

TABLE 44

## Total and federally financed higher education R&amp;D expenditures in the biological and biomedical sciences, ranked by FY 2019 total: FYs 2016–19

(Dollars in thousands)

Institution	Rank	Total				Federally financed			
		2016	2017	2018	2019	2016	2017	2018	2019
All institutions	-	13,028,867	13,723,718	14,512,898	15,386,607	7,698,393	8,178,673	8,569,283	9,260,282
U. Pennsylvania	1	628,134	692,343	727,296	743,835	353,058	366,337	373,564	390,906
Harvard U.	2	421,924	479,595	486,362	536,371	252,430	286,092	299,638	337,304
Scripps Research Institute	3	364,670	354,582	396,839	427,734	242,489	250,090	267,088	267,122
Icahn School of Medicine at Mount Sinai	4	263,875	275,705	300,271	359,149	144,627	159,892	169,196	198,767
Washington U., Saint Louis	5	284,931	297,046	327,959	354,062	167,146	188,943	198,645	211,425
Johns Hopkins U. <sup>a</sup>	6	295,388	289,980	288,079	326,327	207,407	201,514	194,395	228,297
Rockefeller U.	7	301,692	314,916	319,636	318,581	68,848	75,193	76,714	75,507
Cornell U.	8	318,787	299,232	298,172	314,443	127,086	127,657	128,421	146,718
Baylor C. of Medicine	9	289,513	319,076	309,943	298,881	168,295	191,895	189,614	171,688
U. Pittsburgh, Pittsburgh	10	237,446	255,233	279,951	294,582	160,810	176,416	185,759	189,292
U. Texas M. D. Anderson Cancer Center	11	300,708	309,987	283,074	289,848	66,392	71,042	72,068	74,738
U. Wisconsin-Madison	12	188,386	194,360	220,658	261,715	107,148	111,331	138,453	161,268
U. Michigan, Ann Arbor	13	194,016	216,493	230,944	258,013	131,607	149,399	154,781	176,626
U. Washington, Seattle	14	239,133	255,654	288,723	257,677	162,630	164,641	177,908	152,127
New York U.	15	152,076	166,380	241,316	250,281	102,690	110,917	132,039	138,450
Duke U.	16	203,682	207,819	221,378	237,097	145,848	161,533	172,875	189,808
U. California, Davis	17	187,520	200,810	220,855	224,044	109,479	121,310	136,830	140,036
U. Virginia, Charlottesville	18	94,071	105,312	199,462	212,843	65,188	67,457	104,569	118,802
Yale U.	19	178,645	177,565	187,310	208,829	108,838	113,117	131,070	141,401
U. Arizona	20	146,159	147,594	174,310	200,691	65,612	66,908	72,873	96,689
Columbia U. in the City of New York	21	169,631	172,179	181,521	196,254	130,895	135,559	144,946	158,280
Stanford U.	22	177,611	185,054	188,026	189,727	138,698	142,966	148,089	150,221
Emory U.	23	170,421	184,693	184,096	187,084	135,191	145,302	141,403	148,788
U. Kentucky	24	133,389	142,104	161,764	178,030	61,977	67,091	76,484	92,761
U. Texas Southwestern Medical Center	25	171,996	156,544	161,587	177,357	70,584	72,552	72,589	75,227
Vanderbilt U. and Vanderbilt U. Medical Center	26	142,523	164,993	170,095	172,681	89,126	91,331	98,642	102,998
U. North Carolina, Chapel Hill	27	157,817	164,272	157,615	165,804	115,898	113,690	114,659	125,292
U. Maryland <sup>b</sup>	28	na	na	na	152,853	na	na	na	104,187
Boston U.	29	64,422	99,214	112,076	150,669	45,155	70,724	72,295	98,855
Oregon Health and Science U.	30	133,146	142,992	154,478	150,395	93,264	101,240	114,716	122,388
U. Florida	31	125,653	128,705	135,774	143,488	53,155	64,771	71,623	70,530
Northwestern U.	32	122,935	130,422	128,409	141,523	83,065	87,277	85,061	92,458
U. Southern California	33	119,227	126,927	137,003	140,622	78,016	84,469	87,707	93,324
U. Georgia	34	127,916	158,302	135,348	140,018	65,356	71,127	67,061	72,403

TABLE 44

## Total and federally financed higher education R&amp;D expenditures in the biological and biomedical sciences, ranked by FY 2019 total: FYs 2016–19

(Dollars in thousands)

Institution	Rank	Total				Federally financed			
		2016	2017	2018	2019	2016	2017	2018	2019
U. Alabama, Birmingham	35	120,456	121,086	122,978	137,196	86,642	86,350	86,516	99,731
U. Massachusetts, Medical School	36	79,471	85,880	83,615	134,842	60,053	60,409	60,397	98,979
U. Texas Medical Branch	37	118,770	133,389	129,408	130,473	70,133	73,357	72,829	79,850
Cold Spring Harbor Laboratory	38	88,943	97,288	115,302	125,151	50,478	54,260	66,716	72,319
U. Iowa	39	110,542	118,976	127,863	122,729	62,807	69,717	71,337	73,711
North Carolina State U.	40	99,660	110,122	108,990	120,567	37,472	38,257	42,858	44,058
Michigan State U.	41	99,995	113,371	113,287	119,653	52,238	53,661	55,685	60,584
Indiana U., Bloomington	42	92,372	92,024	111,097	116,176	60,462	62,204	66,112	79,405
U. South Florida, Tampa	43	81,706	127,159	116,411	115,159	42,054	83,465	83,905	85,703
U. California, Berkeley	44	82,402	85,771	96,014	104,849	52,683	50,189	53,745	57,666
U. California, Irvine	45	74,111	68,604	87,482	103,711	47,371	43,321	51,035	61,632
U. Nebraska, Medical Center	46	83,955	93,538	87,765	103,618	42,245	50,964	60,538	70,813
U. Minnesota, Twin Cities	47	98,607	101,566	108,847	101,129	50,657	51,912	53,029	55,639
Rutgers, State U. New Jersey, New Brunswick	48	53,168	90,391	76,998	91,356	13,400	53,185	54,571	52,365
Dartmouth C. and Dartmouth Hitchcock Medical Center	49	68,811	88,109	87,469	90,029	49,941	48,003	48,748	48,255
Princeton U.	50	63,535	69,507	80,786	87,248	37,244	42,586	46,563	52,855
U. Chicago	51	81,325	83,892	81,872	86,619	67,444	65,117	61,084	66,862
Pennsylvania State U., University Park and Hershey Medical Center	52	80,497	80,560	90,168	84,873	44,021	48,044	48,689	51,335
California Institute of Technology	53	65,501	74,998	76,044	84,558	44,444	52,373	54,071	60,603
SUNY, U. Buffalo	54	66,792	71,749	76,477	82,365	42,136	41,733	40,689	42,370
Massachusetts Institute of Technology	55	73,941	68,109	75,156	82,262	45,636	42,111	47,512	44,519
Tufts U.	56	74,507	100,615	34,372	80,921	52,539	66,217	25,340	58,033
Case Western Reserve U.	57	65,390	70,184	79,653	77,957	49,537	55,415	64,236	65,059
Medical C. Wisconsin	58	62,706	68,694	74,302	77,916	41,347	44,317	44,245	45,066
Ohio State U.	59	62,719	66,212	68,305	76,202	43,228	44,585	46,189	51,272
U. Illinois, Chicago	60	56,968	70,453	71,150	74,126	35,388	42,491	43,533	45,838
Thomas Jefferson U.	61	50,874	57,255	64,509	73,544	32,359	34,498	36,194	42,959
Texas A&M U., College Station and Health Science Center	62	51,972	56,657	69,786	72,472	27,727	31,594	39,581	46,051
U. Connecticut	63	66,416	62,173	62,683	69,141	40,151	40,486	39,866	46,453
U. Miami	64	50,655	49,565	53,646	67,787	38,068	36,999	40,358	56,865
Medical U. South Carolina	65	67,826	65,344	65,313	67,708	40,893	47,000	48,808	51,154
Arizona State U.	66	70,498	82,329	96,535	67,597	43,349	49,705	52,837	31,588
U. Illinois, Urbana-Champaign	67	57,616	58,090	64,375	66,393	32,154	35,060	35,615	39,824
U. California, San Diego	68	37,667	43,526	57,996	64,858	24,245	26,794	31,178	36,228
U. Texas Health Science Center, San Antonio	69	61,934	57,808	61,000	62,855	37,297	37,617	39,389	42,261
U. Kansas	70	61,766	61,354	58,052	62,491	34,550	35,819	36,574	38,434

