

TABLE 50

## Total and federally financed higher education R&amp;D expenditures in physics, 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	-	2,116,800	2,152,132	2,203,113	2,324,419	1,523,550	1,543,180	1,564,853	1,657,419
Johns Hopkins U. <sup>a</sup>	1	102,748	96,487	150,439	183,818	97,337	90,873	143,918	176,299
Michigan State U.	2	155,254	180,719	158,507	140,832	113,099	131,435	105,035	89,321
U. Rochester	3	78,144	84,767	88,866	106,277	74,831	80,662	84,512	102,405
California Institute of Technology	4	85,001	85,908	83,649	84,599	74,590	75,782	71,571	72,782
U. Colorado Boulder	5	41,089	43,282	54,531	66,848	36,170	38,697	49,962	62,321
U. California, San Diego	6	37,207	38,677	44,584	52,798	21,555	24,191	24,028	25,547
Cornell U.	7	42,635	44,463	47,530	50,551	31,579	31,859	37,320	39,904
Stanford U.	8	39,290	33,393	35,411	49,051	29,199	22,419	23,263	35,992
U. Maryland <sup>b</sup>	9	na	na	na	47,394	na	na	na	34,664
Massachusetts Institute of Technology	10	56,874	55,226	44,041	43,880	46,989	44,924	34,614	33,496
Harvard U.	11	36,276	36,614	36,953	43,696	22,597	22,087	23,294	25,671
Florida State U.	12	40,352	41,449	43,927	39,877	20,376	22,886	26,286	23,281
Princeton U.	13	33,776	31,045	34,551	38,060	23,456	23,779	25,073	25,639
U. California, Los Angeles	14	43,196	38,111	35,056	34,460	30,467	26,818	23,630	23,350
Yale U.	15	29,334	31,984	32,428	32,019	20,769	20,726	19,468	17,859
U. California, Berkeley	16	25,022	25,229	24,630	29,261	14,553	15,643	16,384	17,665
SUNY, Stony Brook U.	17	19,749	16,674	27,815	27,697	12,351	12,187	19,335	21,289
U. Wisconsin-Madison	18	26,704	24,903	24,980	27,643	21,648	19,868	19,691	19,614
Pennsylvania State U., University Park and Hershey Medical Center	19	20,117	22,291	26,179	26,674	14,417	16,063	17,984	18,349
U. Central Florida	20	23,963	26,462	23,077	26,198	18,312	20,272	16,823	16,665
U. Michigan, Ann Arbor	21	24,597	26,966	24,822	24,752	15,297	16,792	15,236	14,747
U. Illinois, Urbana-Champaign	22	31,659	27,267	25,760	24,104	21,448	20,646	18,780	19,128
U. Pennsylvania	23	19,865	22,816	23,102	23,806	15,522	17,661	16,380	15,939
U. Texas, Austin	24	49,332	26,240	26,391	23,553	40,247	16,068	14,929	13,519
U. Minnesota, Twin Cities	25	18,694	18,362	19,371	22,848	14,911	15,206	16,100	18,504
Ohio State U.	26	18,807	18,886	19,057	22,458	14,851	14,851	15,524	17,794
Texas A&M U., College Station and Health Science Center	27	17,778	17,691	19,108	21,835	8,296	7,900	9,529	12,329
U. Washington, Seattle	28	18,169	18,622	16,964	19,123	17,618	16,595	15,446	17,410
U. Texas M. D. Anderson Cancer Center	29	15,303	12,763	15,858	19,017	7,559	5,510	6,607	7,922
U. Iowa	30	14,084	14,778	19,055	18,463	11,899	13,204	17,902	16,600
U. California, Irvine	31	14,331	16,075	16,589	18,441	8,599	9,540	9,934	11,538
Northwestern U.	32	10,125	12,441	18,337	17,918	6,532	7,509	8,597	10,063
U. Tennessee, Knoxville	33	9,509	13,929	15,826	17,897	6,656	10,614	10,820	13,025
U. California, Santa Barbara	34	22,124	20,023	17,663	16,998	12,275	12,914	10,856	8,294

