Petter Holme

List of Publications by Year
in descending order

165 papers	12,426 citations	50170 46 h-index	24915 109 g-index
167 all docs	167 docs citations	167 times ranked	8375 citing authors

#	Article	IF	Citations
1	Social physics. Physics Reports, 2022, 948, 1-148.	10.3	231
2	The microdynamics shaping the relationship between democracy and corruption. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2022, 478, 20210567.	1.0	0
3	The global migration network of sex-workers. Journal of Computational Social Science, 2022, 5, 969-985.	1.4	2
4	Hiding in Temporal Networks. IEEE Transactions on Network Science and Engineering, 2022, 9, 1645-1657.	4.1	4
5	Optimal control of networked reactionâ€“diffusion systems. Journal of the Royal Society Interface, 2022, 19, 20210739.	1.5	12
6	Universality out of order. Nature Communications, 2022, 13, 2355.	5.8	1
7	Weighted network motifs as random walk patterns. New Journal of Physics, 2022, 24, 053056.	1.2	1
8	Flexible imitation suppresses epidemics through better vaccination. Journal of Computational Social Science, 2021, 4, 709-720.	1.4	4
9	Fast and principled simulations of the SIR model on temporal networks. PLoS ONE, 2021, 16, e0246961.	1.1	17
10	Multistage onset of epidemics in heterogeneous networks. Physical Review E, 2021, 103, 032313.	0.8	3
11	Building surrogate temporal network data from observed backbones. Physical Review E, 2021, 103, 052304.	0.8	9
12	Concurrency measures in the era of temporal network epidemiology: a review. Journal of the Royal Society Interface, 2021, 18, 20210019.	1.5	13
13	Mobility in China, 2020: a tale of four phases. National Science Review, 2021, 8, nwab148.	4.6	31
14	Exit rights open complex pathways to cooperation. Journal of the Royal Society Interface, 2021, 18, 20200777.	1.5	29
15	Autopoietic Influence Hierarchies in Pancreatic <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>Î²</mml:mi></mml:math> Cells. Physical Review Letters, 2021, 127, 168101.	2.9	11
16	Freedom of choice adds value to public goods. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 17516-17521.	3.3	17
17	Beyond ranking nodes: Predicting epidemic outbreak sizes by network centralities. PLoS Computational Biology, 2020, 16, e1008052.	1.5	12
18	Î² Cells Operate Collectively to Help Maintain Glucose Homeostasis. Biophysical Journal, 2020, 118, 2588-2595.	0.2	21

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19	Universal evolution patterns of degree assortativity in social networks. Social Networks, 2020, 63, 47-55.	1.3	13
20	Coupling the circadian rhythms of population movement and the immune system in infectious disease modeling. PLoS ONE, 2020, 15, e0234619.	1.1	2
21	Free and freer <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>X</mml:mi><mml:mi>Y</mml:mi></mml:mrow></mml: models. Physical Review E, 2020, 101, 032311.	1.8	1
22	Small inter-event times govern epidemic spreading on networks. Physical Review Research, 2020, 2, .	1.3	16
23	Susceptible-infected-spreading-based network embedding in static and temporal networks. EPJ Data Science, 2020, 9, .	1.5	21
24	Who Is the Most Important Character in Frozen? What Networks Can Tell Us About the World. Frontiers for Young Minds, 2019, 7, .	0.8	2
25	Heterogeneous cooperative leadership structure emerging from random regular graphs. Chaos, 2019, 29, 103103.	1.0	48
26	Advantage of Being Multicomponent and Spatial: Multipartite Viruses Colonize Structured Populations with Lower Thresholds. Physical Review Letters, 2019, 123, 138101.	2.9	5
27	Detecting sequences of system states in temporal networks. Scientific Reports, 2019, 9, 795.	1.6	41
28	Impact of perception models on friendship paradox and opinion formation. Physical Review E, 2019, 99, 052302.	0.8	12
29	Impact of misinformation in temporal network epidemiology. Network Science, 2019, 7, 52-69.	0.8	8
30	Rare and everywhere: Perspectives on scale-free networks. Nature Communications, 2019, 10, 1016.	5.8	104
31	Efficient sentinel surveillance strategies for preventing epidemics on networks. PLoS Computational Biology, 2019, 15, e1007517.	1.5	14
32	Navigating temporal networks. Physica A: Statistical Mechanics and Its Applications, 2019, 513, 288-296.	1.2	6
33	A Map of Approaches to Temporal Networks. Computational Social Sciences, 2019, , 1-24.	0.4	10
34	A game-theoretic approach to optimize ad hoc networks inspired by small-world network topology. Physica A: Statistical Mechanics and Its Applications, 2018, 494, 129-139.	1.2	8
35	A fault-tolerant small world topology control model in ad hoc networks for search and rescue. Physics Letters, Section A: General, Atomic and Solid State Physics, 2018, 382, 467-476.	0.9	4
36	Epidemic extinction in networks: insights from the 12 110 smallest graphs. New Journal of Physics, 2018, 20, 113042.	1.2	13