TABLE 44

## Total and federally financed higher education R&amp;D expenditures in the biological and biomedical sciences, ranked by FY 2019 total: FYs 2016–19

(Dollars in thousands)

Institution	Rank	Total				Federally financed			
		2016	2017	2018	2019	2016	2017	2018	2019
Van Andel Research Institute	71	21,155	23,406	55,171	61,738	11,970	13,108	14,285	18,259
SUNY, Stony Brook U.	72	39,876	39,739	52,172	60,050	27,480	28,481	37,236	37,657
U. California, Riverside	73	52,774	55,461	56,847	58,738	18,263	19,523	18,234	19,808
U. Cincinnati	74	54,698	55,554	56,993	58,504	31,838	31,051	28,826	30,186
U. Texas, Austin	75	46,835	53,273	66,148	58,063	30,736	31,905	45,915	39,470
Louisiana State U., Baton Rouge	76	61,824	56,590	55,119	57,732	30,584	31,986	27,594	28,862
U. Louisville	77	52,938	52,018	56,117	56,822	32,949	33,426	36,162	39,225
Iowa State U.	78	80,859	69,333	62,125	56,405	34,210	30,468	25,824	26,626
U. Texas Health Science Center, Houston	79	47,253	50,298	54,940	55,055	31,558	34,697	37,348	38,689
U. Hawaii, Manoa	80	31,781	38,129	53,826	54,997	10,595	14,030	17,957	18,542
U. Missouri, Columbia	81	54,692	57,615	56,043	54,765	38,706	39,761	38,433	41,183
George Washington U.	82	35,272	46,810	56,145	54,126	19,351	28,187	35,501	35,141
U. Rochester	83	50,169	48,761	53,493	53,241	40,888	38,063	40,933	43,634
U. Arkansas for Medical Sciences	84	36,071	38,959	43,473	52,686	19,862	23,811	31,028	32,967
Brown U.	85	30,653	35,578	44,244	51,017	24,791	27,833	33,537	37,878
Virginia Commonwealth U.	86	49,583	46,806	46,022	50,240	40,680	38,710	36,713	39,483
Georgia State U.	87	27,757	37,858	51,668	48,140	12,440	21,888	23,612	23,302
Temple U.	88	46,541	48,976	49,745	47,651	33,158	35,004	36,353	34,253
U. Vermont	89	37,923	36,072	40,394	46,795	30,832	27,555	29,532	35,346
Virginia Polytechnic Institute and State U.	90	66,005	50,905	51,145	46,123	24,533	18,832	19,187	18,532
Washington State U.	91	51,099	47,331	42,922	42,051	26,235	24,797	25,355	25,006
U. Colorado Boulder	92	20,691	25,393	30,851	41,686	16,728	22,374	24,907	35,165
Drexel U.	93	37,938	42,521	42,647	41,484	21,970	24,616	25,618	25,535
Colorado State U., Fort Collins	94	31,336	32,767	36,844	40,348	22,102	23,005	23,392	25,346
Cleveland State U.	95	39,420	44,403	42,253	40,075	33,876	38,383	38,203	35,061
U. California, Los Angeles	96	30,768	33,896	38,362	38,154	21,999	23,161	24,572	24,564
U. Oklahoma, Norman and Health Science Center	97	38,754	34,748	35,948	37,322	22,779	20,497	22,620	23,109
Augusta U.	98	19,371	37,664	36,335	36,815	11,327	24,157	24,962	24,358
SUNY, Downstate Medical Center	99	33,160	30,512	34,476	35,422	25,412	21,135	26,117	26,744
U. Oregon	100	13,906	30,835	34,474	34,751	11,086	26,838	25,062	28,993
Oregon State U.	101	38,419	36,697	34,352	34,305	21,861	22,601	24,323	24,413
U. Mississippi	102	19,809	22,258	29,293	33,394	14,657	15,689	20,648	26,331
Florida International U.	103	24,241	28,504	31,331	33,053	13,949	14,755	16,457	16,837
U. Nevada, Reno	104	31,485	33,058	31,513	32,985	21,025	21,855	15,433	17,099
SUNY, U. Albany	105	68,290	27,561	32,153	32,595	48,456	17,894	19,878	19,522
Tulane U.	106	27,277	29,322	33,655	30,686	17,158	17,957	21,809	22,410

TABLE 44

## Total and federally financed higher education R&amp;D expenditures in the biological and biomedical sciences, ranked by FY 2019 total: FYs 2016–19

(Dollars in thousands)

