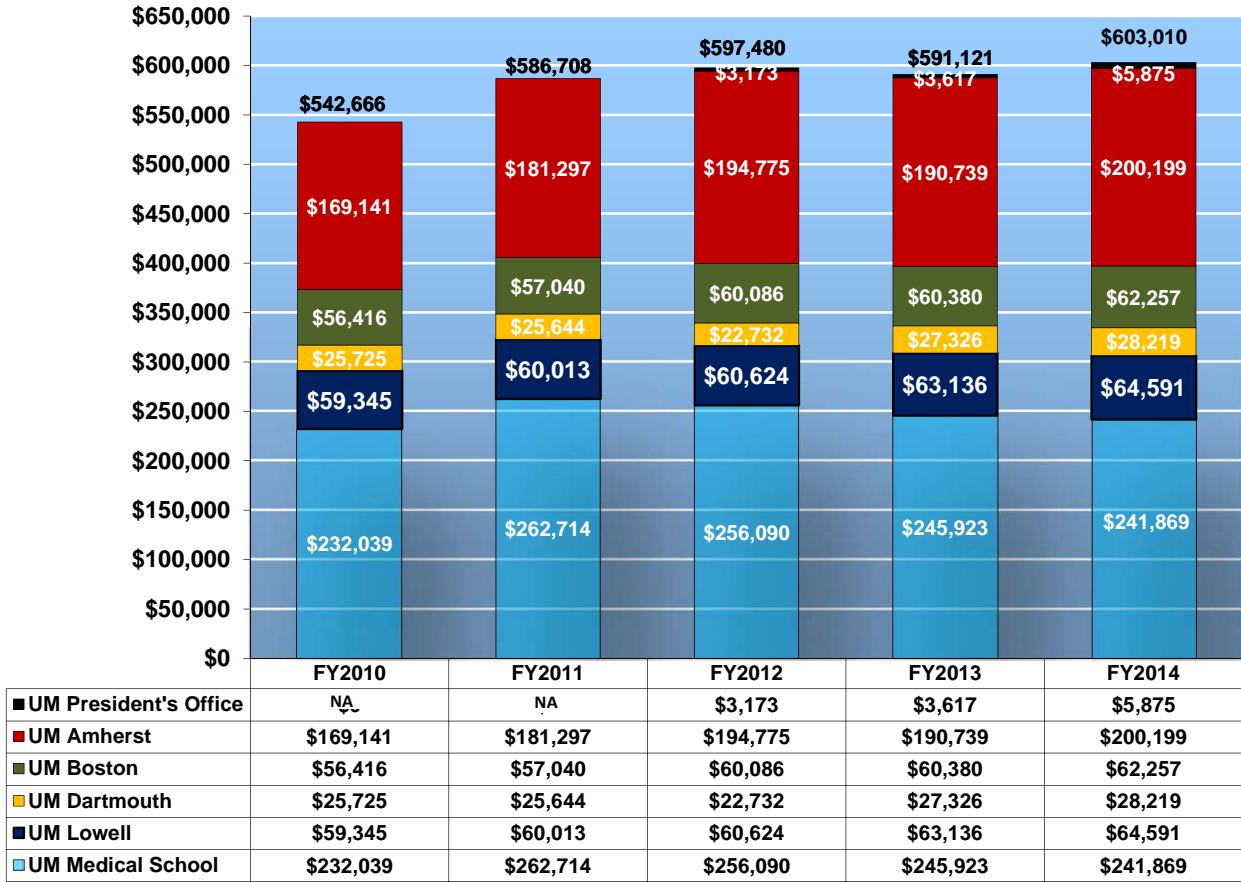
FY 2014 Total R&D Expenditures by Field (Federal and Non-Federal) - Cont'd

