

TABLE 49

Total and federally financed higher education R&D expenditures in chemistry, 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	-	1,773,360	1,791,590	1,866,450	1,965,627	1,097,382	1,097,782	1,129,877	1,182,806
U. California, San Francisco	1	56,160	62,673	62,661	65,572	32,089	36,290	35,467	38,487
California Institute of Technology	2	49,285	51,531	46,180	42,498	32,317	34,064	30,824	28,469
Northwestern U.	3	39,855	38,954	39,150	40,651	25,244	24,200	23,691	25,466
U. Utah	4	14,447	15,140	15,935	40,326	10,292	12,048	10,084	24,189
U. Illinois, Urbana-Champaign	5	33,655	28,988	31,819	35,411	21,087	18,268	19,818	21,926
U. Houston	6	21,419	21,216	25,126	34,730	2,840	2,457	2,511	2,298
Harvard U.	7	30,835	31,204	29,444	34,683	21,562	20,957	20,642	20,722
U. California, San Diego	8	30,337	28,237	22,362	32,067	23,320	22,566	19,106	21,472
Massachusetts Institute of Technology	9	26,701	26,165	31,921	31,179	16,343	15,292	20,339	18,377
U. California, Berkeley	10	31,346	31,246	32,164	30,743	16,604	15,755	16,256	15,560
U. Michigan, Ann Arbor	11	25,176	27,654	29,285	29,977	15,712	18,091	17,947	19,168
U. Notre Dame	12	25,089	26,177	26,254	28,342	14,767	16,340	16,038	17,970
Cornell U.	13	24,456	25,643	25,958	26,542	17,258	19,658	15,966	19,679
U. Wisconsin-Madison	14	25,147	23,685	24,620	26,369	15,073	14,400	15,032	17,502
Georgia Institute of Technology	15	25,127	24,609	26,409	25,802	16,097	15,267	16,774	17,973
Stanford U.	16	26,757	26,834	22,807	25,306	21,963	23,436	19,329	22,382
Johns Hopkins U. ^a	17	25,874	23,404	23,237	24,180	24,735	22,193	21,621	22,678
U. North Carolina, Chapel Hill	18	23,485	22,182	22,770	24,143	14,175	15,211	16,730	16,280
Texas A&M U., College Station and Health Science Center	19	25,688	26,392	24,441	24,066	6,666	7,369	6,994	7,711
U. Chicago	20	18,920	24,093	23,476	23,963	14,304	18,605	18,284	19,011
U. California, Los Angeles	21	17,147	17,222	18,893	23,711	12,549	12,045	12,928	16,506
Yale U.	22	23,208	22,551	21,752	23,452	11,970	12,697	13,731	14,079
Purdue U., West Lafayette	23	21,592	21,437	22,723	22,763	10,822	11,275	10,704	11,830
Princeton U.	24	18,810	18,701	21,060	22,317	8,325	9,306	10,722	11,066
U. California, Irvine	25	21,203	22,957	21,325	22,169	15,007	15,099	14,279	16,378
U. Washington, Seattle	26	22,724	22,484	21,246	22,113	19,348	19,125	17,773	19,183
U. Minnesota, Twin Cities	27	19,695	18,708	18,303	21,094	12,869	11,791	12,370	14,112
Florida State U.	28	19,683	21,256	22,901	20,708	8,734	9,591	12,016	11,289
Emory U.	29	20,126	18,470	19,743	20,261	12,479	11,878	12,453	13,433
U. Pennsylvania	30	13,506	15,403	18,743	20,121	11,775	11,081	11,489	12,441
U. Massachusetts, Amherst	31	12,359	11,433	12,489	19,452	9,748	7,149	7,795	8,431
Indiana U., Bloomington	32	16,277	18,262	17,613	19,039	8,542	9,961	11,681	12,357
Ohio State U.	33	15,043	14,696	15,804	18,579	12,458	12,169	12,628	14,421
Pennsylvania State U., University Park and Hershey Medical Center	34	18,248	17,085	18,013	18,532	11,037	10,279	9,695	11,300
Florida International U.	35	3,768	7,254	11,455	17,688	2,361	5,503	5,561	6,744