Institution	Rank	Total				Federally financed			
		2016	2017	2018	2019	2016	2017	2018	2019
U. New Mexico	107	30,787	30,906	33,124	30,297	25,016	24,975	27,509	25,369
Wayne State U.	108	29,191	30,522	27,671	30,203	16,596	19,562	17,035	18,330
Kansas State U.	109	24,269	23,382	31,202	30,002	11,234	10,468	14,072	13,583
U. Nebraska, Lincoln	110	31,744	29,240	28,530	29,626	12,133	11,764	10,914	11,404
U. California, Santa Barbara	111	22,727	24,818	28,520	27,718	9,478	12,183	14,665	15,351
U. Notre Dame	112	27,149	26,885	25,857	26,385	11,616	11,737	11,043	13,259
Northern Arizona U.	113	13,086	18,223	22,687	26,194	8,461	10,799	13,836	18,081
Clemson U.	114	19,953	22,194	24,282	25,381	4,123	7,445	7,421	8,049
Purdue U., West Lafayette	115	15,644	16,548	20,819	25,238	9,510	9,416	12,874	12,048
Saint Louis U.	116	10,423	23,356	23,071	25,209	7,434	13,022	12,310	13,370
Georgia Institute of Technology	117	16,862	18,607	26,327	24,989	8,531	11,173	15,783	15,498
U. Massachusetts, Amherst	118	22,306	20,051	22,897	24,678	12,441	11,801	13,759	14,835
Florida State U.	119	20,812	21,527	22,880	24,383	11,281	11,630	12,366	13,487
U. California, Santa Cruz	120	20,791	22,706	21,950	23,762	15,593	16,353	15,425	15,861
Brandeis U.	121	25,824	30,140	24,400	22,063	22,475	23,702	19,117	19,823
U. North Texas, Health Science Center	122	23,922	19,505	19,354	20,989	11,578	9,036	7,239	8,378
U. Texas, San Antonio	123	13,098	16,323	15,062	20,972	8,403	8,124	7,819	11,309
U. Texas, El Paso	124	18,679	17,871	17,475	20,446	10,463	10,941	9,515	9,607
U. Montana, Missoula	125	15,401	17,620	17,081	20,283	10,892	12,275	12,101	11,575
Texas Tech U., Health Sciences Center	126	17,356	16,459	15,401	20,207	5,512	4,847	4,108	7,666
Oklahoma State U., Stillwater	127	23,925	32,697	34,590	19,934	8,863	13,128	12,518	7,680
Montana State U., Bozeman	128	13,414	15,363	16,600	19,659	9,670	11,165	13,148	14,355
U. Idaho	129	18,461	18,303	17,385	19,378	12,926	11,767	10,754	13,092
West Virginia U.	130	13,837	17,397	17,860	18,919	9,242	9,973	9,954	9,967
Louisiana State U., Health Sciences Center, New Orleans	131	17,667	18,285	18,827	18,839	13,862	14,104	15,141	16,081
Rush U.	132	14,507	13,966	14,016	18,302	13,082	12,924	13,484	17,357
Meharry Medical C.	133	14,768	16,782	16,980	18,286	13,528	15,613	14,515	16,443
U. Tennessee, Health Science Center	134	16,851	16,311	15,901	18,079	13,891	12,981	12,182	14,535
U. Tennessee, Knoxville	135	13,244	12,741	16,939	17,425	8,919	8,029	8,247	8,087
U. Utah	136	65,171	50,471	20,288	16,890	52,512	33,572	14,047	10,592
U. North Dakota	137	10,706	18,794	18,184	16,722	7,292	9,381	8,856	7,707
U. South Dakota	138	11,515	14,733	15,990	16,612	6,174	8,956	9,639	9,315
U. Louisiana, Lafayette	139	29,698	20,954	62,238	16,539	2,951	7,461	11,620	5,706
Albany Medical C.	140	13,860	14,380	14,368	16,236	10,459	10,800	9,912	11,220
SUNY, Upstate Medical U.	141	13,658	14,802	14,971	15,003	7,581	8,696	8,467	11,886
U. Texas Health Science Center, Tyler	142	11,154	14,555	13,833	14,851	3,112	4,055	3,777	3,939

TABLE 44

## Total and federally financed higher education R&amp;D expenditures in the biological and biomedical sciences, ranked by FY 2019 total: FYs 2016–19

(Dollars in thousands)

Institution	Rank	Total				Federally financed			
		2016	2017	2018	2019	2016	2017	2018	2019
Texas Tech U.	143	10,796	12,609	12,545	14,796	1,602	1,919	1,556	2,663
Loyola U., Chicago	144	14,687	14,148	12,873	14,788	9,462	9,567	8,743	10,413
Rosalind Franklin U. of Medicine and Science	145	15,235	15,386	14,266	14,625	7,866	8,379	8,626	8,135
Northeastern U.	146	17,856	15,712	15,224	14,380	11,552	10,692	10,736	10,474
Georgetown U.	147	11,495	13,729	12,679	14,202	8,294	10,634	9,221	10,309
U. Rhode Island	148	8,640	6,667	9,141	13,997	7,427	5,914	8,068	11,877
Rice U.	149	13,400	13,593	14,193	13,966	7,727	7,686	7,813	8,245
U. Wyoming	150	6,858	8,749	9,277	13,913	6,019	6,420	7,591	11,223
Auburn U., Auburn	151	12,248	10,317	11,229	13,317	3,802	4,538	5,741	5,412
U. Central Florida	152	10,795	12,093	12,483	13,148	6,957	7,933	7,963	8,324
U. South Carolina, Columbia	153	35,866	12,560	12,482	13,120	8,225	6,951	8,654	10,225
Florida Atlantic U.	154	7,504	9,984	11,013	13,061	2,240	2,111	2,372	3,616
U. New Hampshire	155	5,267	6,263	12,196	12,981	2,803	3,208	8,653	8,470
U. Houston	156	12,399	11,012	10,112	12,863	3,751	4,524	5,297	8,037
San Diego State U.	157	16,882	14,921	14,575	12,720	9,098	6,961	7,307	5,833
Boston C.	158	9,969	12,967	11,319	12,312	7,630	10,875	9,582	10,395
Carnegie Mellon U.	159	8,949	9,979	9,426	12,103	5,962	5,412	5,181	7,540
San Francisco State U.	160	10,271	10,859	10,879	12,038	6,399	7,552	7,807	8,627
Louisiana State U., Health Sciences Center, Shreveport	161	7,424	7,891	9,928	11,230	4,638	5,483	7,706	9,918
Rutgers, State U. New Jersey, Newark	162	947	12,005	9,541	10,800	924	8,700	6,846	5,847
U. Maine	163	7,547	9,747	9,760	10,759	3,612	3,405	4,890	4,757
U. North Texas, Denton	164	9,847	8,539	9,685	10,319	3,033	2,254	2,626	2,780
SUNY, C. of Environmental Science and Forestry	165	11,279	10,706	9,599	10,119	3,249	3,009	2,401	2,591
U. Nevada, Las Vegas	166	2,508	2,597	7,898	10,027	1,823	1,758	5,314	6,140
Old Dominion U.	167	5,387	6,057	9,337	9,952	916	1,498	2,138	1,929
George Mason U.	168	11,866	12,803	10,031	9,520	7,979	9,380	7,049	6,580
Loma Linda U.	169	9,815	8,480	8,832	9,447	7,418	7,923	8,235	8,819
Eastern Virginia Medical School	170	5,881	6,490	6,470	8,746	4,254	4,586	4,271	6,015
Illinois Institute of Technology	171	7,013	7,736	7,583	8,645	6,218	7,078	6,932	8,004
U. California, Merced	172	4,598	4,809	5,880	8,620	1,939	1,307	1,548	3,282
Northeast Ohio Medical U.	173	5,340	6,719	7,606	8,481	3,358	4,842	5,675	6,336
Wright State U.	174	2,862	8,205	8,199	8,443	1,319	5,356	5,247	5,665
U. Maryland, Baltimore County	175	3,748	3,498	4,888	8,282	1,924	2,419	3,491	7,244
Marquette U.	176	5,379	5,781	6,753	7,863	3,519	4,051	4,501	5,003
U. Texas, Arlington	177	2,478	5,881	6,319	7,826	474	1,089	1,095	2,074
New York Medical C.	178	6,711	5,983	3,489	7,813	4,616	3,857	3,489	4,652

TABLE 44

## Total and federally financed higher education R&amp;D expenditures in the biological and biomedical sciences, ranked by FY 2019 total: FYs 2016–19

(Dollars in thousands)