FIELD	UMMS					UMPO					UMass System			
	Federal	Non-Federal	UMMS Total	% of UMMS	% of Field	Federal	Non-Federal	UMPO Total	% of UMPO	% of Field	Federal	Non-Federal	System Total	% of System
Engineering (Total)	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%	\$33,312	\$34,245	\$67,557	11.2%
Aeronautical & Astronomical	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%
Bioengineering/Biomedical	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%	\$1,320	\$718	\$2,038	0.3%
Chemical	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%	\$10,880	\$9,185	\$20,065	3.3%
Civil	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%	\$5,106	\$6,803	\$11,909	2.0%
Electrical	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%	\$11,240	\$8,028	\$19,268	3.2%
Mechanical	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%	\$4,690	\$5,482	\$10,172	1.7%
Metallurgical & Materials	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%	\$0	\$487	\$487	0.1%
Other	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%	\$76	\$3,542	\$3,618	0.6%
Physical Sciences (Total)	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%	\$34,027	\$18,013	\$52,040	8.6%
Astronomy	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%	\$2,264	\$861	\$3,125	0.5%
Chemistry	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%	\$17,041	\$10,356	\$27,397	4.5%
Physics	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%	\$14,722	\$6,796	\$21,518	3.6%
Other	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%
Environmental Sciences (Total)	\$0	\$0	\$0	0.0%	0.0%	\$0	\$154	\$154	2.6%	0.9%	\$9,104	\$8,472	\$17,576	2.9%
Atmospheric	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%
Earth Sciences	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%	\$3,045	\$1,397	\$4,442	0.7%
Oceanography	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%	\$6,031	\$6,763	\$12,794	2.1%
Other	\$0	\$0	\$0	0.0%	0.0%	\$0	\$154	\$154	0.0%	45.3%	\$28	\$312	\$340	0.1%
Mathematical Sciences (Total)	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%	\$1,731	\$1,356	\$3,087	0.5%
Computer Sciences (Total)	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%	\$17,452	\$8,496	\$25,948	4.3%
Life Sciences (Total)	\$183,582	\$58,287	\$241,869	100.0%	71.7%	\$135	\$0	\$135	2.3%	0.0%	\$229,028	\$108,330	\$337,358	55.9%
Agricultural	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%	\$13,535	\$10,746	\$24,281	4.0%
Biological	\$60,890	\$19,279	\$80,169	33.1%	72.9%	\$0	\$0	\$0	0.0%	0.0%	\$77,573	\$32,450	\$110,023	18.2%
Medical	\$79,471	\$28,339	\$107,810	44.6%	86.8%	\$75	\$0	\$75	2.1%	0.1%	\$85,532	\$38,654	\$124,186	20.6%
Other	\$43,221	\$10,669	\$53,890	22.3%	68.3%	\$60	\$0	\$60	1.7%	0.1%	\$52,388	\$26,480	\$78,868	13.1%
Psychology (Total)	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%	\$5,529	\$4,717	\$10,246	1.7%
Social Sciences (Total)	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%	\$3,678	\$12,805	\$16,483	2.7%
Economics	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%	\$211	\$1,676	\$1,887	0.3%
Political Science	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%	\$181	\$5,312	\$5,493	0.9%
Sociology	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%	\$1,310	\$2,878	\$4,188	0.7%
Other	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%	\$1,976	\$2,939	\$4,915	0.8%
Other Sciences (Total)	\$0	\$0	\$0	0.0%	0.0%	\$50	\$0	\$50	0.9%	1.4%	\$1,419	\$2,199	\$3,618	0.6%
TOTAL, SCI & ENG FIELDS	\$183,582	\$58,287	\$241,869	100.0%	45.3%	\$185	\$154	\$339	5.8%	0.1%	\$335,280	\$198,633	\$533,913	88.5%
FIELD	Federal	Non-Federal	UMW Total	% of UMW	% of Field	Federal	Non-Federal	UMPO Total	% of UMPO	% of Field	Federal	Non-Federal	UMass Total	% of Total
Education	\$0	\$0	\$0	0.0%	0.0%	\$3,031	\$871	\$3,902	66.4%	8.7%	\$24,506	\$20,255	\$44,761	7.4%
Law	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%	\$0	\$2	\$2	0.0%
Humanities	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%	\$136	\$3,203	\$3,339	0.6%
Visual and Performing Arts	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%	\$75	\$1,389	\$1,464	0.2%
Business and Management	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%	\$366	\$4,920	\$5,286	0.9%
Comm., Journalism & Library Sci	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%	\$91	\$586	\$677	0.1%
Social Work	\$0	\$0	\$0	0.0%	0.0%	\$0	\$0	\$0	0.0%	0.0%	\$393	\$670	\$1,063	0.0%
Other Non-Science and Engin.	\$0	\$0	\$0	0.0%	0.0%	\$252	\$1,382	\$1,634	27.8%	13.1%	\$2,061	\$10,444	\$12,505	2.1%
TOTAL, NON-SCI & ENG FIELDS	\$0	\$0	\$0	0.0%	0.0%	\$3,283	\$2,253	\$5,536	94.2%	8.0%	\$27,628	\$41,469	\$69,097	11.5%
TOTAL, SCI & ENG FIELDS	\$183,582	\$58,287	\$241,869	100.0%	45.3%	\$185	\$154	\$339	5.8%	0.1%	\$335,280	\$198,633	\$533,913	88.5%
GRAND TOTAL	\$183,582	\$58,287	\$241,869	100.0%		\$3,468	\$2,407	\$5,875	100.0%		\$362,908	\$240,102	\$603,010	100.0%

