Steven H Strogatz

List of Publications by Year
in descending order

156	68,358	13332 70	8433 152
papers	citations	h-index	g-index

178	178	178	42600
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Modeling the Interplay Between Seasonal Flu Outcomes and Individual Vaccination Decisions. Bulletin of Mathematical Biology, 2022, 84, 36.	0.9	4
2	Coupled metronomes on a moving platform with Coulomb friction. Chaos, 2022, 32, 043119.	1.0	6
3	Asymptotic Absorption-Time Distributions in Extinction-Prone Markov Processes. Physical Review Letters, 2022, 128, .	2.9	7
4	Synchronization of clocks and metronomes: A perturbation analysis based on multiple timescales. Chaos, 2021, 31, 023109.	1.0	10
5	Designing temporal networks that synchronize under resource constraints. Nature Communications, 2021, 12, 3273.	5.8	12
6	Sufficiently dense Kuramoto networks are globally synchronizing. Chaos, 2021, 31, 073135.	1.0	6
7	The Kuramoto model on a sphere: Explaining its low-dimensional dynamics with group theory and hyperbolic geometry. Chaos, 2021, 31, 093113.	1.0	18
8	Basins with Tentacles. Physical Review Letters, 2021, 127, 194101.	2.9	11
9	How a minority can win: Unrepresentative outcomes in a simple model of voter turnout. Physical Review E, 2021, 104, 054307.	0.8	0
10	Dense networks that do not synchronize and sparse ones that do. Chaos, 2020, 30, 083142.	1.0	24
11	Descendant distributions for the impact of mutant contagion on networks. Physical Review Research, 2020, 2, .	1.3	7
12	Fitness dependence of the fixation-time distribution for evolutionary dynamics on graphs. Physical Review E, 2019, 100, 012408.	0.8	25
13	Quantifying the sensing power of vehicle fleets. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 12752-12757.	3.3	50
14	Conformational control of mechanical networks. Nature Physics, 2019, 15, 714-720.	6.5	24
15	Addressing the minimum fleet problem in on-demand urban mobility. Nature, 2018, 557, 534-538.	13.7	256
16	Volcano Transition in a Solvable Model of Frustrated Oscillators. Physical Review Letters, 2018, 120, 264102.	2.9	20
17	Spontaneous Droplet Motion on a Periodically Compliant Substrate. Langmuir, 2017, 33, 4942-4947.	1.6	13
18	Takeover times for a simple model of network infection. Physical Review E, 2017, 96, 012313.	0.8	16

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19	Oscillators that sync and swarm. Nature Communications, 2017, 8, 1504.	5.8	184
20	Evolutionary dynamics of incubation periods. ELife, 2017, 6, .	2.8	22
21	Comparing the locking threshold for rings and chains of oscillators. Physical Review E, 2016, 94, 062203.	0.8	11
22	Correlated disorder in the Kuramoto model: Effects on phase coherence, finite-size scaling, and dynamic fluctuations. Chaos, 2016, 26, 103105.	1.0	9
23	Frequency spirals. Chaos, 2016, 26, 094804.	1.0	8
24	Self-organization in Kerr-cavity-soliton formation in parametric frequency combs. Physical Review A, 2016, 94, .	1.0	20
25	Phase coherence induced by correlated disorder. Physical Review E, 2016, 93, 022219.	0.8	16
26	Dynamics of a population of oscillatory and excitable elements. Physical Review E, 2016, 93, 062203.	0.8	19
27	Kuramoto model with uniformly spaced frequencies: Finite-<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>N</mml:mi></mml:math>asymptotics of the locking threshold. Physical Review E, 2016, 93, 062220.	0.8	10
28	Toward the Darwinian transition: Switching between distributed and speciated states in a simple model of early life. Physical Review E, 2015, 92, 052909.	0.8	12
29	Synchronization as Aggregation: Cluster Kinetics of Pulse-Coupled Oscillators. Physical Review Letters, 2015, 115, 064101.	2.9	17
30	Nonlinear dynamics of the rock-paper-scissors game with mutations. Physical Review E, 2015, 91, 052907.	0.8	60
31	Evolutionary game dynamics of controlled and automatic decision-making. Chaos, 2015, 25, 073120.	1.0	23
32	Quantifying the benefits of vehicle pooling with shareability networks. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 13290-13294.	3.3	541
33	Limit Cycles Sparked by Mutation in the Repeated Prisoner's Dilemma. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2014, 24, 1430035.	0.7	12
34	Kuramoto-Like Synchronization in Parametric Frequency Combs. , 2014, , .		1
35	Phase diagram for the Kuramoto model with van Hemmen interactions. Physical Review E, 2014, 89, 012904.	0.8	21
36	Reply to Lopez et al.: Sustainable implementation of taxi sharing requires understanding systemic effects. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, E5489-E5489.	3.3	5