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		2016	2017	2018	2019	2016	2017	2018	2019
U. California, Santa Barbara	36	7,511	10,179	11,676	17,290	4,253	6,814	7,982	10,287
U. Pittsburgh, Pittsburgh	37	14,999	19,075	17,627	17,222	7,824	9,138	9,569	11,279
Rice U.	38	17,721	15,323	13,430	16,975	7,284	7,371	5,433	6,163
Virginia Polytechnic Institute and State U.	39	8,691	9,149	12,149	16,338	4,688	4,893	6,950	9,475
U. Texas, Austin	40	18,227	15,040	15,216	15,321	10,287	7,646	7,278	7,452
New York U.	41	9,760	11,525	12,254	14,483	9,244	9,849	10,777	12,540
U. Southern California	42	15,831	12,856	12,180	14,258	7,696	7,625	7,703	7,884
Washington U., Saint Louis	43	8,905	11,152	11,486	14,244	7,144	7,603	7,419	9,548
Arizona State U.	44	11,522	12,588	11,314	14,026	5,848	5,546	5,827	5,870
Boston U.	45	9,864	11,420	13,092	13,712	5,856	7,468	7,975	8,686
U. California, Davis	46	13,683	12,276	11,110	13,683	8,496	8,556	7,774	9,783
U. Southern Mississippi	47	11,180	11,125	11,054	13,266	7,287	7,350	8,358	9,050
U. Arizona	48	12,206	13,025	13,525	13,060	7,079	8,169	7,711	7,735
Vanderbilt U. and Vanderbilt U. Medical Center	49	16,897	17,906	14,798	12,997	10,557	9,304	7,581	5,760
Iowa State U.	50	8,746	10,338	14,074	12,549	4,137	4,715	8,084	7,048
Wayne State U.	51	8,549	7,441	10,072	12,192	5,660	4,846	5,703	7,853
U. Florida	52	10,408	10,424	11,850	12,084	4,967	5,749	6,292	6,722
SUNY, Stony Brook U.	53	16,800	15,342	10,403	12,052	7,414	7,739	7,694	9,174
U. Oklahoma, Norman and Health Science Center	54	7,971	8,491	10,818	11,836	6,523	6,654	7,849	9,760
Columbia U. in the City of New York	55	11,188	12,809	11,038	11,749	8,426	9,903	8,906	8,577
U. Virginia, Charlottesville	56	8,714	11,775	11,746	11,511	5,686	6,266	7,132	6,674
Washington State U.	57	8,462	8,145	9,930	10,871	5,686	5,472	6,544	7,003
SUNY, Binghamton U.	58	10,616	11,800	13,084	10,839	4,463	4,981	4,588	4,990
North Carolina State U.	59	6,522	8,261	7,648	10,796	5,031	5,580	5,494	5,718
U. California, Santa Cruz	60	9,547	6,322	6,840	10,719	7,031	4,568	4,219	7,835
Duke U.	61	8,973	8,425	9,293	10,711	6,405	5,856	7,228	8,841
Michigan State U.	62	9,390	11,204	10,641	10,320	6,014	6,621	6,757	5,939
Colorado State U., Fort Collins	63	9,913	7,768	9,944	10,311	5,105	4,816	6,907	7,684
U. Georgia	64	9,835	8,403	15,528	10,042	3,551	3,667	3,512	5,325
U. Nebraska, Lincoln	65	7,750	7,942	12,332	9,916	4,431	4,471	6,848	6,911
U. Maryland ^b	66	na	na	na	9,888	na	na	na	7,246
U. Colorado Boulder	67	16,961	12,078	8,937	9,650	14,226	10,510	7,298	6,877
U. Akron	68	11,618	11,100	10,295	9,571	2,590	3,455	3,213	3,992
U. California, Riverside	69	9,179	9,142	8,602	9,249	7,387	7,249	6,557	7,019
U. Delaware	70	9,044	8,919	8,752	9,124	7,675	7,255	7,112	7,107
Carnegie Mellon U.	71	5,268	8,706	9,028	8,868	3,164	3,057	3,122	3,818

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		2016	2017	2018	2019	2016	2017	2018	2019
U. South Florida, Tampa	72	5,311	6,711	6,843	8,838	2,105	3,256	3,201	2,686
U. Illinois, Chicago	73	8,402	8,130	7,653	8,664	4,036	5,002	4,506	5,362
Louisiana State U., Baton Rouge	74	7,938	7,054	9,652	8,558	3,709	3,440	4,119	4,312
Georgia State U.	75	7,555	8,298	8,188	8,366	5,205	5,678	4,860	5,085
Dartmouth C. and Dartmouth Hitchcock Medical Center	76	4,850	8,605	8,435	8,125	2,341	2,146	2,619	2,471
Montana State U., Bozeman	77	7,861	5,951	6,178	7,838	6,059	4,860	5,110	5,448
U. Tennessee, Knoxville	78	8,093	8,162	8,481	7,780	4,305	5,244	4,300	3,649
Jackson State U.	79	5,177	5,813	7,222	7,573	4,673	5,281	6,848	7,017
Temple U.	80	7,491	7,122	6,458	7,522	4,419	5,003	5,078	5,636
Texas Tech U.	81	7,047	6,245	7,703	7,368	1,352	1,410	2,510	2,760
SUNY, U. Buffalo	82	8,746	9,102	9,069	7,311	5,324	5,566	5,798	4,716
Rutgers, State U. New Jersey, New Brunswick	83	22,187	9,066	4,606	7,258	17,039	4,188	3,529	2,680
Boston C.	84	5,864	6,137	6,530	7,188	4,089	4,412	4,805	5,597
Northeastern U.	85	6,346	5,716	6,270	7,067	3,149	2,962	4,218	4,258
U. Texas, San Antonio	86	4,366	10,155	8,475	6,843	1,758	3,175	1,875	1,732
U. Texas, El Paso	87	6,071	5,735	6,456	6,519	3,458	3,524	4,026	3,736
Auburn U., Auburn	88	1,645	4,441	4,298	6,440	1,075	1,179	1,355	1,833
Rensselaer Polytechnic Institute	89	6,178	7,338	5,560	6,393	2,764	3,371	3,075	2,391
Mississippi State U.	90	5,046	5,472	5,228	6,348	1,081	1,682	1,603	1,206
CUNY, City C.	91	5,879	5,920	5,779	6,308	3,672	4,115	4,351	4,502
U. Mississippi	92	3,577	4,810	3,599	6,256	1,810	2,387	2,169	3,890
U. Arkansas, Fayetteville	93	5,066	5,123	6,092	6,084	1,591	1,942	2,262	2,548
U. Cincinnati	94	5,004	4,672	4,704	5,968	3,163	2,655	2,199	2,241
U. Kansas	95	6,451	6,746	4,670	5,932	5,180	5,945	3,761	4,395
New Mexico State U.	96	6,000	8,112	6,534	5,931	4,872	6,826	5,348	4,397
Xavier U. Louisiana	97	7,021	8,007	6,921	5,878	6,996	7,956	6,697	5,796
U. Oregon	98	4,581	4,720	6,286	5,867	3,834	3,030	3,605	3,621
SUNY, U. Albany	99	2,759	4,460	5,947	5,655	1,491	1,338	2,759	3,266
West Virginia U.	100	2,520	2,742	4,761	5,632	1,467	1,641	2,691	3,616
Kansas State U.	101	2,191	3,002	4,750	5,535	1,428	2,164	3,037	3,641
Tufts U.	102	7,927	5,626	42,537	5,517	6,765	4,748	26,222	645
California State U., Los Angeles	103	1,244	3,715	4,040	5,439	1,227	3,637	3,894	4,197
Brown U.	104	6,892	3,498	5,160	5,250	2,909	2,087	3,230	3,932
U. Kentucky	105	3,934	4,092	4,703	5,236	2,734	2,579	3,001	4,073
U. Texas, Arlington	106	4,849	4,307	4,776	5,232	1,058	1,210	1,228	1,432
U. Rochester	107	4,612	4,601	4,195	5,111	3,639	3,668	3,568	4,115

