

Appendix table 5-48

S&E articles in computer sciences, by coauthorship attribute and selected country/economy: 1997–2012

Country/economy and coauthorship attribute	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
World																
Total articles	4,406	4,746	5,071	5,351	5,709	5,628	6,217	6,017	6,709	7,198	7,393	8,146	8,243	8,556	9,046	9,583
with multiple institutions	2,083	2,356	2,493	2,573	2,841	2,913	3,289	3,209	3,614	3,940	4,133	4,724	4,865	5,138	5,574	6,020
with domestic institutions only	3,587	3,780	3,990	4,355	4,517	4,352	4,821	4,713	5,239	5,559	5,647	6,126	6,160	6,229	6,399	6,624
with international institutions	819	966	1,081	996	1,192	1,276	1,396	1,304	1,470	1,639	1,746	2,020	2,083	2,327	2,647	2,959
Canada																
Total articles	268	266	267	293	312	319	400	351	424	490	481	517	601	523	556	585
with multiple institutions	161	181	187	175	218	211	259	218	278	350	328	362	394	358	396	411
with domestic institutions only	145	130	109	166	143	145	193	171	216	225	236	231	286	241	239	241
with international institutions	123	136	158	127	169	174	207	180	208	265	245	286	315	282	317	344
Mexico																
Total articles	9	12	8	13	20	24	30	26	16	21	34	20	44	35	37	45
with multiple institutions	5	8	5	5	14	20	23	20	14	13	22	16	31	29	27	28
with domestic institutions only	4	5	3	9	9	6	12	13	8	10	17	9	22	16	20	23
with international institutions	5	7	5	4	11	18	18	13	8	11	17	11	22	19	17	22
United States																
Total articles	2,176	2,253	2,290	2,380	2,430	2,340	2,654	2,518	2,783	2,952	2,765	2,835	2,786	2,702	2,741	2,980
with multiple institutions	1,252	1,402	1,378	1,399	1,497	1,467	1,665	1,587	1,762	1,917	1,783	1,953	1,913	1,863	1,975	2,170
with domestic institutions only	1,673	1,639	1,714	1,767	1,740	1,668	1,868	1,821	1,995	2,095	1,887	1,855	1,819	1,666	1,616	1,675
with international institutions	503	614	576	613	690	672	786	697	788	857	878	980	967	1,036	1,125	1,305
Argentina																
Total articles	5	3	3	4	12	13	8	7	15	10	10	15	18	12	17	22
with multiple institutions	3	2	2	4	6	8	6	6	13	9	7	13	14	11	13	19
with domestic institutions only	3	1	1	0	7	6	2	2	4	7	6	5	10	5	7	8
with international institutions	2	2	2	4	5	7	6	5	11	3	4	10	8	7	10	14
Brazil																
Total articles	22	22	29	40	41	50	61	55	61	79	72	85	89	94	107	121
with multiple institutions	19	16	22	31	27	36	46	48	44	58	50	65	66	67	80	93
with domestic institutions only	9	7	8	17	24	21	29	19	34	44	38	35	52	64	61	66
with international institutions	13	15	21	23	17	29	32	36	27	35	34	50	37	30	46	55
Chile																
Total articles	11	8	8	13	12	11	18	17	19	8	23	28	21	20	36	32
with multiple institutions	5	5	7	11	6	9	15	15	15	8	19	23	14	17	31	30
with domestic institutions only	7	5	1	4	9	3	8	6	6	0	7	10	12	5	10	4
with international institutions	4	3	7	9	3	8	10	11	13	8	16	18	9	15	26	28
Austria																
Total articles	34	45	46	38	48	64	72	66	46	66	83	87	89	91	105	98
with multiple institutions	18	22	36	23	26	42	46	46	28	47	56	64	64	69	76	69
with domestic institutions only	21	25	14	18	26	30	39	26	25	25	36	28	42	39	34	41
with international institutions	13	20	32	20	22	34	33	40	21	41	47	59	47	52	71	57

Appendix table 5-48

S&E articles in computer sciences, by coauthorship attribute and selected country/economy: 1997–2012