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37	Synchronization Phenomena in Modelocked Parametric Frequency Combs. , 2014, , .		1
38	The dynamics of correlated novelties. Scientific Reports, 2014, 4, 5890.	1.6	122
39	Education of a model student. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 1868-1873.	3.3	47
40	Encouraging Moderation: Clues from a Simple Model of Ideological Conflict. Physical Review Letters, 2012, 109, 118702.	2.9	51
41	Mean-field behavior in coupled oscillators with attractive and repulsive interactions. Physical Review E, 2012, 85, 056210.	0.8	63
42	Kuramoto Model of Coupled Oscillators with Positive and Negative Coupling Parameters: An Example of Conformist and Contrarian Oscillators. Physical Review Letters, 2011, 106, 054102.	2.9	302
43	From Inflammation to Wound Healing: Using a Simple Model to Understand the Functional Versatility ofÂMurine Macrophages. Bulletin of Mathematical Biology, 2011, 73, 2575-2604.	0.9	8
44	Conformists and contrarians in a Kuramoto model with identical natural frequencies. Physical Review E, 2011, 84, 046202.	0.8	120
45	Continuous-time model of structural balance. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 1771-1776.	3.3	224
46	Comparative Analysis of Networks of Phonologically Similar Words in English and Spanish. Entropy, 2010, 12, 327-337.	1.1	39
47	Solvable Model of Spiral Wave Chimeras. Physical Review Letters, 2010, 104, 044101.	2.9	242
48	THE STRUCTURE OF PHONOLOGICAL NETWORKS ACROSS MULTIPLE LANGUAGES. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2010, 20, 679-685.	0.7	78
49	Redrawing the Map of Great Britain from a Network of Human Interactions. PLoS ONE, 2010, 5, e14248.	1.1	290
50	Superlinear scaling for innovation in cities. Physical Review E, 2009, 79, 016115.	0.8	78
51	Invariant submanifold for series arrays of Josephson junctions. Chaos, 2009, 19, 013132.	1.0	69
52	Exact results for the Kuramoto model with a bimodal frequency distribution. Physical Review E, 2009, 79, 026204.	0.8	230
53	Identical phase oscillators with global sinusoidal coupling evolve by MÃ¶bius group action. Chaos, 2009, 19, 043104.	1.0	163
54	Energy Landscape of Social Balance. Physical Review Letters, 2009, 103, 198701.	2.9	139

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55	Distributed synchronization in wireless networks. IEEE Signal Processing Magazine, 2008, 25, 81-97.	4.6	214
56	Solvable Model for Chimera States of Coupled Oscillators. Physical Review Letters, 2008, 101, 084103.	2.9	499
57	Stability diagram for the forced Kuramoto model. Chaos, 2008, 18, 043128.	1.0	143
58	Singular unlocking transition in the Winfree model of coupled oscillators. Physical Review E, 2007, 75, 036218.	0.8	34
59	Modeling walker synchronization on the Millennium Bridge. Physical Review E, 2007, 75, 021110.	0.8	134
60	The Spectrum of the Partially Locked State for the Kuramoto Model. Journal of Nonlinear Science, 2007, 17, 309-347.	1.0	105
61	CHIMERA STATES IN A RING OF NONLOCALLY COUPLED OSCILLATORS. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2006, 16, 21-37.	0.7	220
62	The size of the sync basin. Chaos, 2006, 16, 015103.	1.0	223
63	Crowd synchrony on the Millennium Bridge. Nature, 2005, 438, 43-44.	13.7	474
64	The spectrum of the locked state for the Kuramoto model of coupled oscillators. Physica D: Nonlinear Phenomena, 2005, 205, 249-266.	1.3	160
65	Romanesque networks. Nature, 2005, 433, 365-366.	13.7	44
66	Theoretical mechanics: Crowd synchrony on the Millennium Bridge. Nature, 2005, 438, 43-44.	13.7	129
67	Modeling a synthetic multicellular clock: Repressilators coupled by quorum sensing. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 10955-10960.	3.3	512
68	Chimera States for Coupled Oscillators. Physical Review Letters, 2004, 93, 174102.	2.9	1,139
69	Modelling the dynamics of language death. Nature, 2003, 424, 900-900.	13.7	387
70	Synchronization in oscillator networks with delayed coupling: A stability criterion. Physical Review E, 2003, 67, 036204.	0.8	213
71	Arthur Winfree (1942-2002). Journal of Biological Rhythms, 2003, 18, 95-95.	1.4	0
72	Simple model of epidemics with pathogen mutation. Physical Review E, 2002, 65, 031915.	0.8	81