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		2016	2017	2018	2019	2016	2017	2018	2019
Clemson U.	108	3,598	3,950	4,957	5,030	1,770	2,540	2,865	2,985
Rockefeller U.	109	6,278	5,774	5,669	4,970	3,527	3,570	3,261	2,287
U. Nevada, Las Vegas	110	5,153	4,048	4,491	4,910	2,834	2,922	2,984	2,991
Oklahoma State U., Stillwater	111	4,597	5,474	5,074	4,804	1,826	1,864	1,363	1,971
U. Connecticut	112	5,753	5,319	5,170	4,713	3,832	3,522	3,297	3,005
U. Iowa	113	6,596	5,738	5,293	4,659	5,007	3,937	3,835	3,607
Howard U.	114	1,999	2,969	3,457	4,558	1,588	2,611	2,994	3,989
Syracuse U.	115	2,378	4,018	4,005	4,454	1,038	1,058	1,037	1,316
U. Nevada, Reno	116	2,129	2,049	4,285	4,373	793	833	1,888	2,004
U. Missouri, Columbia	117	4,369	4,142	4,888	4,252	4,039	3,791	4,561	4,141
San Diego State U.	118	2,206	2,782	3,581	4,203	1,035	1,361	2,481	2,655
U. Central Florida	119	2,926	4,191	4,622	4,148	1,248	1,489	1,667	1,635
U. Massachusetts, Lowell	120	3,341	2,671	3,948	4,105	1,519	771	422	469
U. Texas, Dallas	121	3,615	4,784	3,306	4,093	950	1,156	1,048	2,499
U. North Texas, Denton	122	3,127	4,886	3,314	4,069	1,374	1,734	1,191	1,143
Baylor U.	123	5,296	4,741	4,279	3,877	977	1,320	921	785
Oregon State U.	124	3,623	2,550	2,916	3,811	2,802	2,055	2,378	3,214
North Dakota State U.	125	6,408	4,865	4,067	3,713	3,394	2,769	1,806	1,889
U. California, Merced	126	2,654	3,087	2,280	3,653	1,888	2,408	1,630	2,250
George Washington U.	127	3,462	3,440	3,492	3,526	2,397	2,296	2,048	2,256
Case Western Reserve U.	128	3,056	3,387	2,868	3,471	2,206	2,597	2,233	2,735
California State U., Long Beach	129	2,271	3,230	3,819	3,453	1,936	3,061	3,660	3,327
U. Montana, Missoula	130	2,843	3,432	2,184	3,363	1,737	1,613	2,091	2,351
U. Alabama, Tuscaloosa	131	4,036	3,795	4,382	3,315	2,514	2,563	2,500	2,435
Brigham Young U., Provo	132	3,432	3,025	2,942	3,158	2,012	2,254	2,514	2,617
Utah State U.	132	2,434	1,630	3,075	3,158	1,418	1,084	1,354	1,710
New Jersey Institute of Technology	134	2,748	2,262	2,538	3,128	592	530	700	553
Tulane U.	135	2,871	2,337	1,866	3,121	1,369	1,480	1,231	1,939
CUNY, Hunter C.	136	3,121	2,274	3,119	3,027	1,914	1,398	2,288	1,810
Georgetown U.	137	2,565	3,863	3,369	2,958	1,708	2,207	2,627	2,194
South Dakota State U.	138	3,593	3,911	2,960	2,898	614	983	1,149	1,213
Colorado School of Mines	139	3,949	3,794	3,576	2,839	2,148	2,604	3,080	2,379
Old Dominion U.	140	2,519	3,249	2,687	2,838	1,501	2,314	2,126	1,654
U. Denver	141	2,316	3,278	2,944	2,818	1,374	2,213	1,916	2,110
U. Wisconsin-Milwaukee	142	4,784	4,945	4,080	2,749	3,798	3,567	2,555	1,275
U. South Dakota	143	2,250	1,517	1,737	2,741	1,010	747	548	756