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		2016	2017	2018	2019	2016	2017	2018	2019
Washington State U.	35	28,019	23,931	20,349	16,949	7,405	7,074	6,667	7,330
U. Notre Dame	36	16,322	15,114	16,252	16,720	11,463	10,239	10,939	11,107
Iowa State U.	37	9,382	9,867	16,452	16,586	3,920	3,941	10,735	10,808
Rice U.	38	15,429	15,070	14,060	16,234	9,399	9,312	8,839	9,712
Vanderbilt U. and Vanderbilt U. Medical Center	39	11,886	13,129	14,239	15,954	7,684	6,461	7,143	8,777
U. Nebraska, Lincoln	40	18,217	15,963	15,119	15,908	13,942	11,773	10,574	11,136
Purdue U., West Lafayette	41	12,032	13,303	14,819	15,318	8,047	8,151	8,549	8,498
Louisiana State U., Baton Rouge	42	13,415	12,155	14,148	14,926	8,063	7,393	8,197	8,553
Boston U.	43	12,885	13,878	14,384	14,758	9,307	9,644	9,806	9,580
U. Massachusetts, Lowell	44	10,500	10,754	10,236	13,871	7,093	7,366	6,782	7,738
U. Chicago	45	13,434	16,495	13,301	12,617	11,647	13,921	11,582	10,463
Georgia Institute of Technology	46	12,980	11,390	11,087	12,427	7,723	6,972	6,198	7,871
North Carolina State U.	47	8,794	10,517	10,671	11,957	6,615	7,474	7,424	7,674
Arizona State U.	48	6,783	12,970	12,359	11,934	4,294	5,930	6,077	5,865
U. Virginia, Charlottesville	49	9,262	10,903	10,786	11,930	7,032	8,231	8,255	8,914
U. Florida	50	12,321	11,739	10,474	11,707	8,870	7,480	6,922	8,198
Northeastern U.	51	9,237	9,884	10,413	11,698	6,921	7,078	7,634	7,954
New York U.	52	7,600	9,106	11,661	11,615	5,603	5,491	7,093	7,180
Syracuse U.	53	8,387	10,264	9,237	11,440	6,639	6,874	6,218	7,811
Rutgers, State U. New Jersey, New Brunswick	54	17,784	18,822	10,341	11,380	8,299	10,751	7,595	7,578
Catholic U. of America	55	8,683	8,497	9,434	11,192	7,887	8,059	9,090	10,760
Columbia U. in the City of New York	56	15,711	22,538	10,285	11,102	14,670	20,655	8,485	8,586
Indiana U., Bloomington	57	13,574	12,062	7,165	10,702	7,624	8,158	7,148	7,561
U. California, Davis	58	10,455	10,597	10,035	10,672	6,854	7,324	6,947	7,553
Dartmouth C. and Dartmouth Hitchcock Medical Center	59	6,573	11,250	10,542	10,632	5,184	3,957	3,205	3,832
Duke U.	60	10,101	9,567	10,029	10,465	8,885	8,887	9,104	9,595
Carnegie Mellon U.	61	7,048	9,369	9,912	9,879	5,658	5,486	5,648	5,753
U. Pittsburgh, Pittsburgh	62	10,579	9,296	9,209	9,772	7,450	6,629	6,891	6,844
U. Texas, Arlington	63	7,780	8,966	10,412	9,386	2,878	5,830	5,879	6,027
U. Arizona	64	6,482	7,069	6,151	8,970	4,170	4,414	3,972	5,354
Kansas State U.	65	7,617	6,958	8,725	8,878	6,566	5,625	6,066	6,186
West Virginia U.	66	6,955	9,391	10,631	8,707	4,628	5,912	6,494	6,067
Air Force Institute of Technology	67	4,807	4,668	5,871	8,478	3,804	3,505	4,241	4,457
U. North Carolina, Chapel Hill	68	10,357	7,864	8,318	8,412	6,393	5,933	5,441	6,000
U. Mississippi	69	9,071	8,796	7,349	8,361	6,277	6,115	4,968	5,816
U. Wisconsin-Milwaukee	70	7,953	8,290	10,329	8,327	6,735	6,650	8,049	6,609

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		2016	2017	2018	2019	2016	2017	2018	2019
Virginia Polytechnic Institute and State U.	71	5,366	5,637	6,511	7,909	3,145	3,061	3,627	4,538
U. Houston	72	8,147	6,366	5,168	7,839	4,323	3,696	2,845	3,366
Brown U.	73	11,993	8,325	9,766	7,636	4,066	4,400	4,482	4,358
Brandeis U.	74	6,278	7,256	7,129	7,551	5,969	5,603	4,919	5,958
U. Oregon	75	5,769	6,458	5,695	7,523	5,056	4,846	4,294	4,467
U. Massachusetts, Amherst	76	7,304	7,430	7,256	7,403	4,744	4,150	3,763	4,709
Montana State U., Bozeman	77	7,658	6,297	4,734	7,183	5,239	5,038	4,223	4,393
U. California, Santa Cruz	78	7,542	7,496	7,803	7,057	4,382	5,082	5,071	5,048
U. California, Riverside	79	8,793	8,420	7,903	6,917	7,401	7,357	6,997	5,889
Auburn U., Auburn	80	4,767	5,107	7,303	6,710	2,617	2,707	3,557	4,225
Texas Tech U.	81	6,898	8,265	7,096	6,641	1,056	1,316	1,194	1,656
U. Connecticut	82	4,566	4,871	5,973	6,330	3,375	3,378	3,604	3,691
Naval Postgraduate School	83	5,099	3,524	4,310	6,126	4,909	2,864	3,074	5,302
Florida International U.	84	4,305	5,299	6,587	5,911	2,148	2,400	3,399	3,113
Clemson U.	85	4,703	5,009	5,148	5,861	2,939	3,499	3,171	3,703
U. Illinois, Chicago	86	5,518	5,202	4,949	5,792	4,464	3,966	3,690	4,579
William & Mary	87	5,666	4,933	4,520	5,788	4,609	4,327	3,600	3,752
Temple U.	88	6,615	5,933	5,366	5,717	4,141	3,959	3,696	4,069
U. Delaware	89	4,621	4,954	5,605	5,499	3,903	4,243	4,747	4,630
Washington U., Saint Louis	90	6,098	5,829	6,274	5,476	4,938	4,997	5,461	4,827
U. Maine	91	3,303	3,181	4,442	5,457	1,141	674	1,633	1,844
Georgia State U.	92	4,926	7,143	6,368	4,948	4,501	5,452	4,558	4,548
Rensselaer Polytechnic Institute	93	5,350	5,158	4,705	4,936	2,828	2,290	2,699	1,913
Colorado School of Mines	94	3,583	3,180	3,128	4,841	3,161	2,657	2,689	4,336
Northern Illinois U.	95	3,082	4,254	4,988	4,823	2,454	3,100	3,136	3,311
Mississippi State U.	96	3,894	3,286	4,773	4,710	2,086	1,392	2,737	2,424
Old Dominion U.	97	4,335	4,377	3,875	4,709	3,549	3,559	3,276	3,606
U. Miami	98	5,591	5,579	4,079	4,465	4,109	3,999	3,451	4,041
U. South Florida, Tampa	99	4,483	4,385	5,096	4,440	2,403	2,577	2,761	2,225
U. Southern California	100	3,040	3,218	2,735	4,410	2,055	2,444	2,715	3,439
Wayne State U.	101	3,952	4,784	5,025	4,317	2,644	3,054	3,666	2,614
SUNY, U. Buffalo	102	4,787	4,396	4,227	4,236	2,927	2,474	2,949	2,998
U. Toledo	103	3,187	5,198	5,693	4,115	1,761	1,730	2,781	2,724
George Washington U.	104	2,765	3,048	3,699	4,108	1,824	2,269	2,771	3,354
New Jersey Institute of Technology	105	5,565	4,579	4,059	4,090	2,259	1,772	1,430	1,511
Hampton U.	106	4,901	4,615	4,129	4,044	4,901	4,615	4,129	4,044