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73	Random graph models of social networks. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 2566-2572.	3.3	946
74	Scientific collaboration networks. II. Shortest paths, weighted networks, and centrality. Physical Review E, 2001, 64, 016132.	0.8	1,763
75	Phase Diagram for the Winfree Model of Coupled Nonlinear Oscillators. Physical Review Letters, 2001, 86, 4278-4281.	2.9	118
76	Exploring complex networks. Nature, 2001, 410, 268-276.	13.7	7,013
77	DYNAMICS OF A LARGE ARRAY OF GLOBALLY COUPLED LASERS WITH DISTRIBUTED FREQUENCIES. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2001, 11, 2359-2374.	0.7	62
78	Are randomly grown graphs really random?. Physical Review E, 2001, 64, 041902.	0.8	325
79	From Kuramoto to Crawford: exploring the onset of synchronization in populations of coupled oscillators. Physica D: Nonlinear Phenomena, 2000, 143, 1-20.	1.3	2,288
80	Network Robustness and Fragility: Percolation on Random Graphs. Physical Review Letters, 2000, 85, 5468-5471.	2.9	1,970
81	Time Delay in the Kuramoto Model of Coupled Oscillators. Physical Review Letters, 1999, 82, 648-651.	2.9	486
82	Pattern Formation in Continuous and Coupled Systems. The IMA Volumes in Mathematics and Its Applications, 1999, , .	0.5	12
83	Collective dynamics of â€˜small-worldâ€™ networks. Nature, 1998, 393, 440-442.	13.7	34,143
84	Five parametric resonances in a microelectromechanical system. Nature, 1998, 396, 149-152.	13.7	416
85	Death by delay. Nature, 1998, 394, 316-317.	13.7	123
86	Dynamics of one-dimensional Josephson-junction arrays. Physica D: Nonlinear Phenomena, 1998, 119, 219-226.	1.3	20
87	Frequency locking in Josephson arrays: Connection with the Kuramoto model. Physical Review E, 1998, 57, 1563-1569.	0.8	307
88	Superconducting states and depinning transitions of Josephson ladders. Physical Review B, 1998, 57, 1181-1199.	1.1	15
89	Interactions of topological kinks in two coupled rings of nonlinear oscillators. Physical Review B, 1998, 58, 8749-8754.	1.1	2
90	Nonlinear dynamics of a solid-state laser with injection. Physical Review E, 1998, 58, 4421-4435.	0.8	35