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U. North Dakota	144	5,475	2,437	2,306	2,720	5,161	806	560	881
U. Toledo	145	2,521	1,604	2,367	2,703	1,404	1,359	1,355	1,713
Portland State U.	146	3,268	3,576	3,360	2,667	2,563	2,558	2,151	2,222
U. North Carolina, Greensboro	147	2,558	2,984	2,701	2,612	2,091	2,616	2,291	2,301
U. Puerto Rico, Rio Piedras	148	5,342	3,631	1,809	2,488	4,927	3,165	1,517	2,217
Duquesne U.	149	2,510	2,178	2,436	2,446	782	579	721	669
U. Vermont	150	775	1,298	1,368	2,438	509	514	1,187	1,279
U. Missouri, Saint Louis	151	1,548	1,607	1,985	2,412	615	1,077	1,363	1,741
Virginia Commonwealth U.	152	1,668	1,945	2,287	2,383	1,543	1,590	1,174	1,442
Clarkson U.	153	1,029	837	772	2,300	544	291	343	504
Brandeis U.	154	2,512	3,428	3,137	2,287	1,923	2,426	2,470	1,819
Oakland U.	155	1,286	1,189	1,136	2,281	830	827	767	720
Marquette U.	156	1,595	1,538	2,639	2,202	1,111	1,025	1,467	1,222
Lehigh U.	157	2,898	2,655	3,184	2,201	1,856	1,532	2,137	1,312
Florida Atlantic U.	158	1,134	2,827	2,181	2,184	1,010	1,447	1,258	968
Saint Louis U.	159	685	952	1,580	2,179	510	566	830	877
U. Alabama, Birmingham	160	1,060	1,781	2,239	2,177	977	1,255	1,739	1,880
U. Maine	161	25	755	888	2,171	0	240	347	810
Missouri U. of Science and Technology	162	2,943	2,321	2,595	2,119	2,016	1,516	1,985	1,416
U. New Mexico	163	3,138	3,145	3,678	2,112	2,618	2,710	3,006	1,716
Mercer U.	164	10	20	1,613	2,106	0	0	0	0
Kent State U.	165	1,595	1,980	1,390	2,087	629	695	550	591
U. Rhode Island	166	4,181	2,726	2,469	2,020	3,593	2,272	1,855	1,682
U. Massachusetts, Boston	167	924	858	1,252	1,983	619	548	735	1,193
U. Hawaii, Manoa	168	2,054	2,103	1,750	1,876	1,404	1,692	1,431	1,366
Rutgers, State U. New Jersey, Newark	169	745	1,844	2,000	1,869	685	1,278	1,559	1,412
American U.	170	599	651	1,300	1,864	166	234	738	190
Indiana U.-Purdue U., Indianapolis	171	1,259	1,590	1,912	1,832	752	760	1,075	816
U. Louisville	172	1,301	1,063	1,260	1,824	862	782	879	1,116
Bowling Green State U.	173	2,859	1,798	2,390	1,769	1,981	1,172	969	1,005
Worcester Polytechnic Institute	174	1,989	2,342	2,035	1,722	1,079	1,602	1,589	1,481
U. Maryland, Baltimore County	175	3,925	4,930	3,977	1,714	3,206	3,777	2,893	824
Southern Methodist U.	176	1,121	1,261	1,102	1,691	479	700	740	798
U. New Hampshire	177	1,425	1,212	1,677	1,625	768	811	828	740
Kennesaw State U.	178	231	1,857	798	1,595	227	365	324	621
East Carolina U.	179	90	75	868	1,586	62	22	419	688

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U. North Carolina, Charlotte	180	552	517	882	1,585	529	499	866	1,207
U. Memphis	181	1,564	1,055	1,409	1,579	888	657	713	809
Villanova U.	182	661	1,082	1,371	1,565	204	58	271	272
San Jose State U.	183	643	766	1,234	1,541	416	654	1,024	1,310
Michigan Technological U.	184	1,978	1,446	1,556	1,507	773	214	402	288
CUNY, Lehman C.	185	1,511	1,562	1,821	1,495	1,488	1,558	1,821	1,495
U. Alabama, Huntsville	186	830	881	1,648	1,466	28	197	169	262
San Francisco State U.	187	1,627	2,165	2,106	1,418	520	901	417	171
U. South Carolina, Columbia	188	10,090	8,779	1,723	1,394	4,811	4,997	0	1
Northern Arizona U.	189	417	922	1,355	1,387	296	576	1,094	271
U. New Orleans	189	2,021	1,597	1,328	1,387	1,027	765	616	447
Wake Forest U.	191	789	606	391	1,370	709	593	389	397
U.S. Naval Academy	192	1,130	1,613	1,223	1,324	1,092	1,590	1,157	1,284
U. Massachusetts, Dartmouth	193	840	949	996	1,314	123	165	158	152
Texas State U.	194	1,572	1,351	1,513	1,296	1,252	1,351	1,012	870
Western Kentucky U.	195	1,113	1,363	1,063	1,287	657	485	546	664
Northern Illinois U.	196	547	407	1,458	1,283	410	217	649	969
U. Texas Rio Grande Valley	197	813	1,079	642	1,272	581	860	537	602
U. Northern Iowa	198	180	492	705	1,271	55	328	472	1,002
Loyola U., Chicago	199	1,115	844	1,111	1,250	451	514	726	913
CUNY, Brooklyn C.	200	1,475	1,551	1,168	1,229	1,367	1,445	1,049	1,094
Boise State U.	201	359	299	900	1,182	186	113	417	619
Trinity U.	202	674	808	1,237	1,175	282	202	673	452
Drexel U.	203	387	935	1,494	1,130	117	319	629	308
James Madison U.	204	192	264	1,123	1,123	59	90	147	481
U. Miami	205	2,418	1,923	1,782	1,102	1,545	1,160	1,193	604
U. Idaho	206	2,063	1,336	881	1,068	1,042	781	315	501
Amherst C.	207	872	747	654	1,062	37	106	126	21
U. Colorado Denver and Anschutz Medical Campus	208	502	773	741	1,008	416	683	710	989
U. Ana G. Mendez, Gurabo	209	285	235	362	1,007	0	0	144	29
Furman U.	210	1,211	1,286	1,146	981	618	746	527	556
Ball State U.	211	408	384	677	963	255	256	361	576
Wesleyan U.	212	829	681	1,371	960	411	398	695	395
U. Wyoming	213	1,338	907	2,484	933	1,289	902	679	915
Arkansas State U., Jonesboro	214	775	877	578	922	617	737	320	740
Connecticut C.	215	867	634	538	902	424	305	247	384