Source: Campus NSF HERD Surveys. All dollars are in thousands.

Note: Percent of Total is the percent each field represents of total campus or system R&D expenditures in all fields. Percent of Field is the percent of the UMass system's expenditures in a particular field represented by that campus.

Total R&D Expenditures UMASS System FY2010 – FY2014



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

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

R&D Expenditures by Source

(Dollars in Thousands)

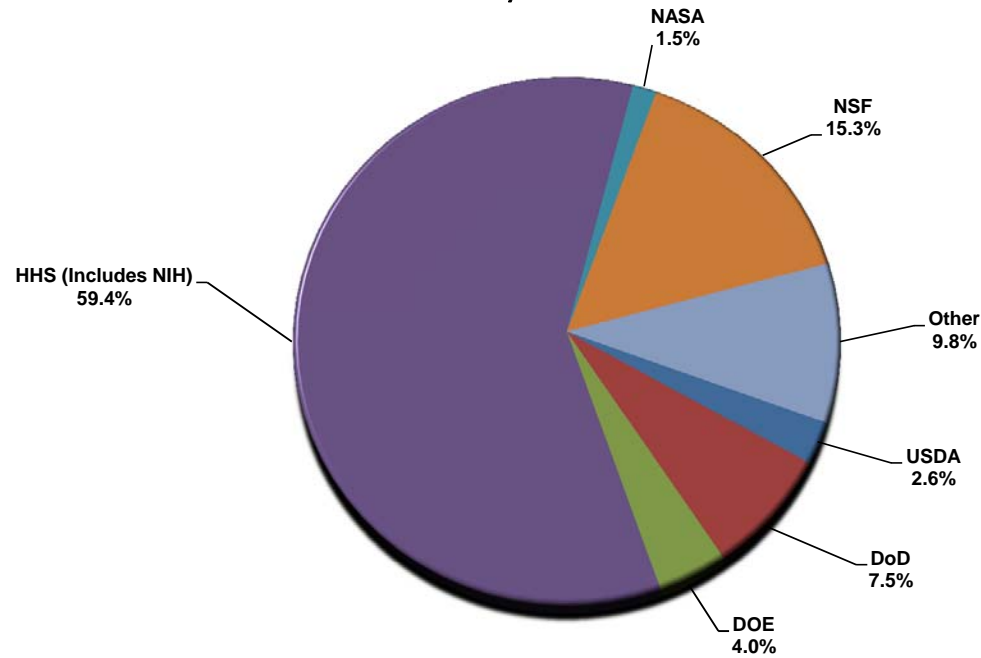
FY2010 - FY2014 Total R&D Expenditures									
	FY10	FY11	FY12	FY13	FY14	5-Year Change FY10-14		1-Year Change FY13-14	
						\$	%	\$	%
Amherst	\$169,141	\$181,297	\$194,775	\$190,739	\$200,199	\$31,058	18%	\$9,460	5%
Boston	\$56,416	\$57,040	\$60,086	\$60,380	\$62,257	\$5,841	10%	\$1,877	3%
Dartmouth	\$25,725	\$25,644	\$22,732	\$27,326	\$28,219	\$2,494	10%	\$893	3%
Lowell	\$59,345	\$60,013	\$60,624	\$63,136	\$64,591	\$5,246	9%	\$1,455	2%
Medical School	\$232,039	\$262,714	\$256,090	\$245,923	\$241,869	\$9,830	4%	-\$4,054	-2%
President's Office	NA	NA	\$3,173	\$3,617	\$5,875	NA	NA	\$2,258	62%
System	\$542,668	\$586,708	\$594,307	\$591,121	\$603,010	\$60,342	11%	\$11,889	2%
FY2010 - FY2014 Federal Total R&D Expenditures									