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91	Pinned states in Josephson arrays: A general stability theorem. Physical Review B, 1998, 58, 5215-5218.	1.1	2
92	Discreteness-induced resonances and ac voltage amplitudes in long one-dimensional Josephson junction arrays. Journal of Applied Physics, 1997, 82, 4661-4668.	1.1	18
93	Cellular Construction of a Circadian Clock: Period Determination in the Suprachiasmatic Nuclei. Cell, 1997, 91, 855-860.	13.5	456
94	Dynamical Hysteresis without Static Hysteresis: Scaling Laws and Asymptotic Expansions. SIAM Journal on Applied Mathematics, 1997, 57, 1163-1187.	0.8	35
95	Synchronization Transitions in a Disordered Josephson Series Array. Physical Review Letters, 1996, 76, 404-407.	2.9	529
96	Dynamics of circular arrays of Josephson junctions and the discrete sine-Gordon equation. Physica D: Nonlinear Phenomena, 1996, 97, 429-470.	1.3	116
97	Resonance splitting in discrete planar arrays of Josephson junctions. Journal of Applied Physics, 1996, 79, 7864-7870.	1.1	13
98	Ordering chaos with disorder. Nature, 1995, 378, 444-444.	13.7	25
99	Kink Propagation in a Highly Discrete System: Observation of Phase Locking to Linear Waves. Physical Review Letters, 1995, 74, 174-177.	2.9	104
100	Whirling Modes and Parametric Instabilities in the Discrete Sine-Gordon Equation: Experimental Tests in Josephson Rings. Physical Review Letters, 1995, 74, 379-382.	2.9	62
101	Resonant steps in parallel Josephson junction arrays: parametric instabilities of whirling modes. IEEE Transactions on Applied Superconductivity, 1995, 5, 2698-2701.	1.1	0
102	Scaling Laws for Dynamical Hysteresis in a Multidimensional Laser System. Physical Review Letters, 1995, 74, 2220-2223.	2.9	57
103	STABILITY OF SYNCHRONIZATION IN NETWORKS OF DIGITAL PHASE-LOCKED LOOPS. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 1995, 05, 983-990.	0.7	31
104	The Birth of Period Three. Mathematics Magazine, 1995, 68, 42.	0.1	14
105	Vortex Propagation in Discrete Josephson Rings. , 1995, , 587-598.		0
106	Stochastic resonance in an autonomous system with a nonuniform limit cycle. Physical Review E, 1994, 50, 3249-3250.	0.8	125
107	Vortices trapped in discrete Josephson rings. Physica B: Condensed Matter, 1994, 203, 490-496.	1.3	2
108	Constants of motion for superconducting Josephson arrays. Physica D: Nonlinear Phenomena, 1994, 74, 197-253.	1.3	393

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109	Norbert Wienerâ€™s Brain Waves. Lecture Notes in Biomathematics, 1994, , 122-138.	0.3	38
110	Coupled Oscillators and Biological Synchronization. Scientific American, 1993, 269, 102-109.	1.0	782
111	Integrability of a globally coupled oscillator array. Physical Review Letters, 1993, 70, 2391-2394.	2.9	233
112	Splay states in globally coupled Josephson arrays: Analytical prediction of Floquet multipliers. Physical Review E, 1993, 47, 220-227.	0.8	100
113	Synchronization of Lorenz-based chaotic circuits with applications to communications. IEEE Transactions on Circuits and Systems Part 2: Express Briefs, 1993, 40, 626-633.	2.3	908
114	ROBUSTNESS AND SIGNAL RECOVERY IN A SYNCHRONIZED CHAOTIC SYSTEM. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 1993, 03, 1629-1638.	0.7	80
115	Coupled nonlinear oscillators below the synchronization threshold: Relaxation by generalized Landau damping. Physical Review Letters, 1992, 68, 2730-2733.	2.9	225
116	Averaging of globally coupled oscillators. Physica D: Nonlinear Phenomena, 1992, 55, 239-250.	1.3	86
117	Chaotic streamlines inside drops immersed in steady Stokes flows. Journal of Fluid Mechanics, 1991, 232, 629.	1.4	91
118	Dynamics of a globally coupled oscillator array. Physica D: Nonlinear Phenomena, 1991, 48, 102-112.	1.3	110
119	Dynamics of a large system of coupled nonlinear oscillators. Physica D: Nonlinear Phenomena, 1991, 52, 293-331.	1.3	221
120	Stability of incoherence in a population of coupled oscillators. Journal of Statistical Physics, 1991, 63, 613-635.	0.5	434
121	Reversibility and noise sensitivity of Josephson arrays. Physical Review Letters, 1991, 66, 1094-1097.	2.9	38
122	THE DIFFERENTIAL GEOMETRY OF SCROLL WAVES. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 1991, 01, 723-744.	0.7	31
123	Synchronization of Pulse-Coupled Biological Oscillators. SIAM Journal on Applied Mathematics, 1990, 50, 1645-1662.	0.8	1,721
124	Amplitude death in an array of limit-cycle oscillators. Journal of Statistical Physics, 1990, 60, 245-262.	0.5	259
125	Phase diagram for the collective behavior of limit-cycle oscillators. Physical Review Letters, 1990, 65, 1701-1704.	2.9	245
126	Jump Bifurcation and Hysteresis in an Infinite-Dimensional Dynamical System of Coupled Spins. SIAM Journal on Applied Mathematics, 1990, 50, 108-124.	0.8	12

