

APPENDIX TABLE 5-44

Internationally coauthored S&E publications, by selected region, country, or economy pairs: 2003 and 2016

(Number)

Region, country, or economy, and year	World	Canada	Mexico	United States	Argentina	Brazil	Chile	Austria	Belgium	Czech Republic	Denmark	Finland	France	Germany	Greece	Hungary	Ireland	Italy	Netherlands	Poland	Portugal	Spain	Sweden	United Kingdom	Norway	Russia	Switzerland	Turkey	Iran	Israel	Saudi Arabia	Egypt	South Africa	China	India	Japan	Malaysia	Pakistan	Singapore	South Korea	Taiwan	Thailand	Australia	New Zealand				
World																																																
2003	194,398	19,131	3,408	86,408	2,321	5,427	1,617	4,992	7,480	2,912	4,959	4,219	26,587	35,960	2,992	2,803	1,982	16,763	11,969	5,833	2,744	11,811	9,063	35,056	3,263	10,577	10,690	2,400	1,054	5,047	756	1,347	2,207	14,460	5,392	20,452	796	481	2,610	6,776	3,084	1,549	11,638	2,653				
2016	498,465	45,287	8,208	192,375	5,397	21,061	6,911	13,937	18,792	9,069	14,514	10,343	57,076	75,629	8,284	5,085	6,897	44,826	30,423	12,835	11,088	38,088	22,255	87,577	11,030	17,345	26,892	8,687	9,475	8,818	14,288	8,403	9,295	95,476	21,124	32,074	9,731	6,327	11,352	20,064	9,843	5,231	42,096	6,932				
Canada																																																
2003	19,131	na	188	9,655	104	343	73	187	372	112	258	242	1,613	1,536	141	176	101	744	643	330	73	496	460	2,203	217	384	597	126	208	289	69	60	120	993	257	1,039	26	25	153	278	167	71	881	228				
2016	45,287	na	684	19,704	547	1,846	684	928	1,307	635	1,287	787	4,669	4,616	497	414	614	2,778	2,483	972	619	2,164	1,644	6,685	1,025	904	2,136	621	1,059	917	861	524	970	7,245	1,234	1,875	418	357	542	1,038	634	235	3,768	760				
Mexico																																																
2003	3,408	188	na	1,513	98	115	61	20	69	41	32	17	354	220	20	19	4	135	78	58	26	475	43	307	19	139	40	11	2	54	4	2	18	58	43	110	4	2	8	40	10	8	55	20				
2016	8,208	684	na	3,287	412	763	466	274	317	264	196	265	997	930	260	213	198	771	373	314	309	1,841	235	970	127	444	437	257	202	103	150	170	216	544	418	350	154	207	84	324	198	199	433	215				
United States																																																
2003	86,408	9,655	1,513	na	760	2,125	609	1,175	1,748	657	1,361	1,147	6,842	10,750	950	835	494	5,288	3,470	1,553	537	3,257	2,563	10,769	924	2,741	3,353	1,136	295	2,771	186	372	718	5,406	2,040	8,302	117	152	876	3,762	1,713	579	3,819	880				
2016	192,375	19,704	3,287	na	1,787	7,606	2,421	3,618	4,703	2,081	4,385	2,788	14,440	21,584	2,295	1,510	1,907	12,784	9,078	3,192	2,245	9,530	6,383	25,858	3,118	4,336	8,455	3,046	2,375	4,543	2,964	1,653	3,084	43,968	6,759	10,484	1,192	1,106	3,133	9,553	3,990	1,686	12,127	2,175				
Argentina																																																
2003	2,321	104	98	760	na	284	125	38	37	23	29	14	232	236	12	26	6	156	53	29	34	422	45	180	11	26	61	12	4	33	3	1	21	25	21	64	6	2	4	8	9	8	61	18				



