Mason A Porter

List of Publications by Citations

163 papers	10,133 citations	48 h-index	99 g-index
173 ext. papers	12,186 ext. citations	4.3 avg, IF	6.79 L-index

#	Paper	IF	Citations
163	Community structure in time-dependent, multiscale, and multiplex networks. *Science*, **2010**, 328, 876-8	33.3	1249
162	Dynamic reconfiguration of human brain networks during learning. *Proceedings of the National Academy of Sciences of the United States of America*, **2011**, 108, 7641-6	11.5	1019
161	Mathematics. Critical truths about power laws. *Science*, **2012**, 335, 665-6	33.3	387
160	Mathematical Formulation of Multilayer Networks. *Physical Review X*, **2013**, 3,	9.1	376
159	The physics of spreading processes in multilayer networks. *Nature Physics*, **2016**, 12, 901-906	16.2	326
158	Robust detection of dynamic community structure in networks. *Chaos*, **2013**, 23, 013142	3.3	308
157	Social structure of Facebook networks. *Physica A: Statistical Mechanics and Its Applications*, **2012**, 391, 4165-4180	3.3	288
156	Random walks and diffusion on networks. *Physics Reports*, **2017**, 716-717, 1-58	27.7	272
155	Comparing Community Structure to Characteristics in Online Collegiate Social Networks. *SIAM Review*, **2011**, 53, 526-543	7.4	252
154	The multilayer nature of ecological networks. *Nature Ecology and Evolution*, **2017**, 1, 101	12.3	249
153	Task-based core-periphery organization of human brain dynamics. *PLoS Computational Biology*, **2013**, 9, e1003171	5	226
152	Core-Periphery Structure in Networks. *SIAM Journal on Applied Mathematics*, **2014**, 74, 167-190	1.8	201
151	Discrete breathers in one-dimensional diatomic granular crystals. *Physical Review Letters*, **2010**, 104, 244302	7.4	192
150	MuxViz: a tool for multilayer analysis and visualization of networks. *Journal of Complex Networks*, **2015**, 3, 159-176	1.7	191
149	Differential recruitment of the sensorimotor putamen and frontoparietal cortex during motor chunking in humans. *Neuron*, **2012**, 74, 936-46	13.9	190
148	A roadmap for the computation of persistent homology. *EPJ Data Science*, **2017**, 6, 17	3.4	188
147	A network analysis of committees in the U.S. House of Representatives. *Proceedings of the National Academy of Sciences of the United States of America*, **2005**, 102, 7057-62	11.5	143

146	Limit order books. *Quantitative Finance*, **2013**, 13, 1709-1742	1.6	126
145	Dynamical Systems on Networks. *Frontiers in Applied Dynamical Systems: Reviews and Tutorials*, **2016**,	0.5	114
144	Community Detection in Temporal Multilayer Networks, with an Application to Correlation Networks. *Multiscale Modeling and Simulation*, **2016**, 14, 1-41	1.8	104
143	Dissipative solitary waves in granular crystals. *Physical Review Letters*, **2009**, 102, 024102	7.4	104
142	Community structure in Congressional cosponsorship networks. *Physica A: Statistical Mechanics and Its Applications*, **2008**, 387, 1705-1712	3.3	101
141	Revisiting date and party hubs: novel approaches to role assignment in protein interaction networks. *PLoS Computational Biology*, **2010**, 6, e1000817	5	100
140	Optimal Design of Composite Granular Protectors. *Mechanics of Advanced Materials and Structures*, **2009**, 17, 1-19	1.8	100
139	Accuracy of mean-field theory for dynamics on real-world networks. *Physical Review E*, **2012**, 85, 026106	2.4	97
138	Highly nonlinear solitary waves in heterogeneous periodic granular media. *Physica D: Nonlinear Phenomena*, **2009**, 238, 666-676	3.3	95
137	The unreasonable effectiveness of tree-based theory for networks with clustering. *Physical Review E*, **2011**, 83, 036112	2.4	95
136	Highly nonlinear solitary waves in periodic dimer granular chains. *Physical Review E*, **2008**, 77, 015601	2.4	92
135	Granular crystals: Nonlinear dynamics meets materials engineering. *Physics Today*, **2015**, 68, 44-50	0.9	84
134	Multi-stage complex contagions. *Chaos*, **2013**, 23, 013124	3.3	79
133	Influence of network topology on sound propagation in granular materials. *Physical Review E*, **2012**, 86, 041306	2.4	79
132	EIGENVECTOR-BASED CENTRALITY MEASURES FOR TEMPORAL NETWORKS. *Multiscale Modeling and Simulation*, **2017**, 15, 537-574	1.8	78
131	Localized breathing modes in granular crystals with defects. *Physical Review E*, **2009**, 80, 066601	2.4	76
130	Extraction of force-chain network architecture in granular materials using community detection. *Soft Matter*, **2015**, 11, 2731-44	3.6	75
129	Intrinsic energy localization through discrete gap breathers in one-dimensional diatomic granular crystals. *Physical Review E*, **2010**, 82, 056604	2.4	71