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Institution	Rank	Total				Federally financed			
		2016	2017	2018	2019	2016	2017	2018	2019
U. Hawaii, Manoa	107	6,378	4,298	3,897	4,040	5,378	3,951	3,677	3,914
U. New Mexico	108	5,262	5,644	4,344	3,989	4,662	5,086	3,967	3,620
U. Nevada, Reno	109	3,711	4,544	4,126	3,942	3,264	3,498	2,695	2,118
SUNY, Binghamton U.	110	3,249	4,167	6,720	3,930	604	861	1,096	1,121
Georgetown U.	111	3,094	2,964	3,119	3,921	1,666	2,209	1,955	2,939
Ohio U.	112	4,531 <sup>i</sup>	4,731 <sup>i</sup>	4,602 <sup>i</sup>	3,859	2,242	2,631	2,373	2,386
U. Texas, San Antonio	113	2,569	2,729	3,086	3,774	1,784	1,999	1,858	2,463
U. Nevada, Las Vegas	114	4,185	4,724	4,989	3,765	3,263	3,934	3,504	1,321
Delaware State U.	115	5,367	2,928	2,434	3,716	3,751	2,182	1,567	1,158
U. Cincinnati	116	3,394	4,027	4,352	3,673	2,256	2,479	2,643	2,483
Oklahoma State U., Stillwater	117	0	2,924	3,429	3,654	0	552	875	1,164
U. Oklahoma, Norman and Health Science Center	118	3,740	3,570	4,081	3,526	2,896	2,746	3,088	2,731
U. North Texas, Denton	119	1,143	1,538	2,044	3,517	810	910	1,240	1,445
Florida A&M U.	120	2,150	3,496	4,455	3,463	1,840	3,239	4,254	3,337
U. Arkansas, Fayetteville	121	3,413	3,209	3,575	3,370	1,515	1,807	1,747	1,765
Rochester Institute of Technology	122	2,586	2,983	3,316	3,369	1,967	2,305	2,468	2,219
Tulane U.	123	3,334	4,563	3,866	3,327	2,137	2,893	2,218	1,594
American U.	124	1,210	1,853	2,245	3,303	841	1,344	1,768	2,732
Worcester Polytechnic Institute	125	765	617	1,061	3,269	531	447	551	525
CUNY, City C.	126	4,464	5,193	4,213	3,207	2,745	3,709	3,260	2,179
Idaho State U.	127	4,250	3,570	4,072	3,126	1,658	1,994	2,413	1,686
U. Kentucky	128	4,320	3,433	2,366	2,937	3,422	2,976	1,928	2,534
Emory U.	129	3,083	2,599	2,773	2,882	1,625	1,626	1,844	2,262
Baylor U.	130	2,011	2,069	2,585	2,866	500	640	1,085	1,213
Colorado State U., Fort Collins	131	3,013	3,057	2,772	2,837	2,911	2,676	2,649	2,140
U. North Carolina, Charlotte	132	3,504	2,543	2,282	2,804	3,215	2,033	1,454	1,770
California Polytechnic State U., San Luis Obispo	133	1,245	1,648	1,536	2,783	444	519	572	926
Illinois Institute of Technology	134	3,221	3,330	3,188	2,772	3,002	2,986	2,897	2,453
U. Maryland, Baltimore County	135	2,291	1,498	2,037	2,742	1,952	1,233	1,654	2,261
Brigham Young U., Provo	136	1,740	1,869	1,963	2,696	1,358	1,552	1,851	2,216
U. Missouri, Columbia	137	2,787	2,949	2,573	2,680	2,170	2,214	1,702	2,248
U. Puerto Rico, Rio Piedras	138	2,334	2,629	1,930	2,639	1,582	1,742	1,197	1,587
Rockefeller U.	139	2,564	2,692	2,870	2,607	500	581	595	350
U.S. Air Force Academy	140	4,062	2,730	844	2,603	3,426	2,128	249	2,603
Central Michigan U.	141	1,382	1,669	2,121	2,527	960	1,072	1,527	2,168
Case Western Reserve U.	142	4,036	3,044	2,799	2,476	3,438	2,688	2,405	2,170