Institution	Rank	Total				Federally financed			
		2016	2017	2018	2019	2016	2017	2018	2019
Syracuse U.	179	5,244	6,850	6,507	7,738	3,550	3,815	3,188	3,545
Boise State U.	180	5,916	7,170	7,428	7,701	4,484	4,940	4,908	4,907
New Mexico State U.	181	8,293	7,824	7,214	7,688	7,333	6,828	6,004	6,605
U. Southern Mississippi	182	7,101	7,222	7,978	7,545	4,600	4,664	5,998	6,035
U. Colorado Denver and Anschutz Medical Campus	183	43,595	2,100	7,501	7,381	36,873	1,892	1,449	1,071
East Tennessee State U.	184	3,649	4,032	5,091	7,316	3,390	3,902	3,735	5,555
North Carolina Central U.	185	5,032	5,721	6,916	7,314	4,418	4,774	6,581	7,084
CUNY, Hunter C.	186	13,342	9,019	6,073	7,166	6,814	5,269	3,209	3,720
U. Alaska, Fairbanks	187	7,522	11,550	6,607	7,064	5,628	8,263	4,621	4,540
Creighton U.	188	6,947	7,070	5,948	7,033	3,359	2,514	1,811	2,648
U. Nebraska, central administration	189	ne	ne	5,070	6,872	ne	ne	5,057	6,872
Mississippi State U.	190	6,856	6,643	5,958	6,814	4,073	3,982	3,269	3,890
Texas State U.	191	5,624	5,261	7,920	6,761	1,353	973	1,191	1,230
Ohio U.	192	10,954	8,720	8,008	6,676	2,224	2,102	1,615	2,113
Delaware State U.	193	3,133	3,438	4,525	6,582	2,309	2,215	3,013	4,555
U. Arkansas, Fayetteville	194	4,724	5,819	5,833	6,498	1,368	1,776	1,967	2,770
Midwestern U.	195	4,568	5,565	6,344	6,387	842	908	1,016	548
Clark Atlanta U.	196	6,206	5,536	5,799	6,360	4,149	3,881	3,774	3,859
U. Tennessee, Knoxville, Institute of Agriculture	197	4,572	4,658	5,550	6,185	1,160	2,316	3,685	4,066
Miami U.	198	5,118	4,484	5,152	6,078	4,171	3,386	4,055	4,578
Kent State U.	199	2,903	3,448	3,815	5,919	919	1,173	1,597	2,895
U. Toledo	200	7,549	5,344	5,554	5,834	5,639	4,118	3,147	2,867
U. North Carolina, Wilmington	201	3,985	4,148	4,414	5,604	1,367	1,712	1,386	2,656
Indiana U.-Purdue U., Indianapolis	202	8,058	5,364	5,183	5,449	5,545	2,690	3,634	4,190
Rensselaer Polytechnic Institute	203	4,093	5,448	5,431	5,384	2,256	2,812	2,903	3,609
U. Massachusetts, Lowell	204	1,633	3,420	4,533	5,331	671	2,378	2,862	2,953
Texas A&M U.-Corpus Christi	205	2,086	2,400	4,278	5,218	1,140	1,558	3,439	4,676
Brigham Young U., Provo	206	4,701	5,910	6,548	5,135	3,855	3,156	2,545	2,742
U. Massachusetts, Boston	207	3,226	3,242	3,996	5,118	2,017	2,328	2,908	3,211
Howard U.	208	1,439	3,701	4,231	5,089	806	1,735	1,601	2,174
Utah State U.	209	6,003	4,886	4,616	5,064	2,570	1,799	1,984	2,335
U. Missouri, Kansas City	210	7,610	5,678	5,819	5,034	6,372	4,527	2,906	3,037
U. Memphis	211	2,216	4,104	5,330	5,032	713	1,858	3,407	2,960
Central Michigan U.	212	3,715	3,498	4,227	4,997	2,815	2,661	3,211	3,754
U. Alaska, Anchorage	213	3,114	4,960	3,713	4,874	2,384	3,465	3,015	3,907
Marshall U.	214	6,201	3,978	4,690	4,753	3,955	2,449	1,827	2,263

TABLE 44

## Total and federally financed higher education R&amp;D expenditures in the biological and biomedical sciences, ranked by FY 2019 total: FYs 2016–19

(Dollars in thousands)

Institution	Rank	Total				Federally financed			
		2016	2017	2018	2019	2016	2017	2018	2019
U. Detroit Mercy	215	2,471	2,229	4,317	4,729	2,459	2,185	4,275	4,682
Southern Illinois U., Carbondale	216	5,971	6,467	5,952	4,686	2,345	2,649	2,334	2,197
Arkansas State U., Jonesboro	217	3,880	3,676	4,699	4,648	1,832	1,546	2,346	2,109
U. North Carolina, Greensboro	218	3,062	2,745	2,972	4,561	2,024	1,874	2,038	3,347
U. Delaware	219	4,156	3,952	3,928	4,551	2,603	2,505	2,689	3,234
Western Michigan U. and Homer Stryker M.D. School of Medicine	220	1,103	4,592	4,405	4,532	641	1,299	1,972	1,962
SUNY, Binghamton U.	221	6,097	6,245	4,482	4,529	714	862	1,258	910
Fisk U.	222	2,737	810	1,889	4,520	2,737	810	1,889	4,473
U. Texas Rio Grande Valley	223	3,428	3,071	2,458	4,472	2,702	2,606	2,036	2,684
Lehigh U.	224	1,258	2,335	2,814	4,448	666	1,269	2,152	3,846
Chapman U.	225	811	938	2,880	4,414	801	600	1,081	2,504
Rowan U.	226	2,136	1,960	3,017	4,311	1,518	1,879	2,428	3,160
U. Denver	227	2,179	2,711	3,682	4,137	524	1,227	1,946	2,284
U. New England	228	2,412	3,636	3,453	3,909	2,075	2,823	2,822	2,818
U. Texas, Dallas	229	3,967	4,517	6,117	3,900	1,690	2,016	2,236	2,314
Oakland U.	230	2,596	1,511	1,369	3,678	1,112	1,109	979	1,598
U. Puerto Rico, Rio Piedras	231	3,393	3,499	2,396	3,657	2,625	1,872	1,296	2,897
CUNY, City C.	232	8,368	6,150	5,059	3,655	5,899	5,403	4,484	2,864
South Dakota State U.	233	3,274	3,063	3,683	3,648	1,041	1,107	1,723	1,901
Duquesne U.	234	3,193	2,959	4,142	3,645	890	828	1,420	1,176
Morgan State U.	235	3,654	2,900	2,680	3,643	3,654	2,900	2,624	3,552
Memorial Sloan Kettering Cancer Center, Louis V. Gerstner Jr. Graduate S. of Biomedical Sciences	236	2,764	2,973	3,379	3,624	539	162	177	148
U. Alabama, Tuscaloosa	237	3,249	3,406	3,790	3,536	1,633	1,481	1,930	1,911
North Dakota State U.	238	3,064	3,207	3,262	3,364	1,114	1,148	1,349	1,854
California State U., Northridge	239	2,502	2,390	3,374	3,232	1,283	1,582	2,097	2,346
CUNY, Advanced Science Research Center	240	ne	659	1,709	3,130	ne	488	1,231	2,749
U. North Carolina, Charlotte	241	1,473	1,902	2,296	3,110	1,334	1,758	1,614	1,992
East Carolina U.	242	11,050	7,088	5,632	3,075	7,277	4,744	3,914	1,419
New Jersey Institute of Technology	243	1,797	2,671	2,500	3,051	222	834	936	1,384
Murray State U.	244	1,650	1,943	2,345	3,048	440	961	1,317	2,149
Wake Forest U.	245	902	2,057	2,369	3,042	829	1,830	2,123	1,856
Albany C. of Pharmacy and Health Sciences	246	1,648	2,393	1,296	3,033	352	508	692	1,476
Desert Research Institute	247	107	2,432	3,232	2,993	103	208	246	188
Illinois State U.	248	1,392	1,853	2,158	2,992	1,254	1,547	1,672	2,500
Baylor U.	249	2,294	3,037	2,622	2,938	392	530	832	867

TABLE 44

## Total and federally financed higher education R&amp;D expenditures in the biological and biomedical sciences, ranked by FY 2019 total: FYs 2016–19

(Dollars in thousands)