128	Core-Periphery Structure in Networks (Revisited). *SIAM Review*, **2017**, 59, 619-646	7.4	70
127	Taxonomies of networks from community structure. *Physical Review E*, **2012**, 86, 036104-36104	2.4	69
126	The use of multilayer network analysis in animal behaviour. *Animal Behaviour*, **2019**, 149, 7-22	2.8	67
125	Think locally, act locally: detection of small, medium-sized, and large communities in large networks. *Physical Review E*, **2015**, 91, 012821	2.4	67
124	Network analysis of particles and grains. *Journal of Complex Networks*, **2018**, 6, 485-565	1.7	66
123	A simple generative model of collective online behavior. *Proceedings of the National Academy of Sciences of the United States of America*, **2014**, 111, 10411-5	11.5	64
122	Generalized master equations for non-Poisson dynamics on networks. *Physical Review E*, **2012**, 86, 046102	2.4	60
121	Cross-linked structure of network evolution. *Chaos*, **2014**, 24, 013112	3.3	58
120	Community structure in the United States House of Representatives. *Physica A: Statistical Mechanics and Its Applications*, **2007**, 386, 414-438	3.3	58
119	Topological data analysis of contagion maps for examining spreading processes on networks. *Nature Communications*, **2015**, 6, 7723	17.4	56
118	Random Walker Ranking for NCAA Division I-A Football. *American Mathematical Monthly*, **2007**, 114, 761-777	0.5	52
117	Persistent homology of time-dependent functional networks constructed from coupled time series. *Chaos*, **2017**, 27, 047410	3.3	51
116	Nonlinear coherent structures in granular crystals. *Journal of Physics Condensed Matter*, **2017**, 29, 413003	1.8	49
115	Dynamic network centrality summarizes learning in the human brain. *Journal of Complex Networks*, **2013**, 1, 83-92	1.7	48
114	Fermi, Pasta, Ulam and the Birth of Experimental Mathematics. *American Scientist*, **2009**, 97, 214	2.7	48
113	Null models for community detection in spatially embedded, temporal networks. *Journal of Complex Networks*, **2016**, 4, 363-406	1.7	47
112	Nonlinear waves in disordered diatomic granular chains. *Physical Review E*, **2010**, 82, 021301	2.4	45
111	Can Multilayer Networks Advance Animal Behavior Research?. *Trends in Ecology and Evolution*, **2018**, 33, 376-378	10.9	44