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37	Probing Empirical Contact Networks by Simulation of Spreading Dynamics. Computational Social Sciences, 2018, , 109-124.	0.4	0
38	Objective measures for sentinel surveillance in network epidemiology. Physical Review E, 2018, 98, 022313.	0.8	13
39	Temporal Networks. , 2018, , 1-10.		0
40	Temporal Networks. , 2018, , 3053-3062.		3
41	Expansion of cooperatively growing populations: Optimal migration rates and habitat network structures. Physical Review E, 2017, 95, 012306.	0.8	2
42	Modeling the dynamics of dissent. Physica A: Statistical Mechanics and Its Applications, 2017, 486, 262-272.	1.2	9
43	Sampling of temporal networks: Methods and biases. Physical Review E, 2017, 96, 052302.	0.8	27
44	Introduction to Temporal Network Epidemiology. Theoretical Biology, 2017, , 1-16.	0.0	3
45	Sensitivity to Temporal and Topological Misinformation in Predictions of Epidemic Outbreaks. Theoretical Biology, 2017, , 43-55.	0.0	0
46	Ranking influential spreaders is an ill-defined problem. Europhysics Letters, 2017, 118, 68002.	0.7	14
47	Social contagion with degree-dependent thresholds. Physical Review E, 2017, 96, 012315.	0.8	17
48	Optimizing sentinel surveillance in temporal network epidemiology. Scientific Reports, 2017, 7, 4804.	1.6	25
49	Three faces of node importance in network epidemiology: Exact results for small graphs. Physical Review E, 2017, 96, 062305.	0.8	38
50	Morphology of travel routes and the organization of cities. Nature Communications, 2017, 8, 2229.	5.8	47
51	Cost-efficient vaccination protocols for network epidemiology. PLoS Computational Biology, 2017, 13, e1005696.	1.5	25
52	Connectivity of diagnostic technologies: improving surveillance and accelerating tuberculosis elimination. International Journal of Tuberculosis and Lung Disease, 2016, 20, 999-1003.	0.6	26
53	Impact of mobility structure on optimization of small-world networks of mobile agents. European Physical Journal B, 2016, 89, 1.	0.6	3
54	Temporal network structures controlling disease spreading. Physical Review E, 2016, 94, 022305.	0.8	53

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55	Solving the Dynamic Correlation Problem of the Susceptible-Infected-Susceptible Model on Networks. Physical Review Letters, 2016, 116, 258301.	2.9	67
56	Collective decision making with a mix of majority and minority seekers. Physical Review E, 2016, 93, 052308.	0.8	4
57	Building blocks of the basin stability of power grids. Physical Review E, 2016, 93, 062318.	0.8	22
58	Trade-offs between robustness and small-world effect in complex networks. Scientific Reports, 2016, 6, 37317.	1.6	33
59	Sexual and Communication Networks of Internet-Mediated Prostitution. , 2016, , .		3
60	Shadows of the susceptible-infectious-susceptible immortality transition in small networks. Physical Review E, 2015, 92, 012804.	0.8	6
61	Prediction of Links and Weights in Networks by Reliable Routes. Scientific Reports, 2015, 5, 12261.	1.6	79
62	Information content of contact-pattern representations and predictability of epidemic outbreaks. Scientific Reports, 2015, 5, 14462.	1.6	19
63	The Basic Reproduction Number as a Predictor for Epidemic Outbreaks in Temporal Networks. PLoS ONE, 2015, 10, e0120567.	1.1	62
64	Community consistency determines the stability transition window of power-grid nodes. New Journal of Physics, 2015, 17, 113005.	1.2	28
65	Network Theory Integrated Life Cycle Assessment for an Electric Power System. Sustainability, 2015, 7, 10961-10975.	1.6	9
66	Relating Land Use and Human Intra-City Mobility. PLoS ONE, 2015, 10, e0140152.	1.1	36
67	Simulating Irrational Human Behavior to Prevent Resource Depletion. PLoS ONE, 2015, 10, e0117612.	1.1	11
68	Mechanistic models in computational social science. Frontiers in Physics, 2015, 3, .	1.0	11
69	Exploring temporal networks with greedy walks. European Physical Journal B, 2015, 88, 1.	0.6	27
70	Representations of human contact patterns and outbreak diversity in SIR epidemics. IFAC-PapersOnLine, 2015, 48, 127-131.	0.5	2
71	Connecting human behavior and infectious disease spreading. Physics of Life Reviews, 2015, 15, 47-48.	1.5	2
72	Time evolution of predictability of epidemics on networks. Physical Review E, 2015, 91, 042811.	0.8	11