	FY10	FY11	FY12	FY13	FY14	5-Year Change FY10-14		1-Year Change FY13-14	
						\$	%	\$	%
Amherst	\$97,937	\$107,683	\$202,149	\$111,448	\$110,189	\$12,252	13%	-\$1,259	-1%
Boston	\$24,527	\$26,958	\$33,275	\$24,924	\$28,466	\$3,939	16%	\$3,542	14%
Dartmouth	\$12,236	\$13,657	\$10,979	\$8,860	\$8,549	-\$3,687	-30%	-\$311	-4%
Lowell	\$25,550	\$27,960	\$26,786	\$27,360	\$28,654	\$3,104	12%	\$1,294	5%
Medical School	\$178,293	\$208,244	\$202,149	\$189,159	\$183,582	\$5,289	3%	-\$5,577	-3%
President's Office	NA	NA	\$1,655	\$2,126	\$3,468	NA	NA	\$1,342	63%
System	\$338,543	\$384,502	\$476,993	\$363,877	\$362,908	\$24,365	7%	(\$969)	0%
FY2010- FY2014 State & Local Total R&D Expenditures									
	FY10	FY11	FY12	FY13	FY14	5-Year Change FY10-14		1-Year Change FY13-14	
						\$	%	\$	%
Amherst	\$4,567	\$3,166	\$4,358	\$3,041	\$12,122	\$7,555	165%	\$9,081	299%
Boston	\$3,652	\$2,417	\$1,356	\$5,693	\$4,992	\$1,340	37%	-\$701	-12%
Dartmouth	\$657	\$821	\$1,313	\$1,462	\$1,742	\$1,085	165%	\$280	19%
Lowell	\$1,910	\$1,745	\$1,941	\$3,288	\$2,165	\$255	13%	-\$1,123	-34%
Medical School	\$1,506	\$1,290	\$1,101	\$804	\$564	-\$942	-63%	-\$240	-30%
President's Office	NA	NA	\$647	\$556	\$1,333	NA	NA	\$777	140%
System	\$12,292	\$9,439	\$10,716	\$14,844	\$22,918	\$10,626	86%	\$8,074	54%