TABLE 49

Total and federally financed higher education R&D expenditures in chemistry, ranked by FY 2019 total: FYs 2016–19

(Dollars in thousands)

Institution	Rank	Total				Federally financed			
		2016	2017	2018	2019	2016	2017	2018	2019
Southern Illinois U., Carbondale	216	1,130	2,050	2,118	901	689	1,212	1,178	592
Western Washington U.	217	585	870	964	898	389	387	487	544
U. Arkansas, Little Rock	218	490	82	901	896	355	51	603	614
CUNY, Queens C.	219	1,095	773	815	893	1,008	723	685	846
CUNY, C. Staten Island	220	909	425	846	i 880	761	286	533	i 651
Tougaloo C.	221	0	80	848	849	0	80	848	849
Miami U.	222	976	1,694	1,786	847	0	428	521	14
Chicago State U.	223	0	ne	865	842	0	ne	865	842
U. Minnesota, Duluth	224	705	627	775	828	262	242	254	302
Clark Atlanta U.	225	1,600	1,351	992	804	1,299	1,068	960	680
U. Puerto Rico, Mayaguez	226	1,981	1,348	618	792	1,338	835	382	545
California State U., Dominguez Hills	227	698	722	778	781	515	523	581	603
William & Mary	228	583	462	699	766	446	371	592	497
Creighton U.	229	746	i 736	i 583	i 734	i 405	i 303	i 196	i 302
Cleveland State U.	230	1,300	1,314	763	733	166	0	109	211
Louisiana Tech U.	231	737	637	853	732	392	119	243	86
U. San Diego	232	384	588	673	727	304	405	403	575
Wichita State U.	233	613	655	607	715	361	373	410	656
California State U., Fresno	234	593	632	562	703	358	408	431	482
Illinois State U.	235	369	457	501	702	314	378	390	545
Marshall U.	236	561	642	483	679	312	226	258	462
Tennessee Technological U.	237	1,274	653	820	653	862	403	549	498
Rochester Institute of Technology	238	619	950	929	651	457	662	632	395
Western Michigan U. and Homer Stryker M.D. School of Medicine	239	733	631	587	650	492	501	273	258
Texas A&M U.-Corpus Christi	240	366	332	341	645	209	299	198	414
U. North Carolina, general administration	241	0	0	1,452	632	0	0	0	0
Grinnell C.	242	308	586	621	626	88	96	58	22
North Carolina Agricultural and Technical State U.	242	45	154	917	626	31	134	462	306
George Mason U.	244	416	145	85	621	364	95	61	79
Rowan U.	245	438	509	560	614	100	139	139	422
U. of the Sciences Philadelphia	245	254	437	669	614	61	272	267	497
Barnard C.	247	330	443	361	606	243	389	361	561
Spelman C.	248	165	184	620	595	165	184	620	595
Delaware State U.	249	1,561	836	1,275	590	1,304	686	1,020	457
Chapman U.	250	0	607	491	584	0	152	346	334
Idaho State U.	251	355	330	418	583	326	309	363	505

TABLE 49

Total and federally financed higher education R&D expenditures in chemistry, ranked by FY 2019 total: FYs 2016–19

(Dollars in thousands)

Institution	Rank	Total				Federally financed			
		2016	2017	2018	2019	2016	2017	2018	2019
Colgate U.	252	555	199	409	570	404	105	271	225
Salish Kootenai C.	253	561	665	869	553	561	665	869	553
Swarthmore C.	254	290	514	628	552	187	169	245	222
Catholic U. of America	255	608	586	662	551	468	462	540	481
Clark U.	256	149	91	243	539	6	0	74	204
Franklin and Marshall C.	257	288	411	780	533	218	237	579	187
Salisbury U.	258	171	159	111	521	94	57	38	335
Hope C.	259	740	1,196	826	520	563	323	264	226
Norfolk State U.	260	140	110	404	508	123	93	404	508
South Dakota School of Mines and Technology	261	1,450	935	685	504	1,138	536	539	485
Southern Illinois U., Edwardsville	262	144	547	1,026	502	16	175	299	306
Clafin U.	263	656	484	600	501	656	484	600	501
Grambling State U.	264	536	578	525	493	378	301	381	424
U. Nebraska, Kearney	264	278	562	162	493	71	0	101	146
Ohio U.	266	1,027	i 1,162	i 756	i 492	293	216	197	219
Wellesley C.	267	1,114	470	438	487	1,064	426	408	367
CUNY, Advanced Science Research Center	268	ne	372	340	478	ne	345	293	430
U. Central Arkansas	269	216	341	356	476	143	295	289	440
Sam Houston State U.	270	310	361	353	472	223	258	239	351
U. South Alabama	271	266	262	278	471	242	234	239	355
U. Wisconsin-Eau Claire	272	301	513	405	463	205	413	307	388
U. North Carolina, Wilmington	273	499	320	388	458	452	278	312	374
Southern U. and A&M C., Baton Rouge	274	121	664	592	451	121	526	310	73
New Mexico Institute of Mining and Technology	275	1,216	574	624	450	1,216	574	615	450
CUNY, York C.	276	ne	ne	ne	448	ne	ne	ne	437
Florida Institute of Technology	276	1,219	842	571	448	714	468	186	180
U. Arkansas, Pine Bluff	276	493	326	405	448	387	250	315	352
Alabama A&M U.	279	903	i 751	i 600	i 447	i 728	i 594	i 460	i 325
Georgia Southern U.	280	613	548	598	444	127	85	108	118
Bryn Mawr C.	281	687	512	510	422	165	108	158	136
Union C., Schenectady	282	34	73	41	408	0	1	17	352
Whitman C.	283	ne	ne	ne	392	ne	ne	ne	301
C. Wooster	284	ne	200	554	389	ne	67	379	151
Middle Tennessee State U.	285	265	679	299	386	158	426	198	124
California Polytechnic State U., San Luis Obispo	286	402	409	348	385	156	218	252	198
SUNY, Oswego	286	ne	498	525	385	ne	407	351	266