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73	Modern temporal network theory: a colloquium. European Physical Journal B, 2015, 88, 1.	0.6	480
74	Fat-Tailed Fluctuations in the Size of Organizations: The Role of Social Influence. PLoS ONE, 2014, 9, e100527.	1.1	12
75	The network positions of methicillin resistant Staphylococcus aureus affected units in a regional healthcare system. EPJ Data Science, 2014, 3, .	1.5	6
76	The social, economic and sexual networks of prostitution. , 2014, , .		0
77	Analyzing Temporal Networks in Social Media. Proceedings of the IEEE, 2014, 102, 1922-1933.	16.4	32
78	Structural differences between open and direct communication in an online community. Physica A: Statistical Mechanics and Its Applications, 2014, 414, 263-273.	1.2	22
79	Birth and death of links control disease spreading in empirical contact networks. Scientific Reports, 2014, 4, 4999.	1.6	71
80	Temporal Networks. , 2014, , 2119-2129.		5
81	Network characteristics of individual pigments in cyanobacterial photosystem II core complexes. Journal of the Korean Physical Society, 2013, 63, 2255-2261.	0.3	0
82	Threshold model of cascades in empirical temporal networks. Physica A: Statistical Mechanics and Its Applications, 2013, 392, 3476-3483.	1.2	93
83	A greedy-navigator approach to navigable city plans. European Physical Journal: Special Topics, 2013, 215, 135-144.	1.2	11
84	Epidemiologically Optimal Static Networks from Temporal Network Data. PLoS Computational Biology, 2013, 9, e1003142.	1.5	60
85	The Network Organization of Cancer-associated Protein Complexes in Human Tissues. Scientific Reports, 2013, 3, 1583.	1.6	37
86	Predicting and controlling infectious disease epidemics using temporal networks. F1000prime Reports, 2013, 5, 6.	5.9	149
87	Temporal Networks as a Modeling Framework. Understanding Complex Systems, 2013, , 1-14.	0.3	18
88	A Temporal Network Version of Wattsâ€™s Cascade Model. Understanding Complex Systems, 2013, , 315-329.	0.3	4
89	Bursty Communication Patterns Facilitate Spreading in a Threshold-Based Epidemic Dynamics. PLoS ONE, 2013, 8, e68629.	1.1	88
90	Extinction Times of Epidemic Outbreaks in Networks. PLoS ONE, 2013, 8, e84429.	1.1	18

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91	Predictability of population displacement after the 2010 Haiti earthquake. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 11576-11581.	3.3	428
92	Phase-shift inversion in oscillator systems with periodically switching couplings. Physical Review E, 2012, 85, 027202.	0.8	8
93	Exploring Maps with Greedy Navigators. Physical Review Letters, 2012, 108, 128701.	2.9	32
94	Social, Sexual and Economic Networks of Prostitution. Leonardo, 2012, 45, 80-81.	0.2	2
95	Geometric properties of graph layouts optimized for greedy navigation. Physical Review E, 2012, 86, 067103.	0.8	3
96	Temporal networks. Physics Reports, 2012, 519, 97-125.	10.3	2,023
97	Neutral theory of chemical reaction networks. New Journal of Physics, 2012, 14, 033032.	1.2	13
98	Insights into the pathogenesis of axial spondyloarthropathy from network and pathway analysis. BMC Systems Biology, 2012, 6, S4.	3.0	9
99	Exploiting Temporal Network Structures of Human Interaction to Effectively Immunize Populations. PLoS ONE, 2012, 7, e36439.	1.1	87
100	Pathogenesis of axial spondyloarthropathy in a network perspective. , 2011, , .		0
101	Metabolic Robustness and Network Modularity: A Model Study. PLoS ONE, 2011, 6, e16605.	1.1	40
102	Atmospheric Reaction Systems as Null-Models to Identify Structural Traces of Evolution in Metabolism. PLoS ONE, 2011, 6, e19759.	1.1	13
103	Ranking Candidate Disease Genes from Gene Expression and Protein Interaction: A Katz-Centrality Based Approach. PLoS ONE, 2011, 6, e24306.	1.1	70
104	Pathlength scaling in graphs with incomplete navigational information. Physica A: Statistical Mechanics and Its Applications, 2011, 390, 3996-4001.	1.2	5
105	Understanding and Exploiting Information Spreading and Integrating Technologies. Journal of Computer Science and Technology, 2011, 26, 829-836.	0.9	4
106	Onion structure and network robustness. Physical Review E, 2011, 84, 026106.	0.8	80
107	Emergent Hierarchical Structures in Multiadaptive Games. Physical Review Letters, 2011, 106, 028702.	2.9	100
108	Cooperation, structure, and hierarchy in multiadaptive games. Physical Review E, 2011, 84, 061148.	0.8	7