Region, country, or economy, and year	World	Canada	Mexico	United States	Argentina	Brazil	Chile	Austria	Belgium	Czech Republic	Denmark	Finland	France	Germany	Greece	Hungary	Ireland	Italy	Netherlands	Poland	Portugal	Spain	Sweden	United Kingdom	Norway	Russia	Switzerland	Turkey	Iran	Israel	Saudi Arabia	Egypt	South Africa	China	India	Japan	Malaysia	Pakistan	Singapore	South Korea	Taiwan	Thailand	Australia	New Zealand				
2003	4,959	258	32	1,361	29	53	33	124	243	55	na	257	511	885	87	58	64	423	442	160	99	345	775	992	365	181	324	26	7	85	6	18	40	118	55	156	3	7	12	34	6	15	207	49				
2016	14,514	1,287	196	4,385	245	629	318	742	904	502	na	952	1,896	3,319	579	408	389	1,893	1,977	766	589	1,629	2,364	3,658	1,586	546	1,342	386	184	424	120	67	463	1,446	358	713	261	113	216	316	235	137	1,363	219				
Finland																																																
2003	4,219	242	17	1,147	14	48	24	139	177	83	257	na	401	643	71	108	59	322	374	141	92	258	719	765	219	312	213	29	7	59	0	7	20	89	26	182	3	0	23	41	11	10	125	13				
2016	10,343	787	265	2,788	87	443	172	629	678	475	952	na	1,463	2,260	522	388	399	1,419	1,160	710	424	1,232	1,917	2,317	868	1,020	961	324	230	204	198	192	306	1,122	486	651	201	221	162	391	226	183	721	238				
France																																																
2003	26,587	1,613	354	6,842	232	721	208	496	1,703	415	511	401	na	3,977	450	331	191	2,845	1,447	874	479	1,934	815	3,756	411	1,258	1,826	130	49	422	19	43	178	720	358	1,150	17	12	53	204	91	65	637	111				
2016	57,076	4,669	997	14,440	753	2,603	1,167	1,979	4,239	1,497	1,896	1,463	na	10,084	1,537	981	1,015	8,182	4,370	2,195	1,693	6,305	2,821	10,079	1,526	2,522	5,131	946	486	1,064	789	422	1,100	4,182	1,441	2,873	494	408	591	1,020	725	487	3,293	590				
Germany																																																
2003	35,960	1,536	220	10,750	236	570	234	1,759	1,234	631	885	643	3,977	na	547	641	265	2,736	2,542	1,362	359	1,679	1,481	4,877	492	2,755	2,858	229	69	785	23	183	267	1,313	736	1,885	18	49	125	363	165	62	1,107	199				
2016	75,629	4,616	930	21,584	847	2,479	1,232	5,561	3,854	2,074	3,319	2,260	10,084	na	1,912	1,470	1,364	8,821	7,746	3,171	1,817	6,871	4,671	14,200	2,104	4,099	8,310	1,319	825	1,757	909	852	1,327	6,419	1,975	3,776	516	538	756	1,708	909	489	4,570	890				
Greece																																																
2003	2,992	141	20	950	12	36	5	86	176	67	87	71	450	547	na	64	36	370	217	128	77	205	128	717	81	134	186	30	3	62	3	8	21	42	17	95	5	2	6	30	11	4	63	8				
2016	8,284	497	260	2,295	206	478	242	622	722	561	579	522	1,537	1,912	na	437	337	1,830	1,042	721	595	1,388	768	2,531	524	563	941	593	205	348	302	183	286	641	325	423	307	184	100	290	295	215	507	164				
Hungary																																																
2003	2,803	176	19	835	26	33	8	129	176	98	58	108	331	641	64	na	27	243	158	140	46	147	144	355	37	117	157	31	4	85	0	15	22	55	52	178	3	1	14	41	25	3	45	11				
2016	5,085	414	213	1,510	187	438	184	701	512	598	408	388	981	1,470	437	na	204	969	614	648	426	847	572	1,274	357	555	654	404	152	282	119	152	249	606	324	514	278	187	51	318	307	163	419	152				



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2003	2,400	126	11	1,136	12	21	7	36	52	17	26	29	130	229	30	31	11	116	64	24	11	54	43	379	25	51	65	na	8	56	28	13	14	28	18	117	17	11	4	27	18	9	49	10		
2016	8,687	621	257	3,046	212	496	213	494	434	491	386	324	946	1,319	593	404	225	1,182	688	558	439	874	483	1,322	328	555	632	na	538	319	564	281	345	759	463	508	351	406	122	338	314	203	466	165		
Iran																																														
2003	1,054	208	2	295	4	2	1	12	10	5	7	7	49	69	3	4	9	41	16	3	1	6	19	189	2	12	14	8	na	0	4	1	4	17	22	47	14	6	4	9	9	4	66	4		
2016	9,475	1,059	202	2,375	49	282	70	235	290	185	184	230	486	825	205	152	166	782	358	309	253	491	331	920	104	203	325	538	na	44	292	212	226	586	423	277	917	246	111	390	175	160	799	209		
Israel																																														
2003	5,047	289	54	2,771	33	61	29	72	137	68	85	59	422	785	62	85	18	306	201	118	44	181	113	436	51	206	189	56	0	na	1	1	45	136	67	207	4	1	13	59	32	10	135	19		
2016	8,818	917	103	4,543	216	334	227	385	349	327	424	204	1,064	1,757	348	282	138	1,157	660	423	301	792	509	1,371	307	525	627	319	44	na	68	41	250	703	340	448	164	40	147	211	237	45	613	102		
Saudi Arabia																																														
2003	756	69	4	186	3	5	1	5	15	2	6	0	19	23	3	0	6	13	6	5	1	10	8	88	6	2	4	28	4	1	na	194	17	15	25	12	7	29	4	1	3	1	19	4		
2016	14,288	861	150	2,964	44	251	81	238	232	172	120	198	789	909	302	119	168	606	302	247	214	606	204	1,246	119	282	323	564	292	68	na	3,297	205	1,562	1,568	435	855	1,313	197	589	275	203	693	146		
Egypt																																														
2003	1,347	60	2	372	1	7	2	22	42	10	18	7	43	183	8	15	9	43	22	18	4	22	13	110	7	9	25	13	1	1	194	na	8	21	11	137	2	3	6	14	5	7	14	3		
2016	8,403	524	170	1,653	42	208	34	206	232	187	67	192	422	852	183	152	165	411	141	217	182	362	150	703	66	241	222	281	212	41	3,297	na	109	538	385	602	276	244	41	363	168	148	199	160		
South Africa																																														
2003	2,207	120	18	718	21	41	19	52	85	14	40	20	178	267	21	22	18	78	128	52	28	61	64	502	43	26	87	14	4	45	17	8	na	42	52	61	6	9	25	12	9	8	213	53		
2016	9,295	970	216	3,084	286	566	341	361	493	314	463	306	1,100	1,327	286	249	187	766	1,070	428	318	711	632	2,170	481	454	749	345	226	250	205	109	na	723	897	472	242	154	113	174	214	172	1,212	228		