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U. Alabama, Tuscaloosa	143	2,805	2,480	3,078	2,437	1,886	1,835	2,575	2,287
U. Alabama, Birmingham	144	2,285	2,410	2,675	2,419	1,900	1,915	2,340	2,140
California State U., Northridge	145	2,183	2,387	1,865	2,397	2,156	2,341	1,788	2,312
Boston C.	146	2,114	2,096	1,783	2,384	1,040	927	1,470	1,809
Oakland U.	147	1,201	1,003	890	2,343	932	817	743	933
Utah State U.	148	756	2,192	1,919	2,318	374	829	1,294	1,586
U. Kansas	149	3,343	3,714	2,578	2,269	2,964	3,339	2,424	2,233
U. Texas, Dallas	150	2,586	2,178	3,845	2,216	1,310	1,230	1,675	1,749
Michigan Technological U.	151	1,865	1,839	1,930	2,215	419	346	299	440
Kent State U.	152	3,142	2,641	2,636	2,205	2,279	1,969	1,670	1,355
U. South Carolina, Columbia	153	4,386	3,132	2,941	2,203	3,332	2,479	2,335	1,774
U. California, Merced	154	2,064	2,259	2,649	2,190	909	1,399	1,699	1,387
SUNY, U. Albany	155	211	2,486	1,911	2,156	186	250	224	279
U. South Dakota	156	925	936	1,220	2,089	253	365	456	1,313
Stevens Institute of Technology	157	1,139	1,323	1,469	2,045	1,009	1,166	1,297	1,960
Southern Methodist U.	158	2,492	2,309	2,237	1,900	2,358	2,184	2,050	1,701
North Carolina Central U.	159	3,199	3,603	2,850	1,881	3,176	3,603	2,850	1,881
New Mexico State U.	160	2,102	1,999	1,656	1,762	1,838	1,789	1,493	1,532
U. Alabama, Huntsville	161	3,435	2,743	1,656	1,724	1,888	1,845	869	741
U. New Hampshire	162	1,733	933	1,423	1,717	855	819	900	1,119
Wake Forest U.	163	2,259	1,556	1,337	1,680	1,818	1,416	1,278	1,344
Drexel U.	164	1,836	1,728	2,312	1,663	1,160	1,201	1,733	1,303
CUNY, Advanced Science Research Center	165	ne	235	329	1,640	ne	183	232	1,252
CUNY, Hunter C.	166	1,143	1,260	1,285	1,625	604	624	800	1,186
Jackson State U.	167	2,522	1,446	1,637	1,586	2,158	1,282	1,417	1,446
New Mexico Institute of Mining and Technology	168	1,747	621	821	1,520	1,657	616	808	1,478
U.S. Naval Academy	169	776	1,101	950	1,468	700	886	791	1,370
San Diego State U.	170	4,231	1,795	1,344	1,422	249	373	408	507
Texas State U.	171	1,181	1,959	1,735	1,421	1,083	1,469	1,663	1,365
U. Massachusetts, Boston	172	802	905	1,021	1,380	643	593	502	552
Wright State U.	173	1,963	2,021	2,045	1,373	1,388	1,676	1,511	1,179
U. Missouri, Kansas City	174	1,255	1,564	1,637	1,366	716	1,052	1,075	1,017
Wesleyan U.	174	1,149	1,541	1,030	1,366	767	922	805	1,037
Amherst C.	176	460	763	809	1,312	369	523	590	1,103
San Francisco State U.	177	837	1,129	1,169	1,300	529	739	769	958
North Carolina Agricultural and Technical State U.	178	664	929	891	1,263	636	902	855	1,211