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109	Simulated Epidemics in an Empirical Spatiotemporal Network of 50,185 Sexual Contacts. PLoS Computational Biology, 2011, 7, e1001109.	1.5	256
110	The network organisation of consumer complaints. Europhysics Letters, 2010, 91, 28005.	0.7	3
111	Heterogeneous attachment strategies optimize the topology of dynamic wireless networks. European Physical Journal B, 2010, 73, 597-604.	0.6	5
112	Substance graphs are optimal simple-graph representations of metabolism. Science Bulletin, 2010, 55, 3161-3168.	1.7	9
113	Emergence of Collective Memories. PLoS ONE, 2010, 5, e12522.	1.1	7
114	Majority-vote model on hyperbolic lattices. Physical Review E, 2010, 81, 011133.	0.8	41
115	Local interaction scale controls the existence of a nontrivial optimal critical mass in opinion spreading. Physical Review E, 2010, 82, 022102.	0.8	8
116	Information dynamics shape the sexual networks of Internet-mediated prostitution. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 5706-5711.	3.3	165
117	Signatures of Currency Vertices. Journal of the Physical Society of Japan, 2009, 78, 034801.	0.7	3
118	Diversity of reproduction time scale promotes cooperation in spatial prisonerâ€™s dilemma games. Physical Review E, 2009, 80, 036106.	0.8	100
119	Effects of strategy-migration direction and noise in the evolutionary spatial prisonerâ€™s dilemma. Physical Review E, 2009, 80, 026108.	0.8	57
120	Multiscaling in an<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mi>Y</mml:mi><mml:mi>X</mml:mi></mml:mrow></mml:math>model of networks. Physical Review E, 2009, 80, 036120.	0.8	2
121	Modeling scientific-citation patterns and other triangle-rich acyclic networks. Physical Review E, 2009, 80, 037101.	0.8	40
122	Model validation of simple-graph representations of metabolism. Journal of the Royal Society Interface, 2009, 6, 1027-1034.	1.5	22
123	The Diplomatâ€™s Dilemma: Maximal Power for Minimal Effort in Social Networks. Understanding Complex Systems, 2009, , 269-288.	0.3	8
124	Network Properties of Complex Human Disease Genes Identified through Genome-Wide Association Studies. PLoS ONE, 2009, 4, e8090.	1.1	114
125	Role of activity in human dynamics. Europhysics Letters, 2008, 82, 28002.	0.7	147
126	Dynamic scaling regimes of collective decision making. Europhysics Letters, 2008, 81, 28003.	0.7	5