Institution	Rank	Total				Federally financed			
		2016	2017	2018	2019	2016	2017	2018	2019
Western U. of Health Sciences	250	2,899	4,125	2,662	2,921	2,033	2,501	1,815	2,102
Texas Tech U., Health Sciences Center, El Paso	251	5,624	3,977	3,529	2,793	1,366	954	1,078	841
Wichita State U.	251	829	1,322	1,912	2,793	382	622	1,564	2,435
U. Wisconsin-Milwaukee	253	1,550	1,609	2,281	2,772	961	1,090	1,347	1,832
Portland State U.	254	2,333	2,280	2,835	2,702	2,100	1,986	2,557	2,389
Texas Southern U.	255	2,221	2,104	1,883	2,695	2,081	2,015	1,704	1,851
Michigan Technological U.	256	2,425	2,912	2,487	2,654	979	1,471	1,084	1,085
Touro U.	257	2,363	2,255	2,228	2,557	96	329	405	581
California State U., Los Angeles	258	793	721	1,394	2,402	739	709	1,394	1,715
U. Maryland Center for Environmental Science	258	1,711	1,328	2,182	2,402	1,662	1,116	1,706	1,702
California State U., Long Beach	260	1,211	1,535	2,714	2,389	825	946	2,242	2,109
U. Arkansas, Little Rock	261	1,180	1,761	1,542	2,380	869	1,558	1,262	1,619
Smith C.	262	1,987	2,016	2,548	2,338	964	1,298	1,270	1,017
U. California, San Francisco	263	18,481	16,654	1,247	2,267	9,899	9,497	357	750
Alabama A&M U.	264	4,508	3,750	2,989	2,231	3,627	2,958	2,287	1,618
Tuskegee U.	265	186	186	151	2,230	151	151	151	1,719
Idaho State U.	266	2,695	2,070	2,140	2,198	1,695	1,238	1,091	1,272
California State U., Monterey Bay	267	2,385	2,121	2,115	2,116	2,375	2,082	2,042	1,993
Kennesaw State U.	268	546	3,555	1,646	2,101	499	528	698	653
William & Mary	269	1,672	1,941	2,113	1,997	1,202	1,373	1,329	1,219
SUNY, Polytechnic Institute	270	3,986	3,218	2,260	1,995	3,165	2,675	1,840	1,406
Sam Houston State U.	271	624	651	1,198	1,994	337	225	177	250
U. Massachusetts, Dartmouth	272	2,217	2,074	2,181	1,956	821	844	903	621
Colorado School of Mines	273	0	2,966	2,185	1,948	0	2,331	1,662	1,423
U. Alabama, Huntsville	274	1,285	1,107	1,712	1,928	275	282	561	675
U. Akron	275	1,541	1,175	1,623	1,915	504	286	527	793
Alabama State U.	276	2,372	2,253	2,314	1,860	2,372	2,253	2,314	1,860
Fordham U.	277	2,400	2,353	2,382	1,819	1,166	1,285	996	995
Wesleyan U.	278	2,223	2,142	1,744	1,810	786	966	682	954
Naval Postgraduate School	279	124	330	1,244	1,800	124	330	1,244	1,800
California State U., Fullerton	280	1,047	1,281	1,415	1,799	849	1,042	1,104	1,519
Worcester Polytechnic Institute	281	1,214	1,873	2,049	1,791	479	932	1,257	1,087
Villanova U.	282	1,923	2,066	1,301	1,780	922	816	435	338
U. Hawaii, Hilo	283	1,951	1,597	1,539	1,754	1,791	1,237	1,125	1,437
U. Missouri, Saint Louis	284	3,249	2,402	1,873	1,663	1,253	1,227	1,535	1,210
Catholic U. of America	285	2,060	1,692	1,614	1,633	2,025	1,655	1,614	1,633



TABLE 44

## Total and federally financed higher education R&amp;D expenditures in the biological and biomedical sciences, ranked by FY 2019 total: FYs 2016–19

(Dollars in thousands)

Institution	Rank	Total				Federally financed			
		2016	2017	2018	2019	2016	2017	2018	2019
California State Polytechnic U., Pomona	286	1,641	1,501	1,949	1,602	669	792	1,009	992
Reed C.	287	1,770	803	1,754	1,588	1,162	354	895	1,031
Ball State U.	288	884	1,164	1,279	1,569	496	519	638	666
West Virginia State U.	289	889	1,167	1,474	1,562	809	1,087	1,343	1,446
California State U., San Bernardino	290	938	1,089	1,312	1,549	297	369	590	603
MGH Institute of Health Professions	291	925	763	1,212	1,537	925	763	1,212	1,537
Southern Methodist U.	292	1,883	1,094	1,305	1,533	981	857	979	1,283
Western Kentucky U.	293	1,530	2,084	1,841	1,530	1,005	1,261	923	893
Uniformed Services U. of the Health Sciences	294	12,205	4,968	1,724	1,512	8,106	3,028	1,002	916
California State U., San Marcos	295	1,895	2,334	2,021	1,439	1,686	2,241	1,332	639
Amherst C.	296	591	580	667	1,419	251	239	408	606
Florida Institute of Technology	297	2,724	1,564	1,360	1,384	1,997	1,238	878	965
Des Moines U.	298	787	1,098	1,056	1,377	135	682	691	647
CUNY, Brooklyn C.	299	1,518	1,320	1,288	1,350	1,257	1,063	1,202	1,254
Indiana U. Pennsylvania	300	253	888	335	1,345	82	656	31	869
Appalachian State U.	301	842	1,244	1,125	1,339	404	508	430	387
U. West Florida	302	1,551	2,066	1,790	1,337	223	241	209	218
Wellesley C.	303	1,274	862	1,099	1,330	1,274	852	1,032	1,021
Clark U.	304	837	706	1,107	1,288	304	397	576	827
Dillard U.	305	447	283	486	1,270	227	246	270	414
Langston U.	306	84	1,447	1,355	1,264	84	1,290	1,158	1,026
California Polytechnic State U., San Luis Obispo	307	1,280	703	936	1,227	269	380	452	658
American U.	308	1,895	1,617	1,168	1,225	908	615	359	505
U. Puerto Rico, Mayaguez	308	1,633	1,502	1,235	1,225	770	817	703	939
Colorado State U., Pueblo	310	ne	ne	ne	1,223	ne	ne	ne	1,220
Bowdoin C.	311	1,292	1,110	1,216	1,206	977	948	954	940
Western Illinois U.	312	ne	818	1,068	1,195	ne	602	833	969
U. Minnesota, Duluth	313	1,327	1,104	1,211	1,182	651	197	313	426
U. Nebraska, Omaha	314	1,260	1,170	948	1,165	913	696	609	1,020
South Carolina State U.	315	2,585	317	436	1,133	993	317	331	1,133
Tennessee State U.	315	1,057	909	1,179	1,133	1,023	787	1,065	934
San Jose State U.	317	1,045	1,036	1,014	1,130	597	595	821	1,002
Texas A&M U.-Kingsville	318	1,175	1,144	1,297	1,115	944	872	993	898
North Carolina Agricultural and Technical State U.	319	557	969	1,131	1,085	393	788	1,025	1,048
Eastern Michigan U.	320	460	639	877	1,065	198	135	261	504
Humboldt State U.	321	1,555	1,592	2,273	1,059	592	246	291	174

TABLE 44

## Total and federally financed higher education R&amp;D expenditures in the biological and biomedical sciences, ranked by FY 2019 total: FYs 2016–19

(Dollars in thousands)