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127	Integral Representation of a Finite Spike. American Mathematical Monthly, 1990, 97, 901.	0.2	0
128	Interpreting the Human Phase Response Curve to Multiple Bright-Light Exposures. Journal of Biological Rhythms, 1990, 5, 169-174.	1.4	31
129	Delayed switching in a phase-slip model of charge-density-wave transport. Physical Review B, 1989, 40, 5588-5592.	1.1	12
130	Collective dynamics of coupled oscillators with random pinning. Physica D: Nonlinear Phenomena, 1989, 36, 23-50.	1.3	89
131	Predicted power laws for delayed switching of charge-density waves. Physical Review B, 1989, 40, 10501-10508.	1.1	45
132	Phase-locking and critical phenomena in lattices of coupled nonlinear oscillators with random intrinsic frequencies. Physica D: Nonlinear Phenomena, 1988, 31, 143-168.	1.3	182
133	Love Affairs and Differential Equations. Mathematics Magazine, 1988, 61, 35.	0.1	47
134	Simple Model of Collective Transport with Phase Slippage. Physical Review Letters, 1988, 61, 2380-2383.	2.9	79
135	Collective synchronisation in lattices of nonlinear oscillators with randomness. Journal of Physics A, 1988, 21, L699-L705.	1.6	116
136	Baby Doctors?. Science News, 1988, 133, 403.	0.1	0
137	Collective synchronisation in lattices of non-linear oscillators with randomness. Journal of Physics A, 1988, 21, 4649-4649.	1.6	6
138	Love Affairs and Differential Equations. Mathematics Magazine, 1988, 61, 35-35.	0.1	56
139	Open Peer Commentary. Journal of Biological Rhythms, 1987, 2, 317-329.	1.4	16
140	Human sleep and circadian rhythms: a simple model based on two coupled oscillators. Journal of Mathematical Biology, 1987, 25, 327-347.	0.8	61
141	Rhythm and reason. Nature, 1987, 329, 375-375.	13.7	0
142	Bright light resets the human circadian pacemaker independent of the timing of the sleep-wake cycle. Science, 1986, 233, 667-671.	6.0	715
143	Circadian Regulation Dominates Homeostatic Control of Sleep Length and Prior Wake Length in Humans. Sleep, 1986, 9, 353-364.	0.6	88
144	Rhythmic research. Nature, 1986, 323, 363-363.	13.7	0

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145	The Mathematical Structure of the Human Sleep-Wake Cycle. Lecture Notes in Biomathematics, 1986, , .	0.3	46
146	Yeast oscillations, belousov-zhabotinsky waves, and the non-retraction theorem. Mathematical Intelligencer, 1985, 7, 9-17.	0.1	5
147	Singular filaments organize chemical waves in three dimensions. Physica D: Nonlinear Phenomena, 1984, 13, 221-233.	1.3	50
148	Organizing centres for three-dimensional chemical waves. Nature, 1984, 311, 611-615.	13.7	163
149	Displays on Display. IEEE Computer Graphics and Applications, 1984, 4, 66-69.	1.0	21
150	Singular filaments organize chemical waves in three dimensions. Physica D: Nonlinear Phenomena, 1983, 9, 333-345.	1.3	49
151	Singular filaments organize chemical waves in three dimensions II. Twisted waves. Physica D: Nonlinear Phenomena, 1983, 9, 65-80.	1.3	44
152	Singular filaments organize chemical waves in three dimensions. Physica D: Nonlinear Phenomena, 1983, 8, 35-49.	1.3	73
153	Topology of zigzag chromatin. Journal of Theoretical Biology, 1983, 103, 601-607.	0.8	2
154	Estimating the torsional rigidity of DNA from supercoiling data. Journal of Chemical Physics, 1982, 77, 580-581.	1.2	4
155	Structure of chromatin and the linking number of DNA.. Proceedings of the National Academy of Sciences of the United States of America, 1981, 78, 1461-1465.	3.3	204
156	Spontaneous synchronization in nature. , 0, , .		5