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127	Comment on â€œRegularizing capacity of metabolic networksâ€• Physical Review E, 2008, 77, 023901; discussion 023902.	0.8	3
128	An integrated model of traffic, geography and economy in the internet. Computer Communication Review, 2008, 38, 5-16.	1.5	25
129	Exploring the assortativity-clustering space of a networkâ€™s degree sequence. Physical Review E, 2007, 75, 046111.	0.8	58
130	Currency and commodity metabolites: their identification and relation to the modularity of metabolic networks. IET Systems Biology, 2007, 1, 280-285.	0.8	76
131	Agentâ€based model approach to optimal foraging in heterogeneous landscapes: effects of patch clumpiness. Ecography, 2007, 30, 777-788.	2.1	36
132	The Contact Network of Inpatients in a Regional Healthcare System. A Longitudinal Case Study. Mathematical Population Studies, 2007, 14, 269-284.	0.8	29
133	Radial structure of the Internet. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2007, 463, 1231-1246.	1.0	7
134	Korean university life in a network perspective: Dynamics of a large affiliation network. Physica A: Statistical Mechanics and Its Applications, 2007, 373, 821-830.	1.2	101
135	Scale-free networks with a large- to hypersmall-world transition. Physica A: Statistical Mechanics and Its Applications, 2007, 377, 315-322.	1.2	7
136	Local Symmetries in Complex Networks. Journal of the Korean Physical Society, 2007, 50, 300.	0.3	1
137	Vertex similarity in networks. Physical Review E, 2006, 73, 026120.	0.8	685
138	Nonequilibrium phase transition in the coevolution of networks and opinions. Physical Review E, 2006, 74, 056108.	0.8	435
139	Attractiveness and activity in Internet communities. Physica A: Statistical Mechanics and Its Applications, 2006, 364, 603-609.	1.2	35
140	Dynamics of Networking Agents Competing for High Centrality and Low Degree. Physical Review Letters, 2006, 96, 098701.	2.9	63
141	Detecting degree symmetries in networks. Physical Review E, 2006, 74, 036107.	0.8	19
142	Core-periphery organization of complex networks. Physical Review E, 2005, 72, 046111.	0.8	171
143	Network reachability of real-world contact sequences. Physical Review E, 2005, 71, 046119.	0.8	166
144	A NETWORK-BASED THRESHOLD MODEL FOR THE SPREADING OF FADS IN SOCIETY AND MARKETS. International Journal of Modeling, Simulation, and Scientific Computing, 2005, 08, 261-273.	0.9	21

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145	Role-similarity based functional prediction in networked systems: application to the yeast proteome. Journal of the Royal Society Interface, 2005, 2, 327-333.	1.5	33
146	Efficient local strategies for vaccination and network attack. Europhysics Letters, 2004, 68, 908-914.	0.7	132
147	Networking the seceder model: Group formation in social and economic systems. Physical Review E, 2004, 70, 036108.	0.8	42
148	Structure and time evolution of an Internet dating community. Social Networks, 2004, 26, 155-174.	1.3	225
149	Subnetwork hierarchies of biochemical pathways. Bioinformatics, 2003, 19, 532-538.	1.8	294
150	Network bipartivity. Physical Review E, 2003, 68, 056107.	0.8	107
151	Phase transitions in the two-dimensional random gaugeXYmodel. Physical Review B, 2003, 67, .	1.1	15
152	Prisonersâ€™ dilemma in real-world acquaintance networks: Spikes and quasiequilibria induced by the interplay between structure and dynamics. Physical Review E, 2003, 68, 030901.	0.8	92
153	Dynamic critical behavior of theXYmodel in small-world networks. Physical Review E, 2003, 67, 036118.	0.8	50
154	CONGESTION AND CENTRALITY IN TRAFFIC FLOW ON COMPLEX NETWORKS. International Journal of Modeling, Simulation, and Scientific Computing, 2003, 06, 163-176.	0.9	169
155	Network dynamics of ongoing social relationships. Europhysics Letters, 2003, 64, 427-433.	0.7	56
156	Edge overload breakdown in evolving networks. Physical Review E, 2002, 66, 036119.	0.8	136
157	Growing scale-free networks with tunable clustering. Physical Review E, 2002, 65, 026107.	0.8	728
158	Vertex overload breakdown in evolving networks. Physical Review E, 2002, 65, 066109.	0.8	219
159	Dynamic instabilities induced by asymmetric influence: Prisonersâ€™ dilemma game in small-world networks. Physical Review E, 2002, 66, 021907.	0.8	195
160	A zero-temperature study of vortex mobility in two-dimensional vortex glass models. Europhysics Letters, 2002, 60, 439-445.	0.7	7
161	Attack vulnerability of complex networks. Physical Review E, 2002, 65, 056109.	0.8	1,365
162	Transition in the two-dimensional step model: A Kosterlitz-Thouless transition in disguise. Physical Review B, 2001, 63, .	1.1	4

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163	XYmodel in small-world networks. Physical Review E, 2001, 64, 056135.	0.8	108
164	Comment on â€œStructure and Phase Transition of Josephson Vortices in Anisotropic High-TcSuperconductorsâ€• Physical Review Letters, 2000, 85, 2651-2651.	2.9	2
165	Optimizing COVID-19 surveillance using historical electronic health records of influenza infections. , 0, , .		2