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Oregon State U.	179	1,011	573	906	1,204	567	571	812	1,112
Lehigh U.	180	1,709	2,076	1,897	1,195	1,238	1,392	1,096	845
U. Denver	181	414	784	1,632	1,147	414	662	1,065	641
South Dakota School of Mines and Technology	182	921	941	1,163	1,098	746	827	1,003	1,098
Virginia Commonwealth U.	183	1,381	928	1,320	1,086	990	717	1,190	983
U. Texas, El Paso	184	2,046	2,002	1,385	1,068	932	1,258	731	648
U. Georgia	185	2,712	2,425	3,331	1,053	941	588	538	722
Louisiana Tech U.	186	1,171	1,302	1,038	1,034	470	542	362	317
Creighton U.	187	960	i 862	i 644	i 957	i 685	i 513	i 326	i 576
California State U., Los Angeles	188	331	694	1,162	912	168	165	612	720
U. Wyoming	189	1,020	722	1,385	892	1,006	722	1,118	835
U. North Dakota	190	7	0	813	887	0	0	78	96
SUNY, Geneseo	191	784	811	869	843	573	620	592	663
U. Vermont	192	304	751	912	793	281	449	496	646
Prairie View A&M U.	193	1,200	1,197	1,517	783	134	402	248	225
CUNY, C. Staten Island	194	97	260	701	i 777	97	260	540	i 659
North Dakota State U.	195	986	797	482	764	346	334	382	288
U. New Orleans	196	585	493	611	757	438	392	508	605
Embry-Riddle Aeronautical U.	197	183	189	631	724	144	154	265	490
Howard U.	198	221	839	601	719	188	789	525	559
Southern U. and A&M C., Baton Rouge	199	794	1,231	964	716	794	1,206	822	573
U. Puerto Rico, Humacao	200	ne	ne	620	695	ne	ne	360	390
Christopher Newport U.	201	358	402	368	656	357	402	344	470
Florida Institute of Technology	202	1,694	1,556	759	650	1,505	1,494	504	428
Missouri U. of Science and Technology	203	662	687	1,019	643	577	638	978	620
Texas A&M U.-Commerce	203	244	423	898	643	123	350	754	531
Cleveland State U.	205	282	436	555	639	32	116	174	277
Bryn Mawr C.	206	658	863	775	635	163	237	306	335
Tennessee Technological U.	206	397	602	671	635	254	453	543	544
Hope C.	208	267	381	398	614	150	357	343	598
Dillard U.	209	568	1,053	785	606	353	703	352	122
Bowling Green State U.	210	433	657	722	593	185	305	253	233
East Carolina U.	211	263	538	596	591	247	179	214	133
U. Memphis	212	316	359	474	578	73	16	182	230
Rowan U.	213	298	385	496	576	107	157	344	465
U. San Diego	214	20	243	292	573	0	109	172	353

TABLE 50

## Total and federally financed higher education R&amp;D expenditures in physics, 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 Michigan U. and Homer Stryker M.D. School of Medicine	215	468	643	679	571	468	443	530	465
U. Central Oklahoma	216	571	381	631	561	499	259	519	517
Florida Atlantic U.	217	190	323	472	560	165	145	236	285
CUNY, Queens C.	218	487	387	648	553	292	321	409	295
Western Kentucky U.	218	971	1,211	955	553	233	302	365	349
U. Dayton	220	1,465	1,311	1,030	539	1,389	1,283	1,013	525
Northern Arizona U.	221	83	23	324	538	51	0	89	212
Fordham U.	222	21	20	5	535	0	0	0	0
Alabama A&M U.	223	1,003	i 831	i 657	i 485	i 852	i 695	i 537	i 380
Kennesaw State U.	224	132	38	146	484	132	38	42	100
Clark Atlanta U.	225	197	362	0	461	177	357	0	455
San Jose State U.	225	697	595	397	461	678	578	391	455
U. Louisiana, Lafayette	227	2,190	2,490	2,146	460	20	38	159	22
Towson U.	228	71	153	584	446	59	80	555	401
George Mason U.	229	1,277	790	487	445	894	550	408	311
U. Massachusetts, Dartmouth	230	337	268	212	441	95	40	39	64
Villanova U.	231	149	159	255	436	4	87	123	239
Indiana U.-Purdue U., Indianapolis	232	231	272	205	418	195	221	165	370
Kenyon C.	233	ne	ne	373	410	ne	ne	261	292
Reed C.	234	132	41	131	401	0	0	6	32
California State U., Fullerton	235	417	542	465	392	361	541	454	315
U. Puerto Rico, Mayaguez	236	814	1,023	1,121	380	616	697	754	287
Southern Illinois U., Carbondale	237	681	908	624	378	435	494	299	269
CUNY, Baruch C.	238	278	230	241	375	269	228	241	330
U. California, San Francisco	239	365	342	349	370	0	0	0	4
SUNY, C. Plattsburgh	240	265	184	305	369	265	129	261	259
Grinnell C.	241	225	200	419	364	0	0	0	0
Black Hills State U.	242	749	580	388	363	491	373	370	331
CUNY, Graduate Center	243	6	i 8	0	353	0	i 0	0	330
Clark U.	244	532	542	421	350	233	315	245	180
CUNY, New York City C. of Technology	245	ne	ne	30	347	ne	ne	18	314
California State U., Fresno	246	291	278	391	341	265	256	366	341
Williams C.	247	629	234	197	329	516	226	189	189
U. Idaho	248	410	561	210	326	252	348	157	188
Wellesley C.	249	178	217	76	322	159	203	60	129
Marquette U.	250	395	395	150	315	206	219	19	83