110	Matter-wave solitons with a periodic, piecewise-constant scattering length. *Physical Review A*, **2008**, 78,	2.6	43
109	Modulated amplitude waves in collisionally inhomogeneous Bose–Einstein condensates. *Physica D: Nonlinear Phenomena*, **2007**, 229, 104-115	3.3	41
108	Lost in transportation: Information measures and cognitive limits in multilayer navigation. *Science Advances*, **2016**, 2, e1500445	14.3	39
107	Motor primitives in space and time via targeted gain modulation in cortical networks. *Nature Neuroscience*, **2018**, 21, 1774-1783	25.5	39
106	Community structure in the United Nations General Assembly. *Physica A: Statistical Mechanics and Its Applications*, **2012**, 391, 343-361	3.3	38
105	Communities in multislice voting networks. *Chaos*, **2010**, 20, 041108	3.3	37
104	Dynamical clustering of exchange rates. *Quantitative Finance*, **2012**, 12, 1493-1520	1.6	36
103	Nonlinear lattice dynamics of Bose-Einstein condensates. *Chaos*, **2005**, 15, 15115	3.3	36
102	Frequency-based brain networks: From a multiplex framework to a full multilayer description. *Network Neuroscience*, **2018**, 2, 418-441	5.6	35
101	Detection of core–periphery structure in networks using spectral methods and geodesic paths. *European Journal of Applied Mathematics*, **2016**, 27, 846-887	1	34
100	Modulational instability in a layered Kerr medium: theory and experiment. *Physical Review Letters*, **2006**, 97, 234101	7.4	33
99	Density-based and transport-based core-periphery structures in networks. *Physical Review E*, **2014**, 89, 032810	2.4	32
98	A local perspective on community structure in multilayer networks. *Network Science*, **2017**, 5, 144-163	2.9	31
97	The Extraordinary SVD. *American Mathematical Monthly*, **2012**, 119, 838	0.3	28
96	Dynamics on modular networks with heterogeneous correlations. *Chaos*, **2014**, 24, 023106	3.3	27
95	Dynamics and manipulation of matter-wave solitons in optical superlattices. *Physics Letters, Section A: General, Atomic and Solid State Physics*, **2006**, 352, 210-215	2.3	26
94	Resonant and non-resonant modulated amplitude waves for binary Bose–Einstein condensates in optical lattices. *Physica D: Nonlinear Phenomena*, **2004**, 196, 106-123	3.3	26
93	Prey Switching with a Linear Preference Trade-Off. *SIAM Journal on Applied Dynamical Systems*, **2014**, 13, 658-682	2.8	25

92	A Method Based on Total Variation for Network Modularity Optimization Using the MBO Scheme. *SIAM Journal on Applied Mathematics*, **2013**, 73, 2224-2246	1.8	25
91	Mutually-antagonistic interactions in baseball networks. *Physica A: Statistical Mechanics and Its Applications*, **2010**, 389, 1131-1141	3.3	25
90	Small-world network. *Scholarpedia Journal*, **2012**, 7, 1739	1.5	25
89	Neither global nor local: Heterogeneous connectivity in spatial network structures of world migration. *Social Networks*, **2018**, 53, 4-19	3.9	25
88	Numerical methods for the computation of the confluent and Gauss hypergeometric functions. *Numerical Algorithms*, **2017**, 74, 821-866	2.1	24
87	Superdiffusive transport and energy localization in disordered granular crystals. *Physical Review E*, **2016**, 93, 022902	2.4	23
86	Mathematical models of bipolar disorder. *Communications in Nonlinear Science and Numerical Simulation*, **2009**, 14, 2897-2908	3.7	22
85	Opinion formation and distribution in a bounded-confidence model on various networks. *Physical Review E*, **2018**, 97, 022312	2.4	21
84	Estimating interevent time distributions from finite observation periods in communication networks. *Physical Review E*, **2015**, 92, 052813	2.4	20
83	Competition for popularity in bipartite networks. *Chaos*, **2010**, 20, 043101	3.3	20
82	Modulated amplitude waves in Bose-Einstein condensates. *Physical Review E*, **2004**, 69, 047201	2.4	20
81	Topological data analysis of continuum percolation with disks. *Physical Review E*, **2018**, 98, 012318	2.4	18
80	A mathematical model for the dynamics and synchronization of cows. *Physica D: Nonlinear Phenomena*, **2011**, 240, 1497-1509	3.3	18
79	Bose-Einstein Condensates in Superlattices. *SIAM Journal on Applied Dynamical Systems*, **2005**, 4, 783-807	2.8	18
78	Direct measurement of superdiffusive energy transport in disordered granular chains. *Nature Communications*, **2018**, 9, 640	17.4	16
77	Scattering of waves by impurities in precompressed granular chains. *Physical Review E*, **2016**, 93, 052224	2.4	16
76	Nanoptera in a Period-2 Toda Chain. *SIAM Journal on Applied Dynamical Systems*, **2018**, 17, 1182-1212	2.8	16
75	Quasiperiodic Dynamics in Bose-Einstein Condensates in Periodic Lattices and Superlattices. *Journal of Nonlinear Science*, **2007**, 17, 59-83	2.8	16