Country/economy and coauthorship attribute	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Belgium																
Total articles	72	55	69	40	72	68	97	68	79	102	114	108	118	106	135	130
with multiple institutions	46	36	38	18	45	41	57	42	41	67	70	69	72	76	101	99
with domestic institutions only	32	27	36	24	31	36	52	34	44	51	56	57	59	48	46	51
with international institutions	40	28	33	16	41	32	45	34	35	51	58	51	59	58	89	79
Czech Republic																
Total articles	17	16	21	24	31	31	45	43	46	41	54	72	79	78	96	87
with multiple institutions	10	11	12	12	19	18	27	33	28	24	35	48	53	55	55	50
with domestic institutions only	7	5	10	16	16	15	23	15	25	21	26	28	41	27	49	44
with international institutions	10	11	11	8	15	16	22	28	21	20	28	44	38	51	47	43
Denmark																
Total articles	42	33	45	37	52	43	45	55	40	57	49	52	46	49	57	88
with multiple institutions	29	20	27	27	34	32	27	40	28	36	28	29	32	35	43	65
with domestic institutions only	14	13	23	12	22	15	21	20	15	25	30	29	16	16	17	35
with international institutions	28	20	22	25	30	28	24	35	25	32	19	23	30	33	40	53
Finland																
Total articles	31	41	38	49	45	65	55	38	61	75	78	77	71	74	73	85
with multiple institutions	17	24	23	32	24	41	41	15	32	45	51	49	46	51	57	56
with domestic institutions only	18	26	22	33	30	38	25	30	39	46	40	43	36	37	33	40
with international institutions	13	15	16	16	15	27	30	8	22	29	38	34	35	37	40	45
France																
Total articles	242	245	262	292	313	377	399	342	393	458	409	513	527	526	636	621
with multiple institutions	138	140	138	164	183	230	252	213	259	311	289	372	396	412	516	499
with domestic institutions only	149	157	164	184	194	218	248	211	212	241	211	268	260	244	279	257
with international institutions	93	88	98	108	119	159	151	131	181	217	198	245	267	282	357	364
Germany																
Total articles	267	302	326	332	359	345	392	345	398	419	425	411	458	442	557	584
with multiple institutions	141	165	182	200	207	215	226	224	251	267	293	283	300	312	391	445
with domestic institutions only	162	176	189	183	190	176	219	173	200	211	204	197	232	198	239	221
with international institutions	105	126	137	149	169	169	173	172	198	208	221	214	226	244	318	363
Greece																
Total articles	35	40	58	61	61	87	89	91	95	119	124	140	140	166	140	143
with multiple institutions	18	18	29	35	28	50	46	58	57	81	82	89	96	118	92	96
with domestic institutions only	22	25	37	36	40	56	56	62	66	72	80	93	86	93	88	91
with international institutions	13	15	21	25	21	31	33	29	29	47	44	47	54	73	52	52
Hungary																
Total articles	30	39	47	30	37	50	43	24	41	32	36	43	31	38	52	37
with multiple institutions	21	24	23	22	20	35	34	17	27	22	22	22	22	23	36	29
with domestic institutions only	11	23	26	16	18	20	15	10	19	14	17	25	12	19	22	9
with international institutions	19	16	21	14	19	30	28	14	22	18	19	18	19	19	30	28

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S&E articles in computer sciences, by coauthorship attribute and selected country/economy: 1997–2012

Country/economy and coauthorship attribute	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Ireland																
Total articles	7	13	15	13	16	16	22	32	48	41	54	60	53	57	40	51
with multiple institutions	6	5	10	7	9	7	15	9	24	29	31	38	29	40	30	35
with domestic institutions only	4	9	6	7	8	10	8	26	33	21	30	31	33	23	15	17
with international institutions	3	4	9	6	8	6	14	6	15	20	24	29	20	34	25	34
Italy																
Total articles	193	234	296	259	300	298	298	291	289	340	349	407	401	379	406	404
with multiple institutions	117	159	184	157	187	196	205	178	173	196	220	243	256	247	269	275
with domestic institutions only	124	136	184	175	190	182	175	183	190	213	201	252	242	224	212	226
with international institutions	69	98	112	84	110	116	123	108	99	127	148	155	159	155	194	178
Netherlands																
Total articles	101	89	111	119	134	136	150	125	155	178	162	173	198	169	219	209
with multiple institutions	63	57	66	66	96	96	87	79	100	111	114	108	144	124	160	161
with domestic institutions only	59	41	63	66	72	62	86	65	85	95	80	95	102	75	101	73
with international institutions	42	48	48	53	62	74	64	60	70	83	82	78	96	94	118	136
Poland																
Total articles	25	44	31	36	47	55	49	58	52	63	40	64	82	88	81	111
with multiple institutions	15	22	19	17	28	28	31	36	35	33	22	39	51	45	57	72
with domestic institutions only	10	26	13	22	23	28	21	30	21	35	23	30	37	50	35	49
with international institutions	15	18	18	14	24	27	28	28	31	28	17	34	45	38	46	62
Portugal																
Total articles	9	17	14	19	23	26	40	34	40	39	37	47	47	65	62	80
with multiple institutions	5	7	9	13	16	13	28	19	27	24	22	38	30	46	47	58
with domestic institutions only	6	14	9	12	15	17	23	19	18	23	26	23	26	31	29	45
with international institutions	3	3	5	7	8	9	17	15	22	16	11	24	21	34	33	35
Spain																
Total articles	87	101	136	138	193	203	215	229	249	269	299	363	421	436	466	551
with multiple institutions	44	51	74	70	104	110	125	136	142	159	204	237	273	305	312	361
with domestic institutions only	54	68	82	102	142	131	142	158	157	169	171	222	258	251	283	307
with international institutions	33	33	54	36	51	72	73	71	92	100	128	141	163	185	183	244
Sweden																
Total articles	55	71	83	48	72	102	73	78	80	80	80	84	94	91	104	100
with multiple institutions	30	38	40	31	42	57	36	58	59	55	50	54	60	63	76	79
with domestic institutions only	37	45	51	23	37	50	53	29	29	41	48	35	41	42	43	33
with international institutions	18	26	32	25	35	52	20	49	51	39	32	49	53	49	61	67
United Kingdom																
Total articles	243	289	344	349	387	418	410	412	435	524	539	633	582	553	618	646
with multiple institutions	108	126	174	185	191	245	232	238	254	305	339	424	398	378	428	493
with domestic institutions only	161	199	220	221	254	238	235	250	244	295	291	301	270	244	269	242
with international institutions	82	90	124	128	133	180	175	162	191	229	248	332	312	309	349	404

