



APPENDIX TABLE 5-41 

U.S. S&E articles, by field and sector: 2003–16

(Number)

Field and sector	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
All fields														
Total	321,766	347,874	379,701	383,115	389,452	391,933	398,871	409,853	424,938	432,312	435,212	440,230	429,139	408,985
Federal government	18,725	20,739	21,682	21,666	21,463	21,697	21,240	21,594	22,455	22,580	21,485	21,334	20,217	19,556
Industry	27,793	31,158	33,498	32,240	32,671	31,730	31,140	32,074	31,157	31,226	29,401	28,569	26,276	24,565
Academic	224,593	244,335	265,505	271,502	279,219	284,535	290,836	298,648	312,139	317,712	323,433	328,562	322,101	307,413
Academic public	138,916	150,882	166,446	169,816	175,613	178,563	181,981	186,673	194,286	196,689	199,741	200,075	193,921	180,871
Academic private	76,278	82,470	89,221	92,026	93,937	96,195	97,940	100,674	107,018	110,276	111,566	114,168	110,690	103,422
Academic undefined	9,399	10,982	9,838	9,659	9,669	9,777	10,915	11,301	10,835	10,748	12,127	14,318	17,489	23,119
FFRDCs	8,621	8,999	10,600	10,413	10,281	9,782	9,456	9,780	10,398	10,927	10,344	10,215	9,643	9,107
Private nonprofit	15,692	17,070	19,662	21,555	21,288	19,757	19,269	19,430	20,588	21,566	21,236	21,986	21,973	21,248
State and local government	1,238	1,472	1,733	1,639	1,657	1,684	1,648	1,682	1,722	1,757	1,679	1,759	1,576	1,537
Unassigned	25,103	24,102	27,020	24,100	22,872	22,748	25,281	26,645	26,480	26,544	27,634	27,806	27,352	25,560
Engineering														
Total	40,057	43,168	50,668	48,623	48,674	48,336	49,867	53,592	53,875	53,485	54,267	51,220	50,720	50,158
Federal government	2,807	2,770	3,163	2,699	2,783	2,993	2,927	3,143	3,084	2,981	2,760	2,575	2,608	2,567
Industry	8,068	8,623	9,832	8,741	9,104	8,849	8,713	9,355	9,060	8,735	8,458	7,708	7,393	6,923



Field and sector	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Unassigned	61	69	79	131	59	54	245	53	81	64	76	68	73	91
Chemistry														
Total	16,912	20,118	22,678	21,593	21,083	23,348	20,884	22,791	25,006	23,144	23,608	23,381	22,622	20,980
Federal government	728	951	831	879	878	945	867	929	1,070	976	888	825	826	727
Industry	2,409	3,120	2,735	3,091	2,881	2,818	2,465	2,705	2,688	2,581	2,270	2,047	1,836	1,785
Academic	12,272	14,041	14,755	15,375	15,321	17,438	15,458	16,719	18,609	17,067	17,952	17,829	17,519	16,258
Academic public	8,658	9,887	10,385	10,921	10,917	12,326	10,850	11,693	13,177	12,026	12,627	12,487	12,267	11,093
Academic private	3,419	3,821	4,129	4,245	4,192	4,876	4,352	4,727	5,172	4,805	5,050	5,001	4,739	4,473
Academic undefined	196	333	240	209	213	235	256	299	260	236	275	341	513	693
FFRDCs	770	970	1,127	1,082	1,053	1,134	1,110	1,324	1,495	1,345	1,449	1,483	1,405	1,280
Private nonprofit	225	259	270	334	303	318	284	263	330	285	291	252	221	237
State and local government	13	12	8	13	18	18	25	14	19	23	21	17	10	15
Unassigned	495	766	2,952	818	629	678	674	837	795	867	737	926	804	678
Physics														
Total	31,255	32,375	37,860	39,657	39,069	36,361	35,446	36,081	35,645	36,017	33,391	33,682	30,086	27,584
Federal government	1,809	2,118	2,162	2,305	2,233	1,987	2,013	1,949	2,132	2,101	1,744	1,858	1,557	1,638
Industry	4,805	4,882	5,096	5,328	5,057	4,573	4,297	4,491	4,105	4,086	3,434	3,610	2,990	2,772
Academic	19,565	20,581	24,758	25,911	25,806	24,591	24,252	24,228	24,377	24,379	23,272	23,246	21,038	19,081
Academic public	12,689	13,405	16,377	16,889	16,931	16,178	15,953	15,748	15,754	15,928	15,177	15,195	13,705	12,372



