Frank Schweitzer

List of Publications by Citations

177 papers	5,610 citations	36 h-index	71 g-index
203 ext. papers	6,589 ext. citations	2.7 avg, IF	6.09 L-index

#	Paper	IF	Citations
177	How social influence can undermine the wisdom of crowd effect. *Proceedings of the National Academy of Sciences of the United States of America*, **2011**, 108, 9020-5	11.5	550
176	Economic networks: the new challenges. *Science*, **2009**, 325, 422-5	33.3	537
175	A model of a trust-based recommendation system on a social network. *Autonomous Agents and Multi-Agent Systems*, **2008**, 16, 57-74	2	229
174	Complex Motion of Brownian Particles with Energy Depots. *Physical Review Letters*, **1998**, 80, 5044-5047	7.4	198
173	Active walker model for the formation of human and animal trail systems. *Physical Review E*, **1997**, 56, 2527-2539	2.4	176
172	Ak-shell decomposition method for weighted networks. *New Journal of Physics*, **2012**, 14, 083030	2.9	160
171	Causality-driven slow-down and speed-up of diffusion in non-Markovian temporal networks. *Nature Communications*, **2014**, 5, 5024	17.4	156
170	Bats are able to maintain long-term social relationships despite the high fission-fusion dynamics of their groups. *Proceedings of the Royal Society B: Biological Sciences*, **2011**, 278, 2761-7	4.4	153
169	Brownian particles far from equilibrium. *European Physical Journal B*, **2000**, 15, 105-113	1.2	149
168	Systemic risk in a unifying framework for cascading processes on networks. *European Physical Journal B*, **2009**, 71, 441-460	1.2	115
167	Active Brownian particles with energy depots modeling animal mobility. *BioSystems*, **1999**, 49, 17-29	1.9	114
166	Predicting scientific success based on coauthorship networks. *EPJ Data Science*, **2014**, 3,	3.4	93
165	Modelling collective opinion formation by means of active Brownian particles. *European Physical Journal B*, **2000**, 15, 723-732	1.2	93
164	Phase transitions in social impact models of opinion formation. *Physica A: Statistical Mechanics and Its Applications*, **2000**, 285, 199-210	3.3	92
163	Social signals and algorithmic trading of Bitcoin. *Royal Society Open Science*, **2015**, 2, 150288	3.3	91
162	Betweenness preference: quantifying correlations in the topological dynamics of temporal networks. *Physical Review Letters*, **2013**, 110, 198701	7.4	86
161	Decelerating microdynamics can accelerate macrodynamics in the voter model. *Physical Review Letters*, **2008**, 101, 018701	7.4	80

160	SOCIAL IMPACT MODELS OF OPINION DYNAMICS **2001**, 253-273		79
159	Clustering of □active□walkers in a two-component system. *Physica A: Statistical Mechanics and Its Applications*, **1994**, 206, 359-379	3.3	79
158	Emotional persistence in online chatting communities. *Scientific Reports*, **2012**, 2, 402	4.9	77
157	An agent-based model of collective emotions in online communities. *European Physical Journal B*, **2010**, 77, 533-545	1.2	77
156	Statistical mechanics of canonical-dissipative systems and applications to swarm dynamics. *Physical Review E*, **2001**, 64, 021110	2.4	76
155	Active random walkers simulate trunk trail formation by ants. *BioSystems*, **1997**, 41, 153-66	1.9	71
154	Social resilience in online communities **2013**,		68
153	ECONOMIC NETWORKS: WHAT DO WE KNOW AND WHAT DO WE NEED TO KNOW?. *International Journal of Modeling, Simulation, and Scientific Computing*, **2009**, 12, 407-422	0.8	65
152	EVOLUTION OF COOPERATION IN A SPATIAL PRISONER'S DILEMMA. *International Journal of Modeling, Simulation, and Scientific Computing*, **2002**, 05, 269-299	0.8	64
151	The efficiency and stability of R&D networks. *Games and Economic Behavior*, **2012**, 75, 694-713	1.1	56
150	Positive words carry less information than negative words. *EPJ Data Science*, **2012**, 1,	3.4	53
149	Nonlinear voter models: the transition from invasion to coexistence. *European Physical Journal B*, **2009**, 67, 301-318	1.2	50
148	Categorizing bugs with social networks: A case study on four open source software communities **2013**,		49
147	Personalised and dynamic trust in social networks **2009**,		49
146	ON SPATIAL CONSENSUS FORMATION: IS THE SZNAJD MODEL DIFFERENT FROM A VOTER MODEL?. *International Journal of Modern Physics C*, **2003**, 14, 1331-1354	1.1	49
145	Sociophysics. *Physics Today*, **2018**, 71, 40-46	0.9	42
144	Thermodynamics of Finite Systems and the Kinetics of First-Order Phase Transitions. *Teubner-Texte Zur Physik*, **1988**,		38
143	Ideological and Temporal Components of Network Polarization in Online Political Participatory Media. *Policy and Internet*, **2015**, 7, 46-79	2.6	36