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S&E articles in computer sciences, by coauthorship attribute and selected country/economy: 1997–2012

Country/economy and coauthorship attribute	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Norway																
Total articles	31	15	34	30	33	29	29	48	55	67	46	55	76	83	66	105
with multiple institutions	14	9	24	15	19	17	14	32	36	45	34	43	54	57	59	83
with domestic institutions only	24	8	15	19	17	18	17	21	29	34	19	18	32	39	12	34
with international institutions	7	7	19	11	16	11	12	27	26	33	27	37	44	44	54	71
Russia																
Total articles	62	33	39	30	40	35	27	36	34	26	20	38	27	37	35	34
with multiple institutions	33	18	25	14	20	24	20	30	23	19	12	26	16	27	26	25
with domestic institutions only	35	17	18	16	23	14	8	8	11	7	9	14	11	10	12	11
with international institutions	27	16	21	14	17	21	19	28	23	19	11	24	16	27	23	23
Switzerland																
Total articles	48	58	61	58	82	61	92	90	117	137	150	175	155	176	174	248
with multiple institutions	27	34	33	38	50	43	59	58	71	94	113	123	117	142	127	190
with domestic institutions only	25	29	35	26	39	25	40	39	59	54	48	65	51	47	58	87
with international institutions	23	29	26	32	43	36	52	51	58	83	102	110	104	129	116	161
Iran																
Total articles	9	4	4	9	7	8	16	9	25	20	46	97	86	158	152	144
with multiple institutions	6	3	1	6	4	5	13	4	14	8	28	58	53	113	104	78
with domestic institutions only	3	1	3	5	5	5	7	6	16	15	29	69	63	103	90	103
with international institutions	6	3	1	4	2	3	9	3	9	5	17	28	23	55	62	41
Israel																
Total articles	158	196	174	178	167	190	186	179	215	212	222	260	277	262	246	247
with multiple institutions	100	134	126	125	107	121	124	114	131	127	143	160	186	192	157	182
with domestic institutions only	77	77	69	84	85	94	81	93	112	120	129	150	132	103	131	104
with international institutions	81	119	105	94	82	96	105	86	103	92	93	110	145	159	115	143
Saudi Arabia																
Total articles	7	15	7	11	8	9	8	5	6	12	8	12	8	26	48	74
with multiple institutions	5	9	5	4	3	4	5	1	4	7	7	10	6	25	43	65
with domestic institutions only	2	8	3	7	5	7	3	4	2	5	1	3	2	2	6	11
with international institutions	5	7	4	4	3	2	5	1	4	7	7	9	6	24	42	63
Turkey																
Total articles	17	25	24	44	26	39	39	53	59	69	111	115	106	162	160	149
with multiple institutions	7	15	12	24	9	20	20	38	35	41	59	62	61	84	104	91
with domestic institutions only	12	12	14	32	19	21	23	26	36	47	74	77	68	104	99	95
with international institutions	5	13	10	12	7	18	16	27	23	22	37	38	38	58	61	54
Egypt																
Total articles	17	21	21	15	18	13	9	11	13	16	15	39	37	41	32	25
with multiple institutions	2	13	13	5	7	8	3	6	7	10	9	23	23	23	22	19
with domestic institutions only	16	14	11	12	14	8	7	5	7	9	11	19	19	26	14	9
with international institutions	1	7	10	3	4	5	2	6	6	7	4	20	18	15	18	16