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

R&D Expenditures by Source (Cont'd)

	FY2010- FY2014 Industry-Sponsored Total R&D Expenditures																											
	FY10			FY11			FY12			FY13			FY14			5-Year Change FY10 - FY14		1-Year Change FY13 - FY14										
	Business	Non-Profits	Total	Business	Non-Profits	Total	Business	Non-Profits	Total	Business	Non-Profits	Total	Business	Non-Profits	Total	\$	%	\$	%									
Amherst	\$6,234	\$6,675	\$12,909	\$6,048	\$6,476	\$12,524	\$6,485	\$6,102	\$12,587	\$7,614	\$5,450	\$13,064	\$6,533	\$5,812	\$12,345	\$3,781	80.0%	-\$719	-6%									
Boston	\$91	\$5,902	\$5,993	\$188	\$4,933	\$5,121	\$160	\$2,670	\$2,830	\$97	\$3,219	\$3,316	\$721	\$2,867	\$3,588	\$333	NA	\$272	8%									
Dartmouth	\$633	\$392	\$1,025	\$503	\$301	\$804	\$519	\$334	\$853	\$425	\$208	\$633	\$180	\$274	\$454	-\$436	-34.8%	-\$179	-28%									
Lowell	\$4,460	\$1,779	\$6,239	\$3,726	\$2,426	\$6,152	\$3,914	\$2,983	\$6,897	\$4,303	\$1,115	\$5,418	\$3,921	\$1,569	\$5,490	\$2,017	42.4%	\$72	1%									
Medical School	\$14,198	\$14,524	\$28,722	\$11,747	\$15,747	\$27,494	\$9,749	\$14,278	\$24,027	\$8,795	\$14,948	\$23,743	\$6,925	\$16,349	\$23,274	\$6,072	75.7%	-\$469	-2%									
President's Office	NA	NA	NA	NA	NA	NA	\$60	\$427	\$487	\$19	\$418	\$437	\$8	\$360	\$368	NA	NA	-\$69	-16%									
System	\$25,616	\$29,272	\$58,703	\$22,212	\$29,883	\$52,095	\$20,887	\$26,794	\$47,681	\$21,253	\$25,358	\$46,611	\$18,288	\$27,231	\$45,519	\$11,767	62.8%	-\$1,092	-2%									
	FY2010 - FY2014 Institutional Total R&D Expenditures										FY2010 - FY2014 Other Total R&D Expenditures																	
	FY10		FY11		FY12		FY13		FY14		5-Year Change FY10 - FY14		1-Year Change FY13-FY14		FY10		FY11		FY12		FY13		FY14		5-Year Change FY10 - FY14		1-Year Change FY13-FY14	
	\$	%	\$	%	\$	%	\$	%	\$	%	\$	%	\$	%	\$	%	\$	%	\$	%	\$	%	\$	%	\$	%		
Amherst	\$52,426	\$57,156	\$61,924	\$62,045	\$64,187	\$11,761	22.4%	\$2,142	3.5%	\$1,302	\$768	\$626	\$1,141	\$1,356	\$54	4.1%	\$215	18.8%										
Boston	\$21,997	\$22,350	\$22,569	\$25,830	\$24,900	\$2,903	13.2%	-\$930	-3.6%	\$247	\$194	\$56	\$617	\$311	\$64	25.9%	-\$306	-49.6%										
Dartmouth	\$11,807	\$10,123	\$9,371	\$16,280	\$17,432	\$5,625	47.6%	\$1,152	7.1%	\$0	\$239	\$216	\$91	\$42	\$42	NA	-\$49	-53.8%										
Lowell	\$25,583	\$24,131	\$24,880	\$26,208	\$27,209	\$1,626	6.4%	\$1,001	3.8%	\$63	\$25	\$120	\$862	\$1,073	\$1,010	1603.2%	\$211	24.5%										
Medical School	\$23,518	\$25,686	\$28,813	\$31,516	\$31,750	\$8,232	35.0%	\$234	0.7%	\$0	\$0	\$0	\$701	\$2,699	\$2,699	NA	\$1,998	285.0%										
President's Office	NA	NA	\$384	\$441	\$680	NA	NA	\$239	54.2%	NA	NA	\$0	\$57	\$26	NA	NA	-\$31	-54.4%										
System	\$135,331	\$139,446	\$147,941	\$162,320	\$166,158	\$30,827	22.8%	\$3,838	2.4%	\$1,612	\$1,226	\$1,018	\$3,412	\$5,507	\$3,895	241.6%	\$2,095	61.4%										