Institution	Rank	Total				Federally financed			
		2016	2017	2018	2019	2016	2017	2018	2019
CUNY, Queens C.	322	491	420	954	1,052	481	316	765	831
Jackson State U.	323	1,321	1,332	1,270	1,021	1,011	946	958	831
St. Edward's U.	324	2,500	750	641	1,010	2,500	620	550	1,000
C. Charleston	325	1,929	1,403	762	1,009	1,722	1,232	615	661
Montana Technological U.	326	539	670	907	1,006	296	316	483	478
Middle Tennessee State U.	327	1,088	1,579	1,033	1,005	849	875	555	610
U. Northern Colorado	328	805	831	857	999	465	359	334	377
Tennessee Technological U.	329	350	326	257	972	195	135	110	702
Oberlin C.	330	196	205	403	949	160	197	265	815
U. Richmond	331	616	691	823	937	451	482	599	708
Oregon Institute of Technology	332	0	0	0	930	0	0	0	85
Rochester Institute of Technology	333	631	561	871	903	427	418	590	594
Montclair State U.	334	693	427	717	899	641	364	654	810
CUNY, Medgar Evers C.	335	ne	928	898	876	ne	647	619	588
Liberty U.	336	ne	ne	ne	861	ne	ne	ne	385
U. Nebraska, Kearney	337	688	1,080	858	842	401	491	485	469
St. John's U., New York	338	982	1,117	1,044	837	635	806	790	745
California State U., Stanislaus	339	964	1,027	958	836	153	289	400	449
St. Cloud State U.	340	711	1,106	1,031	833	368	529	312	386
Black Hills State U.	341	924	602	504	818	625	368	418	462
Gallaudet U.	341	116	2,079	1,463	818	17	118	102	0
U. New Orleans	343	946	758	626	817	390	336	200	108
Seton Hall U.	344	825	850	724	810	825	850	724	810
U. of the Pacific	345	782	351	787	803	780	251	683	674
Hampton U.	346	381	674	886	794	381	674	886	794
Philadelphia C. of Osteopathic Medicine	346	336	660	616	794	150	260	260	346
Bates C.	348	902	733	592	792	801	521	506	719
U. Tulsa	349	553	648	645	785	255	357	349	357
Bryn Mawr C.	350	820	1,105	1,018	781	222	382	298	212
California State U., Channel Islands	351	838	746	756	779	0	0	0	0
Trinity C., Hartford	352	492	477	387	777	450	412	209	745
Eastern Kentucky U.	353	1,038	628	671	774	858	482	496	473
James Madison U.	354	739	690	957	771	640	562	503	629
Clarkson U.	355	534	776	894	765	311	561	592	417
Xavier U. Louisiana	355	1,304	803	453	765	991	678	340	710
U. of the Sciences Philadelphia	357	1,267	868	783	764	618	255	387	502

TABLE 44

## Total and federally financed higher education R&amp;D expenditures in the biological and biomedical sciences, ranked by FY 2019 total: FYs 2016–19

(Dollars in thousands)

Institution	Rank	Total				Federally financed			
		2016	2017	2018	2019	2016	2017	2018	2019
Swarthmore C.	358	597	691	648	755	354	342	379	468
Saint Michael's C.	359	1,440	1,168	1,066	754	1,242	1,036	1,000	698
Louisiana Tech U.	360	770	682	732	750	320	330	275	180
U. Tennessee, Chattanooga	361	424	465	688	749	318	279	429	564
Franklin and Marshall C.	362	625	962	709	745	254	688	565	593
U. North Florida	363	480	637	882	741	228	309	390	307
Colgate U.	364	637	709	737	726	202	363	293	246
Western Washington U.	365	664	732	502	718	383	500	270	249
Indiana State U.	366	692	522	526	709	389	231	346	450
Austin Peay State U.	367	255	433	465	705	0	0	0	35
U. Wisconsin-La Crosse	368	1,008	962	1,012	703	861	821	752	475
Bowling Green State U.	369	1,373	774	813	696	108	97	159	330
Northern Illinois U.	370	452	423	766	695	282	273	477	390
Southeastern Louisiana U.	371	529	587	378	689	289	326	213	304
California State U., Sacramento	372	456	684	658	682	72	2	1	17
Morehead State U.	372	201	354	259	682	161	222	183	601
New Jersey City U.	374	ne	394	805	675	ne	394	805	665
Purdue U., Fort Wayne	375	731	680	861	665	120	96	164	122
West Chester U. Pennsylvania	376	318	462	430	659	222	378	193	414
SUNY, Buffalo State	377	387	486	564	645	53	137	207	188
Colby C.	378	615	571	651	639	520	476	538	538
Texas Woman's U.	379	782	757	431	636	154	257	91	325
CUNY, New York City C. of Technology	380	ne	ne	609	631	ne	ne	458	487
Keck Graduate Institute	380	1,491 i	1,537 i	560 i	631 i	949 i	969 i	301 i	337 i
Towson U.	382	430	562	401	626	308	326	308	414
California State U., Fresno	383	1,255	1,086	1,517	614	985	1,055	1,265	596
Williams C.	384	578	500	449	610	380	365	312	413
Bucknell U.	385	927 i	998 i	1,069	608	330 i	317 i	305	245
Barnard C.	386	330	378	500	602	232	258	235	309
Missouri U. of Science and Technology	387	321	596	956	600	24	178	152	143
Providence C.	388	733	572	606	589	637	503	543	469
Doane U.	389	ne	ne	652	585	ne	ne	516	498
Christopher Newport U.	390	575	256	428	584	384	13	101	132
Lewis and Clark C.	390	491	635	571	584	228	286	459	526
Haverford C.	392	773 i	812 i	746 i	582 i	314	273	292	133
U. Wisconsin-Stevens Point	393	505 i	528 i	561 i	580 i	176 i	182 i	201 i	215 i

TABLE 44

## Total and federally financed higher education R&amp;D expenditures in the biological and biomedical sciences, ranked by FY 2019 total: FYs 2016–19

(Dollars in thousands)

Institution	Rank	Total				Federally financed			
		2016	2017	2018	2019	2016	2017	2018	2019
Kenyon C.	394	ne	ne	574	569	ne	ne	501	484
Hawaii Pacific U.	395	789	449	637	560	735	357	523	459
Occidental C.	395	1,408	1,089	116	560	874	406	70	478
Grand Valley State U.	397	400	324	333	542	302	252	216	318
Keene State C.	397	ne	164	ne	542	ne	162	ne	542
Carleton C.	399	102	140	339	532	102	11	42	108
Mercyhurst U.	399	46	0 i	ne	532 i	0	0 i	ne	215 i
Pace U.	399	319	290	372	532	157	148	184	476
Rhode Island C.	402	715	488	437	528	615	462	425	510
Central Washington U.	403	469	623	580	517	218	287	254	206
U. Colorado Colorado Springs	404	359	466	619	510	311	454	532	441
Davidson C.	405	642	496	414	507	483	385	240	272
U. North Carolina, Asheville	406	70	213	497	505	37	79	61	75
Calvin U.	407	564	354	470	503	450	301	426	449
Southern U. and A&M C., Agricultural Research and Extension Center	408	0	0 i	0	489	0	0 i	0	0
Loyola Marymount U.	409	1,053	664	162	488	322	254	22	272
C. Wooster	410	ne	345	375	483	ne	150	168	84
Spelman C.	411	541	588	554	478	541	588	554	478
Hope C.	412	265	428	698	477	193	294	408	407
U. of St. Thomas (MN)	413	270	239	375	471	20	47	174	196
U. Texas, Tyler	414	361	192	561	470	112	67	327	261
Whitman C.	415	ne	ne	ne	464	ne	ne	ne	338
Harvey Mudd C.	416	177	279	298	457	112	162	178	323
Georgia Southern U.	417	1,714	1,749	1,202	452	238	147	91	129
Trinity U.	417	477	469	429	452	274	100	107	95
Northern Kentucky U.	419	618	587	253	450	366	364	130	282
Winston-Salem State U.	420	516	648	579	449	516	648	579	449
Missouri State U.	421	417	431	425	442	220	165	117	185
William Paterson U.	421	91	124	545	442	61	15	23	32
Saint Joseph's U.	423	271	365	376	434	0	51	103	116
U.S. Military Academy	424	328	461	520	430	328	461	520	430
Gettysburg C.	425	ne	47 i	207	428	ne	0	51	60
U. South Florida, Saint Petersburg	426	280	418	466	426	0	10	17	5
Oklahoma State U., Center for Health Sciences	427	404	198	0	425	29	11	0	3
Salus U.	427	1,641	1,566	714	425	1,571	1,375	649	388
CUNY, Graduate School of Public Health and Health Policy	429	na	na	0	413	na	na	0	413