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S&E articles in computer sciences, by coauthorship attribute and selected country/economy: 1997–2012

Country/economy and coauthorship attribute	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
South Africa																
Total articles	9	5	9	12	13	12	18	11	15	20	14	22	13	23	20	21
with multiple institutions	3	3	5	7	8	8	13	6	6	8	3	12	8	15	15	13
with domestic institutions only	7	2	4	8	8	7	12	8	12	13	11	15	6	12	7	11
with international institutions	2	3	5	4	5	5	6	3	3	7	3	7	7	11	13	10
China																
Total articles	156	242	281	285	392	437	473	574	637	658	926	1,136	1,214	1,585	1,775	1,971
with multiple institutions	89	136	150	145	246	252	305	378	424	438	612	760	879	1,096	1,291	1,477
with domestic institutions only	99	144	183	203	222	293	299	364	422	400	612	766	767	1,036	1,104	1,157
with international institutions	57	98	98	82	170	144	174	210	215	258	314	370	447	549	671	814
India																
Total articles	96	121	112	106	119	105	110	116	118	149	149	188	161	203	223	229
with multiple institutions	41	62	52	49	60	71	69	63	74	98	93	107	97	125	149	162
with domestic institutions only	71	84	80	74	77	59	73	76	72	83	94	125	102	126	124	120
with international institutions	25	37	32	32	42	46	37	40	46	66	55	63	59	77	99	109
Japan																
Total articles	192	242	256	264	252	266	261	236	250	229	236	219	238	217	222	271
with multiple institutions	96	138	156	145	159	165	170	140	155	144	157	158	163	157	161	203
with domestic institutions only	144	175	159	185	166	164	169	160	167	160	149	124	142	117	113	137
with international institutions	48	67	97	79	86	102	92	76	83	69	87	95	96	100	109	134
Singapore																
Total articles	46	49	95	60	95	100	112	109	150	160	138	172	150	169	196	256
with multiple institutions	26	23	62	29	59	61	62	64	94	96	103	126	120	129	158	204
with domestic institutions only	22	31	39	35	46	52	66	59	83	88	58	76	53	55	55	73
with international institutions	24	18	56	25	49	48	46	50	67	72	80	96	97	114	141	183
South Korea																
Total articles	96	135	116	137	185	149	186	180	228	226	249	304	301	402	394	427
with multiple institutions	68	94	69	90	109	89	118	117	154	139	165	212	208	285	271	298
with domestic institutions only	56	79	77	92	134	101	126	119	151	151	155	176	199	244	232	242
with international institutions	40	56	39	45	51	48	60	61	77	75	94	128	102	158	162	185
Taiwan																
Total articles	177	213	214	243	242	199	226	237	262	243	351	378	347	355	365	405
with multiple institutions	83	89	102	109	118	100	118	120	145	143	192	248	212	227	213	265
with domestic institutions only	140	171	171	203	206	169	180	200	220	206	304	316	293	277	298	322
with international institutions	37	42	43	40	36	30	46	37	42	37	47	62	54	78	67	83
Australia																
Total articles	112	114	137	140	144	144	151	140	152	185	177	188	246	233	305	336
with multiple institutions	67	66	82	79	87	87	104	89	113	124	122	129	188	181	235	264
with domestic institutions only	71	62	66	87	71	71	73	73	63	90	75	85	101	91	105	117
with international institutions	41	52	71	53	73	73	78	67	89	95	102	103	145	142	200	219

S&E articles in computer sciences, by coauthorship attribute and selected country/economy: 1997–2012

Country/economy and coauthorship attribute	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
New Zealand																
Total articles	10	23	21	12	19	31	30	22	22	35	27	31	31	29	40	40
with multiple institutions	6	13	13	11	10	15	20	10	16	23	17	27	24	18	32	29
with domestic institutions only	4	12	9	3	9	18	15	13	10	15	13	8	10	12	17	14
with international institutions	6	11	12	9	10	13	15	9	12	20	14	23	21	17	23	26

NOTES: Article counts are from the set of journals covered by the Science Citation Index (SCI) and Social Sciences Citation Index (SSCI). Articles are classified by the year they entered the database, rather than the year of publication, and are assigned to a country/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 country/economy is credited with one count). Countries/economies with less than 1% of internationally coauthored articles in 2012 are omitted. Articles with multiple institutions are counts of articles with two or more institutional addresses. Articles with domestic institutions only are counts of articles with one or more institutional addresses all within the country/economy. Articles with international institutions are counts of articles with one or more institutional addresses outside the country/economy.

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