142	Sentiment cascades in the 15M movement. *EPJ Data Science*, **2015**, 4,	3.4	36
141	Modeling vortex swarming in Daphnia. *Bulletin of Mathematical Biology*, **2007**, 69, 539-62	2.1	36
140	Understanding Popularity, Reputation, and Social Influence in the Twitter Society. *Policy and Internet*, **2017**, 9, 343-364	2.6	34
139	Estimation of megacity growth: simple rules versus complex phenomena. *Applied Geography*, **1998**, 18, 69-81	4.4	34
138	Coordination of decisions in a spatial agent model. *Physica A: Statistical Mechanics and Its Applications*, **2002**, 303, 189-216	3.3	34
137	The role of endogenous and exogenous mechanisms in the formation of R&D networks. *Scientific Reports*, **2014**, 4, 5679	4.9	33
136	Recombinant knowledge and the evolution of innovation networks. *Journal of Economic Behavior and Organization*, **2011**, 79, 145-164	1.6	33
135	Uphill motion of active brownian particles in piecewise linear potentials. *European Physical Journal B*, **2000**, 14, 157-168	1.2	32
134	Directed motion of Brownian particles with internal energy depot. *Physica A: Statistical Mechanics and Its Applications*, **1999**, 273, 294-314	3.3	31
133	The Role of Emotions in Contributors Activity: A Case Study on the GENTOO Community **2013**,		30
132	Optimization of road networks using evolutionary strategies. *Evolutionary Computation*, **1997**, 5, 419-38	4.3	30
131	Quantifying the effects of social influence. *Scientific Reports*, **2013**, 3, 1360	4.9	27
130	Systemic risk in multiplex networks with asymmetric coupling and threshold feedback. *Physica D: Nonlinear Phenomena*, **2016**, 323-324, 64-72	3.3	26
129	From Aristotle to Ringelmann: a large-scale analysis of team productivity and coordination in Open Source Software projects. *Empirical Software Engineering*, **2016**, 21, 642-683	3.3	26
128	Moving recommender systems from on-line commerce to retail stores. *Information Systems and E-Business Management*, **2012**, 10, 367-393	2.6	26
127	Political polarization and popularity in online participatory media **2012**,		26
126	Quantifying the effect of editor-author relations on manuscript handling times. *Scientometrics*, **2017**, 113, 609-631	3	25
125	Swarms of particle agents with harmonic interactions. *Theory in Biosciences*, **2001**, 120, 207-224	1.3	25