TABLE 50

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

(Dollars in thousands)

Institution	Rank	Total				Federally financed			
		2016	2017	2018	2019	2016	2017	2018	2019
Norfolk State U.	251	1,243	682	396	311	1,243	682	396	311
Harvey Mudd C.	252	169	305	126	309	97	141	20	72
U. Southern Mississippi	253	0	10	281	307	0	10	281	307
Saint Joseph's U.	254	171	127	90	300	63	40	2	0
Missouri State U.	255	0	15	93	296	0	0	78	278
U. Louisville	256	301	408	379	291	195	213	119	105
U. Texas Rio Grande Valley	257	497	327	330	285	446	217	317	283
Bates C.	258	215	393	246	282	78	184	143	141
Augsburg U.	259	406	368	292	276	406	368	292	276
U. Tulsa	260	926	869	566	268	569	571	313	181
Oberlin C.	261	195	303	235	263	143	295	224	255
Boise State U.	262	364	219	219	256	112	207	167	214
U. Washington, Bothell	262	0	0	0	256	0	0	0	215
Bowdoin C.	264	239	117	115	250	75	115	108	89
Swarthmore C.	265	301	397	442	246	150	319	367	199
U. Montana, Missoula	266	502	595	318	244	383	463	295	117
Northern Kentucky U.	267	163	144	178	242	91	90	94	174
U. Minnesota, Duluth	268	341	287	230	237	211	202	188	196
Tufts U.	269	1,565	1,316	467	234	1,363	1,216	467	216
Wichita State U.	270	0	0	0	229	0	0	0	195
California State U., San Marcos	271	0	203	330	225	0	203	330	225
Pacific U.	272	141	627	161	223	139	610	107	169
Carleton C.	273	27	157	78	219	0	80	64	2
Morehouse C.	274	121	162	223	213	121	162	223	213
Saint Louis U.	275	12	140	105	205	0	0	89	67
U. Colorado Colorado Springs	276	805	765	449	203	56	65	105	54
Union C., Schenectady	277	45	101	268	201	0	0	193	170
Augustana U.	278	ne	186	321	200	ne	142	186	148
Fayetteville State U.	278	524	524	300	200	524	524	300	200
Miami U.	280	160	25	124	199	62	4	86	153
Clarkson U.	281	254	254	283	198	173	198	196	148
Portland State U.	282	678	525	90	195	502	275	38	85
Trinity U.	283	80	97	79	194	67	35	35	43
Georgia Southern U.	284	283	306	244	190	90	56	65	34
DePaul U.	285	173	152	185	187	99	97	111	111
Illinois State U.	286	126	130	157	184	125	128	123	145



TABLE 50

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

(Dollars in thousands)

Institution	Rank	Total				Federally financed			
		2016	2017	2018	2019	2016	2017	2018	2019
Lafayette C.	287	32	131	146	183	32	130	146	182
C. Wooster	288	ne	138	88	179	ne	118	57	100
U. North Florida	288	320	318	225	179	91	109	97	100
Central Washington U.	290	113	97	125	178	99	85	118	170
Long Island U.	290	83	77	60	178	83	77	60	171
South Carolina State U.	292	462 i	708	743 i	175	235 i	708	739 i	175
Smith C.	293	85	66	170	173	60	34	157	160
East Tennessee State U.	294	82	168	293 i	171 i	82	159	193	140
Bucknell U.	295	0 i	0 i	0	167	0 i	0 i	0	167
U. Nebraska, Omaha	295	202	232	189	167	199	210	179	130
St. Edward's U.	297	200	390	255	164	200	320	160	150
California State U., Sacramento	298	104	100	104	161	31	69	78	97
California State U., Chico	299	0	0	78	156	0	0	68	150
Texas Woman's U.	300	0	0	145	155	0	0	7	0
Texas Christian U.	301	469	343	135	149	306	219	102	0
U. Central Arkansas	301	334	385	266	149	166	232	232	136
West Chester U. Pennsylvania	301	221	197	391	149	41	92	31	0
Lewis and Clark C.	304	155	204	153	141	14	44	61	108
Macalester C.	305	142	67	11	139	115	67	11	50
Calvin U.	306	48	32	120	137	17	10	102	123
Duquesne U.	307	132	232	195	135	39	79	55	56
Colgate U.	308	149	269	185	133	58	70	100	34
U. Richmond	309	484	429	189	132	372	330	117	99
CUNY, Lehman C.	310	416	210	360	129	401	210	360	0
Grambling State U.	310	434	365	267	129	272	235	137	52
Indiana U. Pennsylvania	312	49	92	140	126	45	89	105	82
James Madison U.	312	513	354	120	126	417	304	120	126
U. Colorado Denver and Anschutz Medical Campus	312	239	168	71	126	223	159	57	118
U. North Carolina, Greensboro	315	4	218	106	125	0	61	106	125
CUNY, York C.	316	ne	ne	ne	123	ne	ne	ne	123
Franklin and Marshall C.	317	64	144	127	122	63	134	78	54
Hobart and William Smith Colleges	317	ne	74	ne	122	ne	69	ne	120
Drake U.	319	208	180	107	117	205	173	105	109
Hamilton C.	320	83	53	165	116	38	5	3	12
Humboldt State U.	321	56	78	106	115	44	52	69	48
Middlebury C.	322	184	222	0	114	184	222	0	104