Region, country, or economy, and year	World	Canada	Mexico	United States	Argentina	Brazil	Chile	Austria	Belgium	Czech Republic	Denmark	Finland	France	Germany	Greece	Hungary	Ireland	Italy	Netherlands	Poland	Portugal	Spain	Sweden	United Kingdom	Norway	Russia	Switzerland	Turkey	Iran	Israel	Saudi Arabia	Egypt	South Africa	China	India	Japan	Malaysia	Pakistan	Singapore	South Korea	Taiwan	Thailand	Australia	New Zealand		
2016	11,352	542	84	3,133	45	155	45	123	180	110	216	162	591	756	100	51	115	366	374	146	92	285	299	1,541	115	159	279	122	111	147	197	41	113	4,413	605	696	364	74	na	508	364	215	1,222	216		
South Korea																																														
2003	6,776	278	40	3,762	8	45	17	44	52	17	34	41	204	363	30	41	10	148	91	108	14	80	73	306	18	315	117	27	9	59	1	14	12	514	208	1,387	10	16	38	na	139	29	187	34		
2016	20,064	1,038	324	9,553	103	442	169	334	452	359	316	391	1,020	1,708	290	318	217	926	486	465	242	722	437	1,589	190	709	619	338	390	211	589	363	174	3,476	1,839	2,360	400	579	508	na	695	442	1,017	286		
Taiwan																																														
2003	3,084	167	10	1,713	9	21	5	39	30	16	6	11	91	165	11	25	5	60	34	60	8	40	33	199	11	127	74	18	9	32	3	5	9	450	180	341	15	3	110	139	na	25	92	18		
2016	9,843	634	198	3,990	179	388	214	323	266	354	235	226	725	909	295	307	164	651	381	450	281	557	314	981	217	552	489	314	175	237	275	168	214	3,271	727	1,367	450	161	364	695	na	347	689	175		
Thailand																																														
2003	1,549	71	8	579	8	15	6	27	18	11	15	10	65	62	4	3	5	17	28	6	8	14	31	202	5	7	30	9	4	10	1	7	8	62	29	370	30	5	27	29	25	na	150	21		
2016	5,231	235	199	1,686	52	293	44	263	192	189	137	183	487	489	215	163	141	334	245	212	170	293	183	862	109	213	288	203	160	45	203	148	172	790	438	1,105	382	227	215	442	347	na	556	196		
Australia																																														
2003	11,638	881	55	3,819	61	141	42	167	199	60	207	125	637	1,107	63	45	78	454	440	127	47	259	399	2,278	112	165	374	49	66	135	19	14	213	1,017	202	745	90	17	323	187	92	150	na	658		
2016	42,096	3,768	433	12,127	481	1,401	692	929	1,294	560	1,363	721	3,293	4,570	507	419	643	2,486	2,780	773	609	2,148	1,754	8,838	919	794	1,819	466	799	613	693	199	1,212	9,246	1,515	2,157	1,262	347	1,222	1,017	689	556	na	1,977		
New Zealand																																														
2003	2,653	228	20	880	18	33	17	28	39	13	49	13	111	199	8	11	27	79	86	25	11	51	59	610	44	14	68	10	4	19	4	3	53	110	35	108	12	1	45	34	18	21	658	na		
2016	6,932	760	215	2,175	98	289	130	235	313	188	219	238	590	890	164	152	241	479	417	204	206	395	327	1,640	157	204	379	165	209	102	146	160	228	864	301	329	296	174	216	286	175	196	1,977	na		



na = not applicable.

Note(s)

Article counts refer to publications from a selection of journals, books, and conference proceedings in S&E from Scopus. Articles are classified by their year of publication and are assigned to a region, country, or economy on the basis of the institutional address(es) listed in the article. Articles are credited on a whole-count basis (i.e., each collaborating region, country, or economy is credited with one count). Regions, countries, or economies with less than 1% of internationally coauthored articles in 2016 are omitted.

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.

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