124	Modelling Migration and Economic Agglomeration with Active Brownian Particles. *International Journal of Modeling, Simulation, and Scientific Computing*, **1998**, 01, 11-37	0.8	25
123	SLOWER IS FASTER: FOSTERING CONSENSUS FORMATION BY HETEROGENEOUS INERTIA. *International Journal of Modeling, Simulation, and Scientific Computing*, **2008**, 11, 551-563	0.8	23
122	The epidemics of donations: logistic growth and power-laws. *PLoS ONE*, **2008**, 3, e1458	3.7	23
121	Tumor invasion optimization by mesenchymal-amoeboid heterogeneity. *Scientific Reports*, **2015**, 5, 10622	4.9	22
120	Dissonance Minimization as a Microfoundation of Social Influence in Models of Opinion Formation. *Journal of Mathematical Sociology*, **2014**, 38, 147-174	1.2	22
119	How random is social behaviour? Disentangling social complexity through the study of a wild house mouse population. *PLoS Computational Biology*, **2012**, 8, e1002786	5	22
118	Quantifying the impact of leveraging and diversification on systemic risk. *Journal of Financial Stability*, **2014**, 15, 43-52	2.8	21
117	Emotions in Product Reviews--Empirics and Models **2011**,		21
116	A stochastic approach to nucleation in finite systems: Theory and computer simulations. *Physica A: Statistical Mechanics and Its Applications*, **1988**, 150, 261-279	3.3	20
115	Online privacy as a collective phenomenon **2014**,		19
114	The dynamics of emotions in online interaction. *Royal Society Open Science*, **2016**, 3, 160059	3.3	19
113	Power law signature of media exposure in human response waiting time distributions. *Physical Review E*, **2010**, 81, 056101	2.4	18
112	Testing an agent-based model of bacterial cell motility: How nutrient concentration affects speed distribution. *European Physical Journal B*, **2011**, 82, 235-244	1.2	17
111	Innovation Networks. *Understanding Complex Systems*, **2009**,	0.4	17
110	A Weighted Balance Model of Opinion Hyperpolarization. *Jasss*, **2020**, 23,	4.8	17
109	Self-assembling of networks in an agent-based model. *Physical Review E*, **2002**, 66, 026113	2.4	15
108	How damage diversification can reduce systemic risk. *Physical Review E*, **2016**, 93, 042313	2.4	14
107	International crop trade networks: the impact of shocks and cascades. *Environmental Research Letters*, **2019**, 14, 114013	6.2	14

106	The rise and fall of a central contributor: Dynamics of social organization and performance in the GENTOO community **2013**,		14
105	Agent-based modeling of intracellular transport. *European Physical Journal B*, **2011**, 82, 245-255	1.2	14
104	COEXISTENCE OF SOCIAL NORMS BASED ON IN- AND OUT-GROUP INTERACTIONS. *International Journal of Modeling, Simulation, and Scientific Computing*, **2007**, 10, 271-286	0.8	14
103	Non-stationary nucleation and cluster growth in quasi-binary non-ideal solutions. *Journal of Non-Crystalline Solids*, **1990**, 125, 129-138	3.9	14
102	Value of peripheral nodes in controlling multilayer scale-free networks. *Physical Review E*, **2016**, 93, 012309	2.4	13
101	The Link between Dependency and Cochange: Empirical Evidence. *IEEE Transactions on Software Engineering*, **2012**, 38, 1432-1444	3.5	13
100	Communication and Self-Organisation in Complex Systems: A Basic Approach. *Advances in Spatial Science*, **2001**, 275-296	0.4	13
99	Data-driven modeling of collaboration networks: a cross-domain analysis. *EPJ Data Science*, **2017**, 6,	3.4	12
98	Explicit size distributions of failure cascades redefine systemic risk on finite networks. *Scientific Reports*, **2018**, 8, 6878	4.9	12
97	How Big Is Too Big? Critical Shocks for Systemic Failure Cascades. *Journal of Statistical Physics*, **2013** , 151, 765-783	1.5	12
96	Aggregation Induced by Diffusing and Nondiffusing Media **1997**, 183-192		12
95	Diversity-induced resonance in the response to social norms. *Physical Review E*, **2013**, 87, 022803	2.4	11
94	Sustainable growth in complex networks. *Europhysics Letters*, **2011**, 96, 58005	1.6	11
93	The rise and fall of R&D networks. *Industrial and Corporate Change*, **2016**, dtw041	2.1	10
92	Active brownian particles: Artificial agents in physics **1997**, 358-371		10
91	AGGREGATE DYNAMICS IN AN EVOLUTIONARY NETWORK MODEL. *International Journal of Modern Physics C*, **2007**, 18, 1659-1674	1.1	10
90	Critical parameters for nucleation in finite systems. *Journal of Colloid and Interface Science*, **1987**, 119, 67-73	9.3	10
89	The mobility network of scientists: analyzing temporal correlations in scientific careers. *Applied Network Science*, **2020**, 5,	2.9	10