TABLE 50

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

(Dollars in thousands)

Institution	Rank	Total				Federally financed											
		2016	2017	2018	2019	2016	2017	2018	2019								
Vassar C.	323	0	75	501	i	113	0	75	501	i	109						
Rutgers, State U. New Jersey, Newark	324	300	255	162		109	299	211	115		32						
U. Nebraska, central administration	324	ne	ne	92		109	ne	ne	85		102						
C. Charleston	326	82	64	88		103	39	0	17		49						
U. Hawaii, Hilo	326	312	362	383		103	312	362	383		103						
U. Rhode Island	328	145	52	104		95	50	18	89		85						
Indiana State U.	329	301	107	126		93	301	107	126		93						
Southern Connecticut State U.	330	967	588	327		92	841	534	279		53						
Haverford C.	331	150	i	112	i	54	i	91	i	115	38	17	37				
Appalachian State U.	332	9		358		72		87		0	342	67	73				
Santa Clara U.	333	281		196		503		86		281	196	503	81				
U. Wisconsin-Stevens Point	333	80	i	83	i	97	i	86	i	38	i	39	i	46	i	41	i
Northeastern Illinois U.	335	ne		75		88		84		ne		75		88		84	
Rhode Island C.	335	0		0		0		84		0		0		0		84	
Southern Illinois U., Edwardsville	335	438		256		694		84		152		92		217		84	
Mercer U.	338	0		0		81		83		0		0		0		0	
Fort Hays State U.	339	ne		ne		ne		82		ne		ne		ne		20	
Azusa Pacific U.	340	175		78		82		81		0		0		0		28	
Fairfield U.	340	153		139		41		81		24		9		41		81	
CUNY, Brooklyn C.	342	407		198		72		78	i	292		156		28		29	i
Sam Houston State U.	342	28		29		37		78		23		27		23		69	
Skidmore C.	342	35		26		12		78		12		4		0		35	
Willamette U.	345	101		88		117		77		79		58		100		45	
Pennsylvania State U., Behrend	346	62		56		49		75		26		27		15		16	
Mercyhurst U.	347	18		17	i	ne		74	i	0		17	i	ne		47	i
Wheaton C., Wheaton	347	ne		30		56		74		ne		4		17		74	
Seattle U.	349	190		117		139		73		158		104		129		50	
U. Akron	350	68		44		10		72		8		25		0		0	
Davidson C.	351	0		47		0		70		0		0		0		7	
West Virginia State U.	351	0		0		0		70		0		0		0		50	
Albion C.	353	ne		110		72		69		ne		53		31		50	
Milwaukee School of Engineering	353	63		86		49		69		63		86		49		69	
Florida Polytechnic U.	355	ne		ne		ne		68		ne		ne		ne		0	
Tennessee State U.	355	323		378		239		68		264		294		239		68	
Colby C.	357	108		148		92		67		80		117		68		37	
Texas Southern U.	357	0		55		0		67		0		50		0		65	

TABLE 50

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

(Dollars in thousands)

Institution	Rank	Total				Federally financed			
		2016	2017	2018	2019	2016	2017	2018	2019
Arkansas State U., Jonesboro	359	153	232	167	66	151	165	120	47
U. Nebraska, Kearney	360	49	132	7	65	33	27	5	8
U. Wisconsin-Green Bay	361	40 i	32 i	45 i	64 i	34 i	25 i	24 i	36 i
Kettering U.	362	24	643	370	62	0	451	326	27
Saint Michael's C.	363	47	45	61	60	47	45	61	60
U. Puerto Rico, Cayey	364	0	0	97	57	0	0	4	57
Chapman U.	365	1,036	1,415	86	55	855	916	0	0
U. Maryland Center for Environmental Science	365	0	0	17	55	0	0	17	55
U. Wisconsin-Oshkosh	365	ne	53 i	56 i	55 i	ne	46 i	48 i	47 i
Whitman C.	365	ne	ne	ne	55	ne	ne	ne	40
Gettysburg C.	369	ne	47 i	39	54	ne	33	10	25
Loyola Marymount U.	369	2	104	17	54	0	0	0	0
U. Ana G. Mendez, Gurabo	369	0	60	34	54	0	0	0	0
South Dakota State U.	372	9	11	4	53	8	5	4	53
U. of the Pacific	372	86	106	63	53	86	106	63	53
U. North Carolina, Wilmington	374	691	242	90	52	542	205	47	51
Biola U.	375	41 i	42 i	44 i	49 i	33 i	34 i	34 i	38 i
Elon U.	375	75	99	108	49	0	0	0	0
U. Wisconsin-La Crosse	375	115	18	164	49	72	0	126	44
Texas A&M U.-Kingsville	378	66	64	33	48	58	57	28	46
Austin Peay State U.	379	0	46	155	47	0	19	142	36
Pace U.	379	0	0	0	47	0	0	0	47
California State U., Dominguez Hills	381	3	12	59	40	3	0	45	32
Eastern Michigan U.	381	0	29	22	40	0	0	10	24
Pomona C.	381	76	73	109	40	0	2	20	0
C. of Saint Benedict	384	85	91	39	39 i	0	0	0	0 i
Keene State C.	384	ne	0	ne	39	ne	0	ne	0
Loyola U., Chicago	386	17	63	17	36	0	0	0	0
Saint John's U., Collegeville	387	75	81	35	35 i	0	0	0	0 i
U.S. Military Academy	387	18	448	120	35	18	448	120	35
William Paterson U.	387	0	1	36	35	0	0	0	0
Eastern Washington U.	390	32	36	33	34	32	36	33	34
Morgan State U.	390	774	276	113	34	774	276	113	30
Grand Valley State U.	392	20	23	35	33	18	21	26	27
Tuskegee U.	393	190 i	190 i	154	32	154	154	154	32
Barnard C.	394	800	296	159	31	800	291	155	0