TABLE 44

## Total and federally financed higher education R&amp;D expenditures in the biological and biomedical sciences, ranked by FY 2019 total: FYs 2016–19

(Dollars in thousands)

Institution	Rank	Total				Federally financed			
		2016	2017	2018	2019	2016	2017	2018	2019
Hofstra U.	430	288	273	334	412	235	235	300	360
U. Central Arkansas	430	586	403	378	412	306	244	153	205
U. Puerto Rico, Cayey	432	0	9	0	404	0	0	0	0
U. South Alabama	433	334	230	413	403	78	93	225	211
Salisbury U.	434	275	274	178	396	73	39	0	4
New Mexico Institute of Mining and Technology	435	735	56	226	395	724	56	226	387
Fort Hays State U.	436	ne	ne	ne	370	ne	ne	ne	321
U. Alaska, Southeast	437	41	241	372	368	41	209	372	368
Northern Michigan U.	438	144	107	482	364	13	58	89	34
Grinnell C.	439	438	758	990	363	154	339	221	41
CUNY, York C.	440	ne	ne	ne	359	ne	ne	ne	340
Western Carolina U.	441	488	278	296	358	267	88	49	91
CUNY, Baruch C.	442	116	202	324	357	1	148	242	264
SUNY, Oswego	443	ne	283	383	354	ne	194	220	218
Clafin U.	444	565	410	242	350	564	410	242	350
Connecticut C.	445	841	951	663	348	267	333	192	95
Macalester C.	446	328	378	290	343	122	210	79	108
Claremont McKenna C.	447	433	389	364	337	433	389	364	337
U. Ana G. Mendez, Gurabo	447	456	595	311	337	233	419	249	309
DePaul U.	449	239	370	470	332	11	137	231	267
Pepperdine U.	450	286	296	299	329	130	193	279	303
Fayetteville State U.	451	0	0	416	328	0	0	416	328
Northeastern Illinois U.	451	ne	380	399	328	ne	380	399	328
U. Wisconsin-Oshkosh	453	ne	285	301	327	ne	224	234	258
U. Louisiana, Monroe	454	547	438	300	326	521	406	288	305
Middlebury C.	455	780	600	644	317	772	598	600	296
U. Wisconsin-Green Bay	456	263	218	250	315	209	151	105	151
U. Washington, Bothell	457	0	0	181	314	0	0	39	252
California State U., Chico	458	272	204	229	310	193	204	216	282
Biola U.	459	266	276	287	308	151	155	163	177
Coastal Carolina U.	460	0	206	278	305	0	198	277	268
U. Central Oklahoma	461	220	206	314	303	217	175	270	231
Eastern Connecticut State U.	462	76	45	76	300	9	8	17	169
A. T. Still U.	463	130	132	ne	299	0	0	ne	223
Pomona C.	464	837	548	282	296	304	168	95	81
California State U., Bakersfield	465	358	606	426	295	151	447	396	92

TABLE 44

## Total and federally financed higher education R&amp;D expenditures in the biological and biomedical sciences, ranked by FY 2019 total: FYs 2016–19

(Dollars in thousands)

Institution	Rank	Total				Federally financed			
		2016	2017	2018	2019	2016	2017	2018	2019
CUNY, C. Staten Island	465	44	271	306	i 295	0	130	145	i 177
New York Institute of Technology	467	45	271	179	294	45	56	60	294
Fort Lewis C.	468	ne	ne	ne	289	ne	ne	ne	241
U. Puerto Rico, Humacao	469	ne	ne	233	284	ne	ne	233	284
Willamette U.	470	464	627	753	278	443	460	368	143
Tougaloo C.	471	534	365	0	274	534	365	0	274
Texas A&M U.-Commerce	472	396	1,307	868	265	96	138	66	0
SUNY, C. Brockport	473	165	294	302	263	109	245	278	193
U. North Carolina, general administration	473	621	400	45	263	0	0	0	0
Azusa Pacific U.	475	395	205	173	259	0	0	0	0
Pacific U.	475	226	431	165	259	6	153	5	15
Furman U.	477	244	302	414	254	189	238	297	236
Winthrop U.	477	397	368	384	254	245	281	235	100
Albany State U.	479	554	622	254	253	554	622	254	253
Lincoln U., Jefferson City	480	293	252	253	252	293	252	253	252
Santa Clara U.	480	306	204	128	252	306	204	128	252
Seattle U.	482	342	347	288	248	154	92	82	116
Roger Williams U.	483	80	162	160	246	80	78	143	178
Pittsburg State U.	484	120	98	171	243	104	84	141	236
Mercer U.	485	5	0	233	239	0	0	0	0
SUNY, Geneseo	486	179	135	194	233	69	37	80	150
Texas Christian U.	487	256	199	58	215	178	43	0	0
California State U., Dominguez Hills	488	209	108	341	213	137	85	236	162
Southern U. and A&M C., Baton Rouge	489	145	154	168	210	137	66	168	183
Southern Illinois U., Edwardsville	490	297	92	34	208	57	22	7	123
U. Guam	490	684	144	307	208	580	78	259	196
California Lutheran U.	492	ne	ne	ne	206	ne	ne	ne	107
U. of the Incarnate Word	493	ne	ne	32	197	ne	ne	0	56
Prairie View A&M U.	494	236	212	209	193	207	145	203	185
Minnesota State U., Mankato	495	51	134	138	187	0	52	78	136
Fort Valley State U.	496	462	295	249	185	384	246	208	162
Savannah State U.	497	659	306	543	183	659	306	543	183
Hamilton C.	498	172	154	251	180	16	0	12	51
U. Arkansas, Pine Bluff	499	113	170	112	174	85	128	87	136
U. Dayton	500	525	220	202	168	408	205	167	145
Bethune-Cookman U.	501	ne	ne	255	163	ne	ne	255	163

TABLE 44

## Total and federally financed higher education R&amp;D expenditures in the biological and biomedical sciences, ranked by FY 2019 total: FYs 2016–19

(Dollars in thousands)