88	HOW CAN SOCIAL HERDING ENHANCE COOPERATION?. *International Journal of Modeling, Simulation, and Scientific Computing*, **2013**, 16, 1350017	0.8	9
87	OPTIMAL MIGRATION PROMOTES THE OUTBREAK OF COOPERATION IN HETEROGENEOUS POPULATIONS. *International Journal of Modeling, Simulation, and Scientific Computing*, **2012**, 15, 1250059	0.8	9
86	When the filter bubble bursts **2016**,		8
85	The Network of Counterparty Risk: Analysing Correlations in OTC Derivatives. *PLoS ONE*, **2015**, 10, e0136638	3.7	8
84	Exploratory of society. *European Physical Journal: Special Topics*, **2012**, 214, 347-360	2.3	8
83	Investments in random environments. *Physica A: Statistical Mechanics and Its Applications*, **2008**, 387, 2035-2046	3.3	8
82	Citations driven by social connections? A multi-layer representation of coauthorship networks. *Quantitative Science Studies*, **2020**, 1, 1493-1509	3.8	8
81	Modeling Evolving Innovation Networks. *Understanding Complex Systems*, **2009**, 187-267	0.4	8
80	An agent-based model of multi-dimensional opinion dynamics and opinion alignment. *Chaos*, **2020**, 30, 093139	3.3	8
79	CONTROL CONTRIBUTION IDENTIFIES TOP DRIVER NODES IN COMPLEX NETWORKS. *International Journal of Modeling, Simulation, and Scientific Computing*, **2019**, 22, 1950014	0.8	8
78	An Agent-Based Model of Opinion Polarization Driven by Emotions. *Complexity*, **2020**, 2020, 1-11	1.6	7
77	Neighborhood Approximations for Non-Linear Voter Models. *Entropy*, **2015**, 17, 7658-7679	2.8	7
76	HOW DO OSS PROJECTS CHANGE IN NUMBER AND SIZE? A LARGE-SCALE ANALYSIS TO TEST A MODEL OF PROJECT GROWTH. *International Journal of Modeling, Simulation, and Scientific Computing*, **2014**, 17, 1550008	0.8	7
75	Automated software remodularization based on move refactoring **2014**,		7
74	What Is the Entropy of a Social Organization?. *Entropy*, **2019**, 21, 901	2.8	6
73	Framework for cascade size calculations on random networks. *Physical Review E*, **2018**, 97, 042312	2.4	6
72	Quantifying knowledge exchange in R&D networks: a data-driven model. *Journal of Evolutionary Economics*, **2018**, 28, 461-493	1.9	6
71	A MODEL OF DYNAMIC REWIRING AND KNOWLEDGE EXCHANGE IN R&D NETWORKS. *International Journal of Modeling, Simulation, and Scientific Computing*, **2016**, 19, 1650004	0.8	6

70	ENHANCING CONSENSUS UNDER OPINION BIAS BY MEANS OF HIERARCHICAL DECISION MAKING. *International Journal of Modeling, Simulation, and Scientific Computing*, **2013**, 16, 1350020	0.8	6
69	Software change dynamics **2009**,		6
68	Reply to Farrell: Improved individual estimation success can imply collective tunnel vision. *Proceedings of the National Academy of Sciences of the United States of America*, **2011**, 108, E626-E626	11.5	6
67	Stochastics of nucleation in isolated gases including carrier molecules. *Physica A: Statistical Mechanics and Its Applications*, **1988**, 153, 573-591	3.3	6
66	Reproducing Scientists Mobility: A Data-Driven Model. *SSRN Electronic Journal*,	1	6
65	An agent-based framework of active matter with applications in biological and social systems. *European Journal of Physics*, **2019**, 40, 014003	0.8	6
64	The spatial component of R&D networks. *Journal of Evolutionary Economics*, **2018**, 28, 417-436	1.9	6
63	Emotions and Activity Profiles of Influential Users in Product Reviews Communities. *Frontiers in Physics*, **2015**, 3,	3.9	5
62	The language-dependent relationship between word happiness and frequency. *Proceedings of the National Academy of Sciences of the United States of America*, **2015**, 112, E2983	11.5	5
61	Redistribution spurs growth by using a portfolio effect on risky human capital. *PLoS ONE*, **2013**, 8, e54904	3.7	5
60	RISK-SEEKING VERSUS RISK-AVOIDING INVESTMENTS IN NOISY PERIODIC ENVIRONMENTS. *International Journal of Modern Physics C*, **2008**, 19, 971-994	1.1	5
59	Multi-agent Model of Biological Swarming. *Lecture Notes in Computer Science*, **2003**, 810-820	0.9	5
58	Agents with Heterogeneous Strategies Interacting in a Spatial IPD. *Lecture Notes in Economics and Mathematical Systems*, **2005**, 87-102	0.4	5
57	The Influence of Depletion Effects on Homogeneous Nucleation Rates. *Zeitschrift Fur Physikalische Chemie*, **1990**, 166, 119-123	3.1	5
56	Modelling Migration and Economic Agglomeration with Active Brownian Particles **2002**, 137-159		5
55	Coping with Information Overload through Trust-Based Networks. *Understanding Complex Systems*, **2008**, 273-300	0.4	5
54	The Rise and Fall of R&D Networks. *SSRN Electronic Journal*, **2016**,	1	5
53	The interdependence of corporate reputation and ownership: a network approach to quantify reputation. *Royal Society Open Science*, **2019**, 6, 190570	3.3	5