Field and sector	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Academic private	6,422	6,694	7,819	8,435	8,326	7,890	7,752	7,915	8,180	7,963	7,590	7,485	6,739	5,942
Academic undefined	453	481	562	587	549	523	547	565	443	488	505	567	594	766
FFRDCs	3,798	3,486	4,315	4,313	4,294	3,818	3,492	3,844	3,655	4,040	3,370	3,459	3,135	2,693
Private nonprofit	180	199	263	394	355	238	203	246	248	240	231	213	200	188
State and local government	5	11	7	10	13	12	7	14	11	12	18	11	9	8
Unassigned	1,094	1,098	1,258	1,396	1,312	1,142	1,180	1,308	1,116	1,158	1,321	1,286	1,156	1,204
Geosciences														
Total	15,408	19,093	20,227	19,186	20,186	19,417	19,501	19,512	20,001	20,113	21,287	22,325	20,485	20,526
Federal government	2,003	2,618	2,754	2,459	2,498	2,300	2,224	2,146	2,239	2,211	2,230	2,278	1,980	1,971
Industry	1,231	2,041	2,543	1,919	2,291	2,038	2,191	2,261	2,070	2,200	2,298	2,504	1,804	1,731
Academic	9,888	11,371	11,452	11,905	12,309	12,086	12,057	12,069	12,569	12,425	13,331	13,972	13,461	13,586
Academic public	7,332	8,500	8,571	8,945	9,233	9,227	9,110	9,048	9,443	9,409	9,989	10,412	9,895	9,689
Academic private	2,084	2,269	2,338	2,438	2,568	2,391	2,416	2,458	2,603	2,495	2,788	2,872	2,761	2,792
Academic undefined	472	602	543	522	508	468	531	564	523	520	554	688	805	1,105
FFRDCs	632	693	723	820	711	697	602	617	760	790	861	838	883	839
Private nonprofit	404	507	541	559	579	544	508	536	533	567	543	670	531	475
State and local government	250	332	428	316	364	329	306	322	295	282	299	273	267	262
Unassigned	1,000	1,532	1,786	1,208	1,434	1,423	1,613	1,560	1,536	1,637	1,724	1,789	1,559	1,662
Mathematics														



Field and sector	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Total	6,167	6,303	7,068	7,213	7,504	7,827	8,237	7,913	8,275	8,650	8,535	8,799	8,704	8,369
Federal government	111	114	156	116	122	151	144	137	165	162	160	147	135	158
Industry	232	238	222	245	218	224	223	217	274	253	254	249	285	222
Academic	5,514	5,572	6,283	6,416	6,787	7,094	7,544	7,210	7,474	7,887	7,747	8,038	7,912	7,588
Academic public	3,851	3,778	4,346	4,332	4,600	4,829	5,132	4,834	4,975	5,268	5,189	5,315	5,179	4,892
Academic private	1,532	1,644	1,789	1,929	2,032	2,113	2,180	2,150	2,282	2,426	2,330	2,461	2,414	2,344
Academic undefined	131	150	148	156	155	152	231	225	217	193	228	262	319	352
FFRDCs	67	95	110	117	95	103	88	89	71	105	97	82	70	86
Private nonprofit	46	49	52	64	42	52	48	50	58	62	53	60	60	60
State and local government	3	0	3	1	1	5	2	1	2	4	2	4	3	1
Unassigned	194	234	242	253	239	198	188	208	231	178	221	220	240	253
Computer sciences														
Total	19,584	22,663	27,171	27,178	28,771	27,854	28,610	29,009	29,653	28,608	28,776	27,855	28,526	26,117
Federal government	480	520	561	605	575	609	578	606	539	572	535	514	538	569
Industry	2,765	3,087	3,576	3,595	3,914	3,810	3,901	3,802	3,714	3,590	3,422	3,123	3,176	2,787
Academic	15,038	17,704	21,182	20,932	22,527	21,771	22,311	22,868	23,332	22,486	22,886	22,023	22,640	20,460
Academic public	9,779	11,808	14,324	14,088	15,267	14,635	14,953	15,335	15,830	15,084	15,232	14,289	14,692	13,350
Academic private	4,700	5,385	6,210	6,248	6,617	6,467	6,546	6,821	6,871	6,797	6,913	6,915	7,018	6,186
Academic undefined	559	512	648	595	643	669	811	712	631	605	742	819	931	924