**Total R&D Expenditures
by Federal Government Agency Sources FY2014
UMASS System**

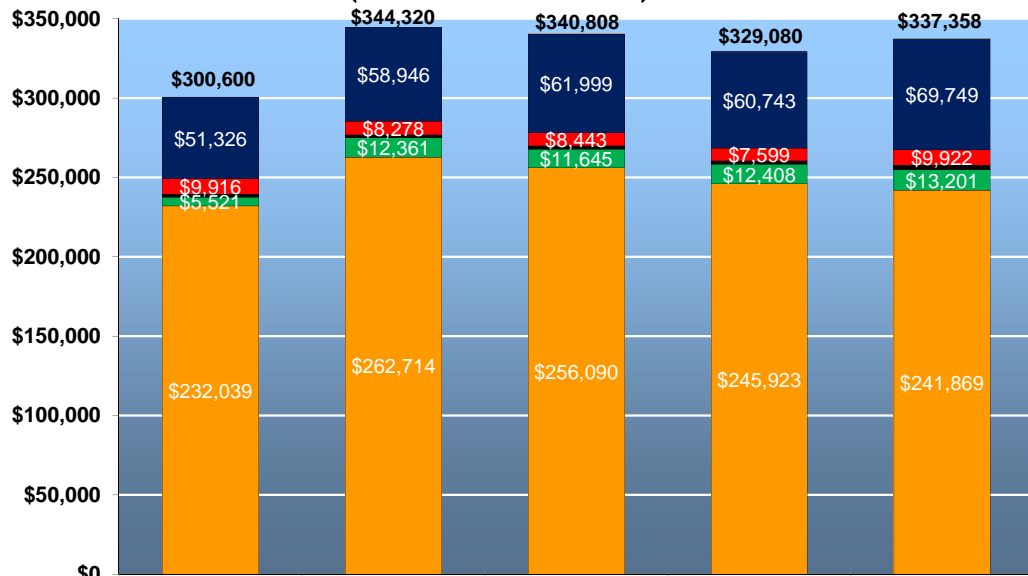


	Total Federal \$	USDA	% of Campus Total	DoD	% of Campus Total	DOE	% of Campus Total	HHS (includes NIH)	% of Campus Total	NASA	% of Campus Total	NSF	% of Campus Total	Other	% of Campus Total
Amherst	\$110,189	\$9,200	8.3%	\$10,870	9.9%	\$12,298	11.2%	\$21,291	19.3%	\$2,570	2.3%	\$39,445	35.8%	\$14,515	13.2%
Boston	\$28,466	\$63	0.2%	\$749	2.6%	\$303	1.1%	\$9,680	34.0%	\$763	2.7%	\$5,692	20.0%	\$11,216	39.4%
Dartmouth	\$8,549	\$120	1.4%	\$2,547	29.8%	\$89	1.0%	\$74	0.9%	\$471	5.5%	\$2,296	26.9%	\$2,952	34.5%
Lowell	\$28,654	\$52	0.2%	\$7,539	26.3%	\$1,852	6.5%	\$7,346	25.6%	\$1,427	5.0%	\$6,130	21.4%	\$4,308	15.0%
Medical School	\$183,582	\$0	0.0%	\$5,400	2.9%	\$0	0.0%	\$176,816	96.3%	\$0	0.0%	\$252	0.1%	\$1,114	0.6%
President's Office	\$3,468	\$0	0.0%	\$0	0.0%	\$0	0.0%	\$379	10.9%	\$53	1.5%	\$1,649	47.5%	\$1,387	40.0%
System	\$362,908	\$9,435	2.6%	\$27,105	7.5%	\$14,542	4.0%	\$215,586	59.4%	\$5,284	1.5%	\$55,464	15.3%	\$35,492	9.8%

Source: Campus NSF surveys. All dollars are in thousands.
Note: HHS includes NIH

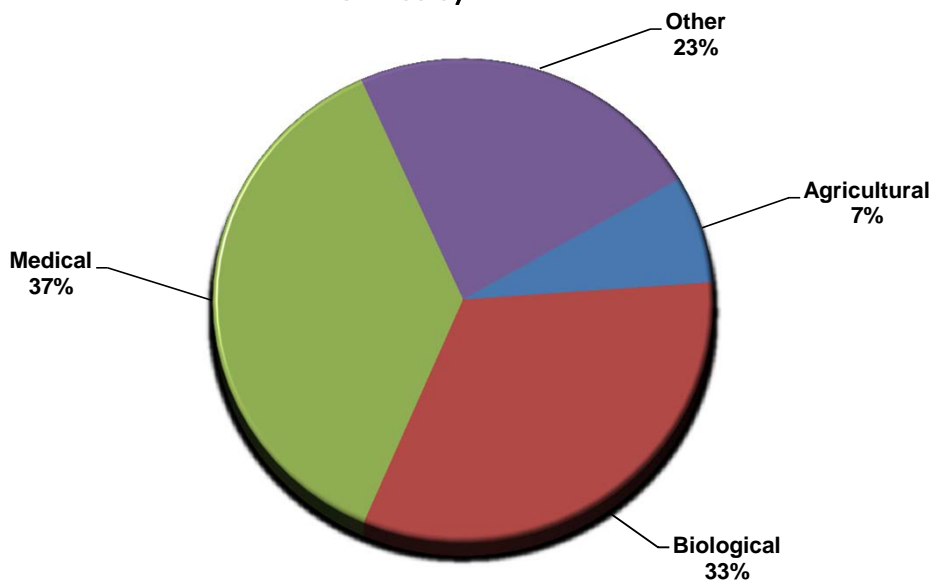
Life Sciences R&D Expenditures UMASS System FY2010 – FY2014