74	A Predator--2 Prey Fast--Slow Dynamical System for Rapid Predator Evolution. *SIAM Journal on Applied Dynamical Systems*, **2017**, 16, 54-90	2.8	14
73	A perturbative analysis of modulated amplitude waves in Bose-Einstein condensates. *Chaos*, **2004**, 14, 739-55	3.3	14
72	Hipsters on networks: How a minority group of individuals can lead to an antiestablishment majority. *Physical Review E*, **2019**, 99, 022313	2.4	14
71	Social network analysis for social neuroscientists. *Social Cognitive and Affective Neuroscience*, **2021**, 16, 883-901	4	13
70	Synergistic effects in threshold models on networks. *Chaos*, **2018**, 28, 013115	3.3	13
69	Forecasting failure locations in 2-dimensional disordered lattices. *Proceedings of the National Academy of Sciences of the United States of America*, **2019**, 116, 16742-16749	11.5	13
68	Multivariate Spatiotemporal Hawkes Processes and Network Reconstruction. *SIAM Journal on Mathematics of Data Science*, **2019**, 1, 356-382	3.1	13
67	Mathematical genealogy and department prestige. *Chaos*, **2011**, 21, 041104	3.3	13
66	What Is... a Multilayer Network?. *Notices of the American Mathematical Society*, **2018**, 65, 1	1.5	13
65	What are essential concepts about networks?. *Journal of Complex Networks*, **2016**, 4, 457-474	1.7	12
64	Nonlinear excitations in magnetic lattices with long-range interactions. *New Journal of Physics*, **2019**, 21, 063032	2.9	12
63	A framework for the construction of generative models for mesoscale structure in multilayer networks. *Physical Review Research*, **2020**, 2,	3.9	11
62	Spatial applications of topological data analysis: Cities, snowflakes, random structures, and spiders spinning under the influence. *Physical Review Research*, **2020**, 2,	3.9	11
61	Nonlinearity + Networks: A 2020 Vision. *Advances in Dynamics, Patterns, Cognition*, **2020**, 131-159	0.7	11
60	Complex contagions with timers. *Chaos*, **2018**, 28, 033101	3.3	10
59	Quasiperiodic granular chains and Hofstadter butterflies. *Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences*, **2018**, 376,	3	10
58	Relating Modularity Maximization and Stochastic Block Models in Multilayer Networks. *SIAM Journal on Mathematics of Data Science*, **2019**, 1, 667-698	3.1	10
57	Layer Communities in Multiplex Networks. *Journal of Statistical Physics*, **2018**, 173, 1286-1302	1.5	9

56	Commentary: Teach network science to teenagers. *Network Science*, **2013**, 1, 226-247	2.9	9
55	Mean-field approach to evolving spatial networks, with an application to osteocyte network formation. *Physical Review E*, **2017**, 96, 012301	2.4	9
54	Isomorphisms in Multilayer Networks. *IEEE Transactions on Network Science and Engineering*, **2018**, 5, 198-211	4.9	8
53	Nonadiabatic dynamics in semiquantal physics. *Reports on Progress in Physics*, **2001**, 64, 1165-1189	14.4	8
52	Mesoscale analyses of fungal networks as an approach for quantifying phenotypic traits. *Journal of Complex Networks*, **2016**, cnv034	1.7	8
51	Persistent Homology of Geospatial Data: A Case Study with Voting. *SIAM Review*, **2021**, 63, 67-99	7.4	8
50	Matchmaker, Matchmaker, Make Me a Match: Migration of Populations via Marriages in the Past. *Physical Review X*, **2014**, 4,	9.1	7
49	A model for the influence of media on the ideology of content in online social networks. *Physical Review Research*, **2020**, 2,	3.9	7
48	Customer mobility and congestion in supermarkets. *Physical Review E*, **2019**, 100, 062304	2.4	7
47	Tunable Eigenvector-Based Centralities for Multiplex and Temporal Networks. *Multiscale Modeling and Simulation*, **2021**, 19, 113-147	1.8	7
46	Dark solitary waves in a class of collisionally inhomogeneous Bose-Einstein condensates. *Physical Review A*, **2013**, 87,	2.6	6
45	Averaging of nonlinearity management with dissipation. *Physical Review A*, **2008**, 78,	2.6	5
44	SPATIAL RESONANCE OVERLAP IN BOSE–EINSTEIN CONDENSATES IN SUPERLATTICE POTENTIALS. *International Journal of Bifurcation and Chaos in Applied Sciences and Engineering*, **2006**, 16, 945-959	2	5
43	VIBRATING QUANTUM BILLIARDS ON RIEMANNIAN MANIFOLDS. *International Journal of Bifurcation and Chaos in Applied Sciences and Engineering*, **2001**, 11, 2305-2315	2	5
42	BIFURCATIONS IN ONE DEGREE-OF-VIBRATION QUANTUM BILLIARDS. *International Journal of Bifurcation and Chaos in Applied Sciences and Engineering*, **2001**, 11, 903-911	2	5
41	Dominance, sharing, and assessment in an iterated Hawk-Dove game. *Journal of Theoretical Biology*, **2020**, 493, 110101	2.3	5
40	Nonlinear localized modes in two-dimensional hexagonally-packed magnetic lattices. *New Journal of Physics*, **2021**, 23, 043008	2.9	5
39	Quasi-centralized limit order books. *Quantitative Finance*, **2017**, 17, 831-853	1.6	4