TABLE 50

## Total and federally financed higher education R&amp;D expenditures in physics, 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 Sciences Philadelphia	395	81	58	61	30	51	31	1	1
U. San Francisco	396	0	26	16	28	0	0	0	0
Southeastern Louisiana U.	397	127	124	88	25	79	83	54	7
Lamar U.	398	2	12	32	24	0	0	21	0
California State U., Long Beach	399	47	3	18	23	47	0	18	22
Occidental C.	399	120	93	62	23	120	93	62	23
Ball State U.	401	27	14	11	22	11	6	0	2
St. John's U., New York	401	183	124	63	22	70	0	0	0
U. of St. Thomas (MN)	401	93	84	47	22	87	66	38	19
Murray State U.	404	50	30	28	21	0	0	0	0
Colorado C.	405	117	288	84	19	100	266	60	14
SUNY, Buffalo State	405	45	43	23	19	45	43	23	17
Texas A&M U.-Corpus Christi	405	0	12	0	19	0	12	0	19
U. Northern Colorado	405	75	61	60	19	38	26	26	0
Western Illinois U.	405	ne	0	0	19	ne	0	0	19
U. Northern Iowa	410	214	152	26	18	160	145	26	14
Central Connecticut State U.	411	20	25	ne	17	0	13	ne	0
U. Missouri, Saint Louis	411	176	181	139	17	67	135	136	14
U. of Mary Washington	413	ne	ne	136	16	ne	ne	0	16
SUNY, C. Brockport	414	9	5	4	15	0	0	0	6
Dickinson C.	415	9	0	ne	14	0	0	ne	14
U. Michigan, Flint	415	ne	23	31	14	ne	17	19	1
California State U., Bakersfield	417	39	0	0	13	0	0	0	0
Middle Tennessee State U.	417	11	0	7	13	0	0	0	0
Salisbury U.	417	11	18	17	13	7	7	4	0
Youngstown State U.	420	39	164	27	12	37	164	18	5
Pepperdine U.	421	3	7	6	11	0	0	0	0
St. Cloud State U.	421	62	17	18	11	41	5	1	2
California Lutheran U.	423	ne	ne	ne	10	ne	ne	ne	0
New Jersey City U.	423	ne	0	0	10	ne	0	0	10
U. Minnesota, Morris	423	0	19	ne	10	0	19	ne	0
U. North Carolina, Asheville	426	0	1	0	8	0	0	0	8
Canisius C.	427	ne	33	33	7	ne	33	33	7
Clafflin U.	427	0	0	0	7	0	0	0	7
Lincoln U., Jefferson City	427	37	18	14	7	37	18	14	7
Rider U.	427	20	20	0	7	0	0	0	0

TABLE 50

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

(Dollars in thousands)

Institution	Rank	Total				Federally financed			
		2016	2017	2018	2019	2016	2017	2018	2019
Rutgers, State U. New Jersey, Camden	431	0	0	0	6	0	0	0	0
California State U., San Bernardino	432	2	2	1	5	0	0	0	0
California State U., Stanislaus	432	0	4	0	5	0	0	0	0
Dakota State U.	432	114	92	8	5	4	0	0	0
Marshall U.	432	1,018	16	16	5	0	8	2	0
Trinity C., Hartford	432	11	7	3	5	0	0	0	0
Hofstra U.	437	0	9	10	4	0	0	0	0
U. New Haven	437	0	0	4	4	0	0	0	0
U. North Georgia	437	ne	30	71	4	ne	28	71	0
SUNY, Oswego	440	ne	7	13	3	ne	0	0	0
Texas A&M International U.	440	25	53	8	3	17	43	1	0
Furman U.	442	0	0	0	2	0	0	0	2
Pittsburg State U.	442	0	10	0	2	0	10	0	2
Andrews U.	444	ne	ne	ne	1	ne	ne	ne	0
La Sierra U.	444	84	12	5	1	0	0	0	0
All other surveyed institutions	-	54,159	62,801	59,358	0	36,576	45,926	41,676	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 \$172,843 thousand imputed for total and \$167,682 thousand reported for federally financed R&D expenditures in physics 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.