52	Correlations between thresholds and degrees: An analytic approach to model attacks and failure cascades. *Physical Review E*, **2018**, 98, 022306	2.4	4
51	From Relational Data to Graphs: Inferring Significant Links Using Generalized Hypergeometric Ensembles. *Lecture Notes in Computer Science*, **2017**, 111-120	0.9	4
50	Agent-Based Simulations of Emotional Dialogs in the Online Social Network MySpace. *Understanding Complex Systems*, **2017**, 207-229	0.4	4
49	COMMUNICATION IN INNOVATION COMMUNITIES: AN ANALYSIS OF 100 OPEN SOURCE SOFTWARE PROJECTS. *International Journal of Modeling, Simulation, and Scientific Computing*, **2014** , 17, 1550006	0.8	4
48	Modeling online collective emotions **2012**,		4
47	Modeling collective emotions in online social systems **2014**, 389-406		4
46	Modeling User Reputation in Online Social Networks: The Role of Costs, Benefits, and Reciprocity. *Entropy*, **2020**, 22,	2.8	4
45	The ambigous role of social influence on the wisdom of crowds: An analytic approach. *Physica A: Statistical Mechanics and Its Applications*, **2021**, 567, 125624	3.3	4
44	Improving the Robustness of Online Social Networks: A Simulation Approach of Network Interventions. *Frontiers in Robotics and AI*, **2020**, 7, 57	2.8	3
43	Scientific networks and success in science. *EPJ Data Science*, **2014**, 3,	3.4	3
42	CYBEREMOTIONS Collective Emotions in Cyberspace. *Procedia Computer Science*, **2011**, 7, 221-222	1.6	3
41	A complementary view on the growth of directory trees. *European Physical Journal B*, **2009**, 71, 641-648	1.2	3
40	**2012**,		3
39	Structural and functional information n evolutionary approach to pragmatic information. *World Futures*, **1997**, 50, 533-549	0.4	3
38	Swarms of Particle Agents with Harmonic Interactions. *Theory in Biosciences*, **2001**, 120, 207-224	1.3	3
37	An Ensemble Perspective on Multi-layer Networks. *Understanding Complex Systems*, **2016**, 37-59	0.4	3
36	Multilayer network approach to modeling authorship influence on citation dynamics in physics journals. *Physical Review E*, **2020**, 102, 032303	2.4	3
35	git2net - Mining Time-Stamped Co-Editing Networks from Large git Repositories **2019**,		3