TABLE 49

Total and federally financed higher education R&D expenditures in chemistry, ranked by FY 2019 total: FYs 2016–19

(Dollars in thousands)

Institution	Rank	Total				Federally financed			
		2016	2017	2018	2019	2016	2017	2018	2019
Wright State U.	288	596	457	675	384	300	245	387	183
Carleton C.	289	53	142	410	382	0	67	219	114
Benedict C.	290	372	314	518	374	372	314	518	364
Loyola Marymount U.	291	21	162	249	369	0	23	131	132
Northern Kentucky U.	291	435	275	292	369	275	196	176	258
California State U., Northridge	293	642	633	385	366	615	596	369	315
CUNY, Medgar Evers C.	294	ne	313	339	355	ne	281	304	301
U. North Florida	295	376	349	343	345	99	59	143	248
Western Carolina U.	296	174	157	196	342	65	93	144	172
U. Missouri, Kansas City	297	404	394	312	338	219	88	133	182
U. of St. Thomas (MN)	297	270	239	187	338	17	23	49	42
Murray State U.	299	53	53	194	337	21	41	157	328
Santa Clara U.	299	116	242	289	337	116	232	233	313
Fordham U.	301	173	260	63	333	0	113	0	107
Colby C.	302	355	268	420	330	283	201	359	260
U.S. Air Force Academy	302	1,169	703	627	330	548	82	46	330
Calvin U.	304	319	551	422	325	274	500	372	265
U. Richmond	305	508	517	411	318	346	384	232	88
U. Tulsa	306	149	422	300	317	0	85	51	21
Haverford C.	307	315 i	424 i	320 i	315 i	224	339	221	201
Texas Christian U.	308	445	530	649	306	272	278	158	106
Pomona C.	309	618	409	391	304	247	119	158	132
Saginaw Valley State U.	310	39	49	42	300	2	21	25	294
Prairie View A&M U.	311	403	447	224	299	290	349	163	182
Fairfield U.	312	239	563	14	297	23	283	14	297
Macalester C.	313	231	536	447	296	129	268	256	272
Illinois Institute of Technology	314	763	646	433	293	631	557	395	281
Winthrop U.	315	309	213	254	287	137	52	95	100
Davidson C.	316	61	394	294	282	0	345	215	225
Bradley U.	317	593	69	150	279	526	36	45	243
St. Edward's U.	318	300	650	345	272	300	520	230	250
Willamette U.	319	116	131	225	271	0	9	145	149
Bucknell U.	320	316 i	356 i	396	265	20 i	19 i	18	80
U. New Haven	321	0	0	178	264	0	0	1	1
West Chester U. Pennsylvania	322	242	475	229	262	24	28	0	62
Central Michigan U.	323	499	283	192	257	253	142	86	68

TABLE 49

Total and federally financed higher education R&D expenditures in chemistry, 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. of the Pacific	323	268	58	114	257	268	58	114	257
Skidmore C.	325	190	175	241	256	65	70	128	115
St. John's U., New York	326	564	826	248	251	109	118	142	221
U. Wisconsin-La Crosse	327	274	248	242	249	147	126	84	69
Middlebury C.	328	177	192	153	245	177	188	131	213
Grand Valley State U.	329	606	432	599	243	569	398	571	219
SUNY, C. of Environmental Science and Forestry	329	308	307	133	243	145	162	14	42
Smith C.	331	147	161	221	242	89	88	142	151
Texas A&M U.-Commerce	332	152	127	227	240	85	62	104	136
U. Maryland Center for Environmental Science	333	0	841	685	234	0	16	211	25
William Paterson U.	334	34	57	153	229	0	0	0	0
Tarleton State U.	335	40	92	70	227	0	0	0	0
U. of the Incarnate Word	336	ne	ne	34	224	ne	ne	0	178
Oberlin C.	337	356	497	381	222	311	435	262	167
Reed C.	337	427	82	243	222	105	0	19	49
Towson U.	339	442	199	217	218	395	7	84	110
Harvey Mudd C.	340	436	260	803	217	275	82	584	88
California State U., Fullerton	341	472	241	414	213	389	205	404	7
Mount Holyoke C.	342	88	152	263	210	77	142	260	183
Bates C.	343	178	302	291	209	128	209	252	166
Saint Joseph's U.	344	202	176	194	208	37	9	0	0
C. Charleston	345	249	198	245	200	63	81	103	154
Winston-Salem State U.	346	474	309	180	193	474	309	180	193
Pacific U.	347	12	243	188	189	0	121	113	114
California State U., Sacramento	348	58	177	156	183	13	99	92	102
Eastern Michigan U.	349	324	240	150	176	0	0	0	0
Lafayette C.	349	102	125	177	176	73	113	152	151
Occidental C.	351	40	76	191	170	33	45	177	151
Saint Michael's C.	352	16	36	146	168	12	2	0	0
West Virginia State U.	353	145	204	353	165	119	204	353	100
Williams C.	353	183	145	155	165	75	45	53	0
U. Louisiana, Lafayette	355	591	630	853	162	4	71	114	160
Augsburg U.	356	205	190	119	160	202	186	119	160
Augustana U.	357	ne	357	201	158	ne	333	189	153
CUNY, John Jay C. of Criminal Justice	357	115	150	329	158	112	110	249	158
U. Puerto Rico, Humacao	359	ne	ne	313	157	ne	ne	287	104