(Dollars in Thousands)



	FY10	FY11	FY12	FY13	FY14
President's Office	N/A	NA	\$402	\$94	\$135
Amherst	\$51,326	\$58,946	\$61,999	\$60,743	\$69,749
Boston	\$9,916	\$8,278	\$8,443	\$7,599	\$9,922
Dartmouth	\$1,798	\$2,021	\$2,229	\$2,313	\$2,482
Lowell	\$5,521	\$12,361	\$11,645	\$12,408	\$13,201
Medical School	\$232,039	\$262,714	\$256,090	\$245,923	\$241,869

Life Sciences R&D Expenditures by Field FY2014 UMASS System



Note: UMA FY2010 figures have been revised since the FY2010 R&D Report Publication.
Source: Campus NSF surveys. All dollars are in thousands.

**Life Sciences R&D Expenditures by Field
FY2010 – FY2014**

(Dollars in Thousands)

	Total Life Sciences R&D									
	FY10	FY11	FY12	FY13	FY14	5-Year Change FY10 - FY14		1-Year Change FY13-FY14		
						\$	%	\$	%	
Amherst	\$51,326	\$58,946	\$61,999	\$60,743	\$69,749	\$18,423	36%	\$9,006	15%	
Boston	\$9,916	\$8,278	\$8,443	\$7,599	\$9,922	\$6	0%	\$2,323	31%	
Dartmouth	\$1,798	\$2,021	\$2,229	\$2,313	\$2,482	\$684	38%	\$169	7%	
Lowell	\$5,521	\$12,361	\$11,645	\$12,408	\$13,201	\$7,680	139%	\$793	6%	
Medical School	\$232,039	\$262,714	\$256,090	\$245,923	\$241,869	\$9,830	4%	-\$4,054	-2%	
President's Office			\$402	\$94	\$135	\$135	NA	\$41	44%	
System	\$300,600	\$344,320	\$340,808	\$329,080	\$337,358	\$36,758	12%	\$8,278	3%	

	Agricultural									
	FY09	FY10	FY11	FY12	FY14	5-Year Change FY10 - FY14		1-Year Change FY13-FY14		
						\$	%	\$	%	
Amherst	\$21,708	\$28,669	\$29,881	\$22,631	\$24,079	\$2,371	11%	\$1,448	6%	
Boston	\$0	\$0	\$0	\$0	\$0	\$0	NA	\$0	NA	
Dartmouth	\$645	\$946	\$1,170	\$809	\$202	-\$443	-69%	-\$607	-75%	
Lowell	\$0	\$0	\$0	\$0	\$0	\$0	NA	\$0	NA	
Medical School	\$0	\$0	\$0	\$0	\$0	\$0	NA	\$0	NA	
President's Office	NA	NA	\$0	\$0	\$0	NA	NA	\$0	NA	
System	\$22,353	\$29,615	\$31,051	\$23,440	\$24,281	\$1,928	9%	\$841	4%	

	Biological									
	FY10	FY11	FY12	FY13	FY14	5-Year Change FY10 - FY14		1-Year Change FY13-FY14		
						\$	%	\$	%	
Amherst	\$22,494	\$23,276	\$25,081	\$26,981	\$22,885	\$391	2%	-\$4,096	-15%	
Boston	\$2,537	\$2,581	\$2,773	\$2,592	\$2,913	\$376	15%	\$321	12%	
Dartmouth	\$1,120	\$1,004	\$938	\$1,503	\$2,219	\$1,099	98%	\$716	48%	
Lowell	\$1,281	\$1,553	\$1,999	\$1,470	\$1,837	\$556	43%	\$367	25%	
Medical School	\$77,718	\$88,359	\$91,140	\$77,287	\$80,169	\$2,451	3%	\$2,882	4%	
President's Office	NA	NA	\$0	\$0	\$0	NA	NA	\$0	NA	
System	\$105,150	\$116,773	\$121,931	\$109,833	\$110,023	\$4,873	5%	\$190	0%	