Institution	Rank	Total				Federally financed							
		2016	2017	2018	2019	2016	2017	2018	2019				
Benedict C.	502	170	136	146	158	138	136	101	139				
Florida A&M U.	503	115	123	172	153	45	56	88	97				
U. Michigan, Dearborn	504	58	83	204	152	9	37	174	69				
Hobart and William Smith Colleges	505	ne	136	ne	150	ne	100	ne	82				
Skidmore C.	505	96	230	225	150	56	170	145	122				
U. Southern Maine	507	244	206	276	143	73	95	122	16				
Mount Holyoke C.	508	856	822	71	142	822	800	20	87				
U.S. Air Force Academy	509	485	338	341	140	155	0	0	140				
Johnson C. Smith U.	510	0	88	0	137	0	88	0	132				
CUNY, John Jay C. of Criminal Justice	511	241	216	489	132	127	203	446	113				
La Sierra U.	511	277	96	64	132	12	23	43	32				
U. South Florida, Sarasota-Manatee	513	95	98	98	131	0	0	0	0				
St. Olaf C.	514	425	306	280	128	285	154	97	0				
Bowie State U.	515	318	164	75	122	318	164	75	122				
C. of Saint Benedict	515	80	96	124	122	i	0	0	0	i			
Lamar U.	515	80	55	132	122	28	0	38	0				
Colorado C.	518	217	225	147	117	64	74	19	12				
Jacksonville State U.	519	0	166	i	192	114	0	12	i	11	14		
Central Connecticut State U.	520	79	64	ne	112	7	0	ne	31				
U. Ana G. Mendez, Cupey	521	48	193	114	110	47	180	107	104				
Saint John's U., Collegeville	522	71	86	112	109	i	0	0	0	0	i		
U. Wisconsin-Platteville	522	ne	139	i	ne	109	i	ne	38	i	ne	41	i
Norfolk State U.	524	139	114	53	108	109	114	53	108				
U. San Diego	525	165	227	200	106	73	25	22	22				
U. of Mary Washington	526	ne	ne	12	100	ne	ne	7	64				
Albion C.	527	ne	131	125	98	ne	0	0	0				
Morehouse C.	527	82	113	80	98	82	113	80	98				
Southern Connecticut State U.	527	0	139	210	98	0	54	0	0				
U. Wisconsin-Superior	530	ne	ne	67	97	ne	ne	67	97				
Niagara U.	531	36	110	89	94	0	0	0	0				
Bradley U.	532	81	93	103	89	43	55	53	36				
U. San Francisco	533	96	281	160	88	87	152	24	19				
U. Wisconsin-Eau Claire	534	61	46	101	86	44	39	30	35				
Lafayette C.	535	72	8	57	82	65	0	50	80				
Manhattan C.	535	ne	ne	ne	82	ne	ne	ne	0				
Union C., Schenectady	537	439	62	53	80	394	23	29	14				

TABLE 44

## Total and federally financed higher education R&amp;D expenditures in the biological and biomedical sciences, ranked by FY 2019 total: FYs 2016–19

(Dollars in thousands)

Institution	Rank	Total				Federally financed			
		2016	2017	2018	2019	2016	2017	2018	2019
Elon U.	538	136	113	69	79	61	46	0	0
Fairfield U.	539	533	673	136	78	208	190	136	78
Stockton U.	539	0	ne	138	78	0	ne	138	50
U. Portland	541	ne	ne	ne	76	ne	ne	ne	0
Pennsylvania State U., Behrend	542	64	56	50	75	26	27	15	17
Stephen F. Austin State U.	542	55	238	100	75	9	22	0	0
U. New Haven	544	84	68	121	74	0	0	27	24
Rider U.	545	241	204	145	71	130	98	89	39
Youngstown State U.	546	54	54	6	69	2	0	0	0
Eastern Washington U.	547	623	573	67	66	584	526	0	0
Texas A&M International U.	548	331	205	494	64	59	5	398	0
Saginaw Valley State U.	549	81	47	63	63	0	0	0	0
U. Northern Iowa	549	143	117	57	63	92	83	48	44
Monmouth U.	551	79	ne	ne	56	0	ne	ne	0
Chicago State U.	552	221	ne	172	52	221	ne	172	52
Purdue U., Northwest	552	na	65	53	52	na	2	28	39
U. Houston-Clear Lake	552	129	233	211	52	94	180	179	9
U. North Georgia	552	ne	0	0	52	ne	0	0	2
CUNY, Graduate Center	556	83	i 79	59	51	56	i 46	34	46
Florida Gulf Coast U.	556	849	760	144	51	814	686	31	0
Florida Polytechnic U.	558	ne	ne	ne	50	ne	ne	ne	6
Northwestern State U. Louisiana	558	15	16	16	50	0	0	0	0
Central State U.	560	199	0	8	46	199	0	8	46
U. Michigan, Flint	561	ne	32	100	41	ne	3	1	0
U. Minnesota, Morris	562	179	72	ne	40	129	56	ne	0
U. Houston-Downtown	563	60	135	71	37	0	0	0	0
Pennsylvania State U., Harrisburg	564	11	15	33	36	0	2	19	20
Augsburg U.	565	33	30	67	34	33	30	67	34
Vassar C.	565	0	300	60	i 34	0	300	60	i 13
Drake U.	567	128	75	67	31	118	42	32	10
CUNY, system office	568	23	0	43	30	23	0	0	3
West Texas A&M U.	569	45	110	53	27	42	36	0	0
Kettering U.	570	36	32	19	26	0	0	19	21
Long Island U.	571	107	150	107	25	38	76	5	16
Rutgers, State U. New Jersey, Camden	571	1,729	0	0	25	1,657	0	0	0
Alaska Pacific U.	573	80	47	81	24	0	47	81	19



TABLE 44

**Total and federally financed higher education R&D expenditures in the biological and biomedical sciences, ranked by FY 2019 total: FYs 2016–19**

(Dollars in thousands)

Institution	Rank	Total				Federally financed			
		2016	2017	2018	2019	2016	2017	2018	2019
Allegheny C.	573	17	24	32	24	16	20	25	18
U. Washington, Tacoma	573	0	0	0	24	0	0	0	0
Virginia State U.	576	1	0	0	15	0	0	0	15
Dickinson C.	577	56	219	ne	12	56	145	ne	2
Alfred U.	578	8	20	18	10	8	20	18	10
Andrews U.	578	ne	ne	ne	10	ne	ne	ne	0
Tarleton State U.	580	281	226	50	9	0	0	0	0
Heidelberg U.	581	36	1	1	5	13	0	1	5
Wheaton C., Wheaton	581	ne	102	35	5	ne	60	0	0
Dine C.	583	ne	ne	0	4	ne	ne	0	4
All other surveyed institutions	-	159,260	156,172	154,736	0	101,903	98,502	101,302	0

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

<sup>a</sup> Johns Hopkins University includes the Applied Physics Laboratory (APL), with \$40,739 thousand imputed for total and \$37,705 thousand reported for federally financed R&D expenditures in biological and biomedical sciences in FY 2019. Total expenditures by field for Johns Hopkins University are flagged as imputed because APL was unable to distribute a portion of institutionally funded R&D by field.

<sup>b</sup> The University of Maryland includes expenditures from the University of Maryland, Baltimore and University of Maryland, College Park campuses. In FY 2019, the two campuses began reporting as one research unit to reflect their new strategic partnership. This relationship was codified through the University of Maryland Strategic Partnership Act passed by the Maryland General Assembly in 2016. Prior to FY 2019, both campuses reported to the survey as separate institutions.

**Note(s):**

Institutions reporting zero expenditures in ranked total for FY 2019 are not listed in this table. Tied institutions are ranked alphabetically. Ranked institutions 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 list of campuses that belong to a larger university or system and their aggregate R&D expenditures, see table 6.

**Source(s):**

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