Field and sector	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
FFRDCs	326	407	496	499	441	514	474	475	639	572	573	555	596	524
Private nonprofit	137	159	284	521	451	301	200	185	189	228	192	202	221	212
State and local government	8	5	6	12	7	13	28	11	18	14	11	16	14	10
Unassigned	830	781	1,067	1,015	856	837	1,118	1,062	1,223	1,147	1,158	1,422	1,342	1,557
Agricultural sciences														
Total	4,343	4,976	4,877	4,958	5,442	5,319	5,191	5,179	5,021	5,107	4,976	4,963	5,343	5,085
Federal government	695	822	824	867	911	969	876	864	813	804	717	688	694	593
Industry	197	227	230	255	251	242	254	210	246	251	253	236	242	200
Academic	3,103	3,573	3,477	3,492	3,874	3,733	3,657	3,717	3,625	3,718	3,658	3,689	3,838	3,912
Academic public	2,820	3,203	3,131	3,127	3,511	3,337	3,281	3,248	3,231	3,323	3,254	3,270	3,407	3,310
Academic private	195	232	220	243	242	245	224	272	233	240	261	259	257	274
Academic undefined	88	137	126	122	121	152	151	196	160	156	143	159	174	328
FFRDCs	22	13	20	25	23	16	16	19	19	23	24	22	21	17
Private nonprofit	32	35	37	55	46	42	53	40	47	49	46	44	39	48
State and local government	8	16	20	22	21	23	22	21	20	14	20	15	19	18
Unassigned	287	290	268	243	316	294	313	307	251	247	258	270	490	297
Biological sciences														
Total	63,319	67,255	68,457	68,391	70,633	70,911	71,818	72,553	76,505	80,425	81,146	81,777	78,557	73,330
Federal government	4,806	5,132	5,149	5,168	5,127	5,212	5,166	5,259	5,685	5,791	5,704	5,553	5,281	5,131



Field and sector	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Industry	4,150	4,369	4,188	4,092	4,134	4,295	4,107	4,034	3,980	4,171	3,915	4,026	3,729	3,495
Academic	46,340	49,985	51,292	51,446	53,239	53,468	54,385	54,608	57,677	61,024	61,906	62,450	59,697	55,682
Academic public	27,949	30,122	31,250	31,803	32,954	32,957	33,520	33,553	35,482	37,410	37,863	37,999	35,823	32,418
Academic private	16,353	17,457	18,112	17,897	18,493	18,737	18,935	19,013	20,186	21,532	21,778	21,806	20,641	18,682
Academic undefined	2,039	2,406	1,931	1,747	1,792	1,774	1,929	2,042	2,009	2,081	2,265	2,645	3,234	4,583
FFRDCs	545	626	711	660	622	647	658	609	680	729	768	751	768	705
Private nonprofit	3,654	3,867	3,922	3,917	4,040	3,983	3,992	4,162	4,432	4,628	4,653	4,724	4,486	4,199
State and local government	332	403	456	464	469	469	429	437	443	466	455	464	452	410
Unassigned	3,492	2,873	2,739	2,643	3,001	2,838	3,081	3,445	3,608	3,616	3,745	3,809	4,144	3,708
Medical sciences														
Total	85,957	91,142	96,249	99,601	101,068	103,704	107,288	108,929	113,893	117,532	119,454	124,365	123,702	119,642
Federal government	4,078	4,300	4,590	4,969	4,869	5,091	5,012	5,041	5,109	5,247	5,139	5,275	5,074	4,792
Industry	2,928	3,502	3,757	3,682	3,734	3,799	3,902	3,903	3,828	4,077	3,842	3,906	3,708	3,631
Academic	58,455	63,328	67,736	70,931	72,775	75,090	77,462	78,634	82,996	85,882	87,144	92,107	91,462	88,436
Academic public	29,687	31,756	34,868	36,543	37,649	38,602	39,892	40,591	42,432	43,544	43,874	45,451	44,528	41,108
Academic private	25,371	27,495	29,713	31,186	31,796	33,099	33,805	34,488	36,958	38,856	39,119	41,544	40,492	38,478
Academic undefined	3,397	4,078	3,155	3,203	3,330	3,389	3,765	3,555	3,606	3,482	4,151	5,111	6,441	8,850
FFRDCs	290	302	300	255	318	287	320	206	160	402	191	252	141	413
Private nonprofit	8,831	9,499	10,124	10,573	10,848	11,032	11,208	11,090	11,838	12,241	12,274	12,945	13,502	13,397