34	Quantifying Knowledge Exchange in R&D Networks: A Data-Driven Model. *SSRN Electronic Journal*, **2015**,	1	2
33	An Agent-Based Model of Collective Emotions in Online Communities. *SSRN Electronic Journal*, **2010**,	1	2
32	Data-driven modeling of leading-following behavior in Bechstein bats		2
31	Intervention Scenarios to Enhance Knowledge Transfer in a Network of Firms. *Frontiers in Physics*, **2020**, 8,	3.9	2
30	Social percolation revisited: From 2d lattices to adaptive networks. *Physica A: Statistical Mechanics and Its Applications*, **2021**, 570, 125687	3.3	2
29	A conceptual approach to model co-evolution of urban structures. *International Journal of Space Structures*, **2016**, 31, 43-51	0.8	2
28	Quantifying individual influence in leading-following behavior of Bechstein's bats. *Scientific Reports* , **2021**, 11, 2691	4.9	2
27	Clustering of Active Walkers: Phase Transition from Local Interactions. *Institute for Nonlinear Science*, **1996**, 293-305		2
26	Social nucleation: Group formation as a phase transition.. *Physical Review E*, **2022**, 105, 044301	2.4	2
25	Evaluative Patterns and Incentives in YouTube. *Lecture Notes in Computer Science*, **2017**, 301-315	0.9	1
24	Active Motion of Brownian Particles **2000**, 97-106		1
23	Simulation of cluster growth in pores with diffusion interaction. *Surface Science*, **1992**, 272, 235-239	1.8	1
22	The Efficiency and Evolution of R&D Networks. *SSRN Electronic Journal*,	1	1
21	Quantifying the Effects of Social Influence. *SSRN Electronic Journal*,	1	1
20	Quantifying individual influence in leading-following behavior of Bechstein bats		1
19	The Social Dimension of Information Ranking: A Discussion of Research Challenges and Approaches. *Springer Proceedings in Complexity*, **2014**, 45-61	0.3	1
18	Coordination of Decisions in a Spatial Model of Brownian Agents. *Lecture Notes in Economics and Mathematical Systems*, **2004**, 303-318	0.4	1
17	Active Motion in Systems with Energy Supply **2001**, 119-142		1

16	Collective Decisions in Multi-Agent Systems **2007**, 7-12		1
15	The Law of Proportionate Growth and Its Siblings: Applications in Agent-Based Modeling of Socio-Economic Systems. *Evolutionary Economics and Social Complexity Science*, **2020**, 145-176	0.2	1
14	Hierarchical Consensus Formation Reduces The Influence Of Opinion Bias **2012**,		1
13	Enhanced or distorted wisdom of crowds? An agent-based model of opinion formation under social influence. *Swarm Intelligence*, **2021**, 15, 31-46	3	1
12	Anticipated shocks in online activity **2016**,		1
11	Consensus from group interactions: An adaptive voter model on hypergraphs. *Physical Review E*, **2022**, 105,	2.4	1
10	DESIGNING SYSTEMS BOTTOM UP: FACETS AND PROBLEMS. *International Journal of Modeling, Simulation, and Scientific Computing*, **2020**, 23, 2020001	0.8	0
9	SHOULD THE GOVERNMENT REWARD COOPERATION? INSIGHTS FROM AN AGENT-BASED MODEL OF WEALTH REDISTRIBUTION. *International Journal of Modeling, Simulation, and Scientific Computing*, **2020**, 23, 2050018	0.8	0
8	Reproducing scientists' mobility: a data-driven model. *Scientific Reports*, **2021**, 11, 10733	4.9	0
7	Analysing Time-Stamped Co-Editing Networks in Software Development Teams using git2net. *Empirical Software Engineering*, **2021**, 26, 75	3.3	0
6	Data-driven modelling of group formation in the fission-fusion dynamics of Bechstein's bats.. *Journal of the Royal Society Interface*, **2022**, 19, 20220170	4.1	0
5	Group relations, resilience and the I Ching. *Physica A: Statistical Mechanics and Its Applications*, **2022**, 127630	3.3	0
4	An Agent-Based Modeling Framework for Online Collective Emotions. *Understanding Complex Systems*, **2017**, 187-206	0.4	
3	Risk, Markets, Games, and Networks. *European Physical Journal B*, **2009**, 71, 439-440	1.2	
2	Emergence and Evolution of Coalitions in Buyer-Seller Networks. *Studies in Computational Intelligence*, **2007**, 245-258	0.8	
1	Quantifying the Importance of Firms by Means of Reputation and Network Control. *Frontiers in Big Data*, **2021**, 4, 652913	2.8	