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

**Life Sciences R&D Expenditures by Field
FY2010 – FY2014**

(Dollars in Thousands)

Medical									
	FY10	FY11	FY12	FY13	FY14	5-Year Change FY10 - FY14		1-Year Change FY13-FY14	
						\$	%	\$	%
Amherst	\$6,411	\$6,473	\$6,276	\$9,661	\$13,881	\$7,470	117%	\$4,220	44%
Boston	\$4,697	\$4,675	\$4,345	\$812	\$2,294	-\$2,403	-51%	\$1,482	183%
Dartmouth	\$0	\$0	\$0	\$0	\$13	\$13	NA	\$13	NA
Lowell	\$0	\$252	\$0	\$47	\$113	\$113	NA	\$66	140%
Medical School	\$124,323	\$133,598	\$127,032	\$121,754	\$107,810	-\$16,513	-13%	-\$13,944	-11%
President's Office	NA	NA	\$263	\$44	\$75	NA	NA	\$31	NA
System	\$135,431	\$144,998	\$137,916	\$132,318	\$124,186	-\$11,245	-8%	-\$8,132	-6%

Other									
	FY10	FY11	FY12	FY13	FY14	5-Year Change FY10 - FY14		1-Year Change FY13-FY14	
						\$	%	\$	%
Amherst	\$713	\$528	\$761	\$1,470	\$8,904	\$8,191	1149%	\$7,434	506%
Boston	\$2,682	\$1,022	\$1,325	\$4,195	\$4,715	\$2,033	76%	\$520	12%
Dartmouth	\$33	\$71	\$121	\$1	\$48	\$15	45%	\$47	4700%
Lowell	\$4,240	\$10,556	\$9,646	\$10,891	\$11,251	\$7,011	165%	\$360	3%
Medical School	\$ 29,998	\$ 40,757	\$ 37,918	\$ 46,882	\$ 53,890	\$23,892	80%	\$7,008	15%
President's Office	NA	NA	\$139	\$50	\$60	NA	NA	\$10	20%
System	\$ 37,666	\$52,934	\$49,910	\$63,489	\$78,868	\$41,202	109%	\$15,379	24%

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.

TECHNICAL NOTE

The *FY2014 Annual Research and Development Expenditures Report* presents information on the research and development expenditures for the University of Massachusetts System.

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.”

- 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.

R&D Expenditures – (What to Include) - For purposes of the HERD survey, R&D includes expenditures for organized research as defined by 2 CFR 200 Appendix III and expenditures from funds designated for research.

R&D <i>includes</i> :	R&D does <i>not</i> include:
<ul style="list-style-type: none"> • Sponsored research (federal and nonfederal) • University research (institutional funds that are separately budgeted for individual R&D projects) • Startup, bridge, or seed funding provided to researchers within your institution • Other departmental funds designated for research • Recovered and unrecovered indirect costs (see definitions in Question 1) • Equipment purchased from R&D project accounts • R&D funds passed through to a sub-recipient organization, educational or other • Clinical trials, Phases I, II, or III (see definition in Question 5) • Research training grants funding work on organized research projects • Tuition remission provided to students working on research 	<ul style="list-style-type: none"> • Public service grants or outreach programs • Curriculum development (unless included as part of an overall research project) • R&D conducted by university faculty or staff at outside institutions that is not accounted for in your financial records • Estimates of the proportion of time budgeted for instruction that is spent on research • Capital projects (i.e., construction or renovation of research facilities) • Non-research training grants • Unrecovered indirect costs that exceed your institution’s federally negotiated Facilities and Administrative (F&A) rate

Source: FY 2014 HERD Survey

Additional highlights as well as rankings and comparative data can be found in the expanded version of this report (to be released shortly). Please contact us at the University of Massachusetts President’s Office, Office of Institutional Research, if you would like to obtain a hard copy.

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