Field and sector	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
State and local government	427	469	539	540	498	520	555	565	615	618	582	644	591	596
Unassigned	10,949	9,741	9,202	8,651	8,025	7,884	8,828	9,489	9,347	9,067	10,282	9,237	9,223	8,378
Other life sciences														
Total	8,152	8,536	9,157	9,539	9,251	9,473	9,622	9,837	10,484	11,134	10,920	10,891	10,462	9,943
Federal government	232	247	266	300	268	274	285	282	295	322	303	296	304	257
Industry	534	534	619	564	506	475	456	488	529	579	543	485	454	425
Academic	5,012	5,384	5,800	6,019	5,940	6,223	6,332	6,579	7,088	7,430	7,435	7,444	7,272	7,054
Academic public	2,981	3,239	3,513	3,664	3,654	3,854	3,891	4,004	4,264	4,368	4,330	4,305	4,135	3,869
Academic private	1,657	1,749	1,838	1,969	1,901	2,007	2,037	2,162	2,404	2,592	2,627	2,616	2,508	2,459
Academic undefined	374	395	450	386	386	362	403	413	421	469	478	522	629	726
FFRDCs	17	25	13	25	23	22	19	11	18	16	11	14	10	12
Private nonprofit	892	922	1,057	1,145	1,094	1,027	1,051	1,071	1,149	1,343	1,160	1,055	973	866
State and local government	46	48	60	70	57	77	69	59	69	91	78	77	61	58
Unassigned	1,419	1,374	1,342	1,416	1,362	1,375	1,411	1,347	1,335	1,353	1,390	1,519	1,388	1,271
Psychology														
Total	9,475	9,879	11,076	11,906	11,825	12,583	13,233	13,641	14,235	14,853	15,072	15,988	15,513	14,393
Federal government	184	186	268	292	264	310	268	315	359	443	350	378	343	279
Industry	173	180	281	304	237	243	245	258	243	266	241	227	263	169
Academic	7,716	8,381	9,231	9,913	10,171	10,884	11,330	11,721	12,273	12,868	13,230	14,067	13,579	12,715



Field and sector	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Academic public	4,987	5,323	5,976	6,411	6,686	7,143	7,468	7,554	7,929	8,303	8,501	8,915	8,520	7,841
Academic private	2,446	2,691	2,938	3,197	3,165	3,456	3,521	3,756	3,934	4,220	4,300	4,604	4,435	4,074
Academic undefined	282	368	317	306	320	286	341	410	409	345	429	549	624	800
FFRDCs	2	6	12	7	16	10	9	8	12	8	12	19	16	5
Private nonprofit	265	274	306	345	327	301	335	330	351	336	366	379	368	335
State and local government	24	18	32	43	27	31	43	29	41	34	27	40	26	29
Unassigned	1,112	833	947	1,001	782	802	1,002	979	957	897	846	879	919	861
Social sciences														
Total	17,840	18,819	20,415	21,018	22,110	23,468	25,619	27,473	28,699	29,343	30,203	31,554	31,096	29,609
Federal government	399	475	520	507	537	499	556	578	634	616	631	628	567	566
Industry	209	242	307	256	247	279	317	270	346	347	388	374	352	364
Academic	14,995	15,949	17,156	17,751	18,754	20,170	21,923	23,581	24,815	25,377	26,123	27,341	26,950	25,654
Academic public	9,061	9,507	10,301	10,630	11,190	12,152	13,055	14,019	14,601	14,739	15,353	15,850	15,299	14,549
Academic private	5,411	5,880	6,275	6,488	6,933	7,280	8,025	8,459	9,157	9,570	9,585	10,096	10,000	9,195
Academic undefined	523	563	580	634	631	739	843	1,103	1,057	1,068	1,185	1,395	1,651	1,910
FFRDCs	22	30	42	39	68	42	34	39	49	62	57	68	46	55
Private nonprofit	573	654	771	802	789	710	741	810	813	907	884	812	809	732
State and local government	35	37	45	48	41	43	51	55	64	58	63	66	45	56
Unassigned	1,606	1,433	1,573	1,616	1,674	1,725	1,997	2,140	1,977	1,976	2,057	2,265	2,328	2,182



FFRDC = federally funded research and development center.

Note(s)

Article counts refer to publications from a selection of journals, books, and conference proceedings in S&E from Scopus. Articles are assigned to a sector on the basis of the institutional address(es) listed in the article. Articles are credited on a fractional-count basis (i.e., for articles with collaborating institutions from multiple sectors, each sector receives fractional credit on the basis of the proportion of its participating institutions). The unassigned category count is the sum of fractional counts for publications that cannot be assigned to a sector.

Source(s)

National Science Foundation, National Center for Science and Engineering Statistics; SRI International; Science-Metrix; Elsevier, Scopus abstract and citation database, accessed July 2017.

Science and Engineering Indicators 2018