TABLE 49

Total and federally financed higher education R&D expenditures in chemistry, ranked by FY 2019 total: FYs 2016–19

(Dollars in thousands)

Institution	Rank	Total				Federally financed					
		2016	2017	2018	2019	2016	2017	2018	2019		
Trinity C., Hartford	360	90	207	275	154	38	166	129	92		
Pace U.	361	332	350	349	152	0	0	0	0		
Albany State U.	362	358	78	137	150	358	78	137	150		
Kettering U.	363	128	78	133	149	128	43	84	89		
Texas A&M U.-Kingsville	364	62	84	48	148	0	11	0	83		
Claremont McKenna C.	365	0	67	40	144	0	50	39	140		
Texas Southern U.	365	200	126	196	144	160	99	139	114		
Indiana U. Pennsylvania	367	15	223	68	143	0	216	28	46		
U. Central Oklahoma	368	0	75	87	140	0	73	87	140		
C. of Saint Benedict	369	235	118	140	137	i	3	16	22	21	i
Tuskegee U.	370	282	i	282	i	229	131	229	229	229	131
Lamar U.	371	211	121	126	128	100	78	2	73		
Lewis and Clark C.	372	393	294	160	127	157	129	50	45		
Albion C.	373	ne	131	108	123	ne	0	0	0		
Doane U.	374	ne	ne	251	121	ne	ne	166	60		
West Texas A&M U.	374	21	41	43	121	20	3	0	71		
North Carolina Central U.	376	207	416	128	120	175	409	0	75		
Montclair State U.	377	123	187	256	119	116	167	242	106		
California State U., San Marcos	378	0	0	0	118	0	0	0	118		
Eastern Washington U.	378	116	70	179	118	116	70	179	118		
Morehouse C.	380	108	96	391	116	108	96	391	116		
Purdue U., Northwest	381	na	229	305	115	na	212	284	111		
Bowie State U.	382	21	111	83	112	21	111	83	112		
Allegheny C.	383	227	267	385	110	209	221	329	72		
Appalachian State U.	384	160	127	162	108	125	96	147	78		
Fort Valley State U.	385	108	102	88	104	108	102	88	104		
Naval Postgraduate School	385	367	395	299	104	367	395	299	104		
Saint John's U., Collegeville	385	206	91	106	104	i	0	0	0	0	i
Christopher Newport U.	388	0	11	18	102	0	0	9	64		
Central Connecticut State U.	389	22	42	ne	101	0	3	ne	78		
Purdue U., Fort Wayne	389	119	55	51	101	119	40	51	101		
Wheaton C., Wheaton	389	ne	63	37	101	ne	6	6	0		
Youngstown State U.	389	144	219	44	101	114	211	26	87		
U. Wisconsin-Platteville	393	ne	78	i	ne	99	i	ne	36	i	
Azusa Pacific U.	394	279	229	250	98	46	40	44	0		
Southern Connecticut State U.	394	19	55	8	98	0	0	0	0		

TABLE 49

Total and federally financed higher education R&D expenditures in chemistry, 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 U., Bakersfield	396	44	88	5	94	0	0	0	0
Providence C.	397	97	150	175	93	74	85	94	71
Hobart and William Smith Colleges	398	ne	147	ne	92	ne	93	ne	17
U. Wisconsin-Stevens Point	399	77 i	80 i	94 i	86 i	31 i	32 i	37 i	34 i
Stephen F. Austin State U.	400	52	65	91	85	0	0	0	0
Seattle U.	401	19	32	63	84	14	1	8	0
Colorado C.	402	110	129	183	83	0	0	0	0
U. Puerto Rico, Cayey	402	36	231	41	83	29	213	41	83
Hamilton C.	404	223	155	73	82	13	0	0	0
California Lutheran U.	405	ne	ne	ne	81	ne	ne	ne	36
Southeastern Louisiana U.	405	102	130	216	81	25	31	54	28
Bowdoin C.	407	97	118	193	79	86	95	162	71
St. Olaf C.	407	249	244	186	79	145	105	69	0
East Tennessee State U.	409	30	8	35 i	78 i	1	1	11	11
Niagara U.	409	44	144	145	78	0	0	0	0
Pepperdine U.	411	88	60	99	77	0	0	0	0
U. Houston-Downtown	411	44	52	73	77	0	0	0	0
Pennsylvania State U., Behrend	413	62	56	49	76	26	27	15	17
U. Alaska, Fairbanks	414	398	1,085	11	75	295	267	11	48
U. Louisiana, Monroe	414	12	2	50	75	12	0	26	67
Rutgers, State U. New Jersey, Camden	416	117	9	19	74	79	2	2	0
Fort Hays State U.	417	ne	ne	ne	73	ne	ne	ne	32
U. Northern Colorado	418	7	31	176	71	0	0	0	0
Gettysburg C.	419	ne	45 i	149	66	ne	9	112	0
Johnson C. Smith U.	419	69	0	228	66	69	0	228	66
California State U., Monterey Bay	421	0	0	0	65	0	0	0	65
Lincoln U., Jefferson City	422	10	53	3	64	10	53	3	64
U. North Georgia	422	ne	0	0	64	ne	0	0	52
Central State U.	424	0	37	83	63	0	37	83	63
Savannah State U.	424	16	157	63	63	0	140	59	63
U. Wisconsin-Green Bay	424	58 i	44 i	42 i	63 i	51 i	37 i	19 i	30 i
Indiana State U.	427	0	41	42	62	0	41	42	62
Montana Technological U.	427	276	243	110	62	244	217	77	54
U. South Florida, Saint Petersburg	429	0	46	0	61	0	46	0	61
SUNY, Geneseo	430	55	68	63	59	2	0	0	0
California State U., Channel Islands	431	63	10	33	57	26	0	23	54

TABLE 49

Total and federally financed higher education R&D expenditures in chemistry, ranked by FY 2019 total: FYs 2016–19

(Dollars in thousands)

Institution	Rank	Total				Federally financed			
		2016	2017	2018	2019	2016	2017	2018	2019
Liberty U.	432	ne	ne	ne	55	ne	ne	ne	0
Manhattan C.	432	ne	ne	ne	55	ne	ne	ne	55
Mercyhurst U.	432	9	10 i	ne	55 i	0	10 i	ne	24 i
U. San Francisco	432	0	55	73	55	0	0	0	0
Keene State C.	436	ne	7	ne	52	ne	0	ne	52
Central Washington U.	437	182	183	115	51	123	146	71	12
Minnesota State U., Mankato	437	137	75	69	51	121	38	55	18
U. Wisconsin-Oshkosh	439	ne	43 i	45 i	50 i	ne	35 i	36 i	40 i
Augusta U.	440	0	102	43	48	0	0	0	0
Humboldt State U.	440	16	9	3	48	0	0	0	0
U. Houston-Clear Lake	442	68	21	38	44	0	0	0	0
U. Texas, Tyler	442	37	41	33	44	0	0	0	0
DePaul U.	444	0	0	58	42	0	0	0	1
Elon U.	445	51	40	38	40	11	0	0	0
New Jersey City U.	445	ne	126	130	40	ne	126	130	35
Vassar C.	447	316	159	175 i	38	316	159	175 i	38
Western Illinois U.	447	ne	8	12	38	ne	3	0	17
U. Tennessee, Chattanooga	449	40	61	10	35	21	13	0	0
Kenyon C.	450	ne	ne	131	34	ne	ne	0	0
Rider U.	450	58	56	46	34	0	0	13	13
Biola U.	452	30 i	31 i	34 i	33 i	19 i	19 i	21 i	20 i
SUNY, C. Brockport	452	79	0	0	33	70	0	0	0
U. of Mary Washington	454	ne	ne	4	32	ne	ne	4	32
California State U., Chico	455	10	4	48	30	0	4	18	16
U. Ana G. Mendez, Cupey	455	0	0	0	30	0	0	0	30
Canisius C.	457	ne	28	33	29	ne	28	33	29
Pittsburg State U.	458	33	23	21	28	33	23	21	28
U. Michigan, Flint	459	ne	31	22	26	ne	0	0	0
Florida A&M U.	460	483	5	1,628	25	460	5	1,628	21
Black Hills State U.	461	49	115	26	24	11	71	25	22
Northern Michigan U.	461	23	14	26	24	0	0	0	0
California State U., San Bernardino	463	112	51	20	23	59	30	0	0
U. New England	463	21	20	27	23	0	0	0	0
Florida Gulf Coast U.	465	279	37	0	22	271	0	0	0
California State U., Stanislaus	466	0	13	17	20	0	0	0	0
Long Island U.	466	0	0	0	20	0	0	0	0

TABLE 49

Total and federally financed higher education R&D expenditures in chemistry, 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. South Florida, Sarasota-Manatee	466	0	0	0	20	0	0	0	0
Tennessee State U.	469	7	21	14	19	5	19	14	1
Monmouth U.	470	0	ne	ne	18	0	ne	ne	0
California State Polytechnic U., Pomona	471	10	134	959	17	0	128	664	17
U. Hawaii, Hilo	471	0	0	4	17	0	0	0	12
Gallaudet U.	473	434	66	54	15	335	66	54	11
Roger Williams U.	473	775	573	234	15	560	451	90	0
U. Alaska, Anchorage	473	104	0	0	15	0	0	0	15
Austin Peay State U.	476	0	17	25	14	0	0	0	0
Dickinson C.	476	57	78	ne	14	0	57	ne	0
U. Minnesota, Morris	476	25	36	ne	14	0	0	ne	0
Drake U.	479	20	11	8	13	7	8	8	9
U. Detroit Mercy	479	55	1	11	13	1	0	0	0
U. North Carolina, Asheville	479	370	167	201	13	315	145	190	0
U. Illinois, Springfield	482	74	0	0	12	73	0	0	12
U. Southern Maine	483	155	19	36	11	23	19	21	11
Eastern Connecticut State U.	484	0	0	6	10	0	0	0	0
Lawrence Technological U.	485	5	0	0	9	0	0	0	0
U. Dayton	486	114	146	12	8	3	25	0	0
Missouri State U.	487	82	17	24	7	79	17	24	7
Stockton U.	487	0	ne	1	7	0	ne	1	2
SUNY, C. Plattsburgh	487	0	91	88	7	0	0	72	0
Colorado State U., Pueblo	490	ne	ne	ne	6	ne	ne	ne	0
Hofstra U.	490	21	15	8	6	0	0	0	0
U. West Florida	490	0	0	0	6	0	0	0	0
U. Nebraska, Omaha	493	112	75	34	2	89	38	15	0
U. Wisconsin-Superior	493	ne	ne	42	2	ne	ne	0	0
CUNY, New York City C. of Technology	495	ne	ne	13	1	ne	ne	10	1
Fort Lewis C.	495	ne	ne	ne	1	ne	ne	ne	0
St. Cloud State U.	495	25	15	1	1	20	8	0	0
Texas A&M International U.	495	194	17	4	1	4	0	0	0
All other surveyed institutions	-	19,458	14,511	12,630	0	15,942	10,594	8,065	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.

^a Johns Hopkins University includes the Applied Physics Laboratory (APL), with \$14,277 thousand imputed for total and \$13,935 thousand reported for federally financed R&D expenditures in chemistry 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.

^b 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.