38	Effect of antipsychotics on community structure in functional brain networks. *Journal of Complex Networks*, **2019**, 7, 932-960	1.7	4
37	Multislice Modularity Optimization in Community Detection and Image Segmentation **2012**,		4
36	A multilayer network model of the coevolution of the spread of a disease and competing opinions. *Mathematical Models and Methods in Applied Sciences*, **2021**, 31, 2455-2494	3.5	4
35	Forecasting Elections Using Compartmental Models of Infection. *SIAM Review*, **2020**, 62, 837-865	7.4	4
34	Network analysis and modelling: Special issue of European Journal of Applied Mathematics. *European Journal of Applied Mathematics*, **2016**, 27, 807-811	1	4
33	Modeling the lowest-cost splitting of a herd of cows by optimizing a cost function. *Chaos*, **2017**, 27, 063114	3.4	3
32	A Bounded-Confidence Model of Opinion Dynamics on Hypergraphs. *SIAM Journal on Applied Dynamical Systems*, **2022**, 21, 1-32	2.8	3
31	Topological data analysis of task-based fMRI data from experiments on schizophrenia. *Journal of Physics Complexity*, **2021**, 2, 035006	1.8	3
30	Random-graph models and characterization of granular networks. *Journal of Complex Networks*, **2021**, 8,	1.7	3
29	Inferring parameters of prey switching in a 1 predator-2 prey plankton system with a linear preference tradeoff. *Journal of Theoretical Biology*, **2018**, 456, 108-122	2.3	3
28	Fitting in and breaking up: A nonlinear version of coevolving voter models. *Physical Review E*, **2020**, 101, 062303	2.4	2
27	Convergence time towards periodic orbits in discrete dynamical systems. *PLoS ONE*, **2014**, 9, e92652	3.7	2
26	Energy absorption and dissipation in quantum systems. *Physica D: Nonlinear Phenomena*, **2004**, 195, 398-402	3.3	2
25	Chaos on the Quantum Scale. *American Scientist*, **2001**, 89, 532	2.7	2
24	Nanoptera in Weakly Nonlinear Woodpile Chains and Diatomic Granular Chains. *SIAM Journal on Applied Dynamical Systems*, **2021**, 20, 2412-2449	2.8	2
23	Opinion dynamics on tie-decay networks. *Physical Review Research*, **2021**, 3,	3.9	2
22	Stochastic Block Models are a Discrete Surface Tension. *Journal of Nonlinear Science*, **2020**, 30, 2429-2462	2.8	2
21	Models of continuous-time networks with tie decay, diffusion, and convection. *Physical Review E*, **2021**, 103, 022304	2.4	2

20	Female respond to song-amplitude modulations. *Biology Open*, **2018**, 7,	2.2	2
19	In-degree centrality in a social network is linked to coordinated neural activity.. *Nature Communications*, **2022**, 13, 1118	17.4	2
18	Spatial strength centrality and the effect of spatial embeddings on network architecture. *Physical Review E*, **2020**, 101, 062305	2.4	1
17	Geosocial Graph-Based Community Detection **2012**,		1
16	Comment on Bifurcation analysis of parametrically excited bipolar disorder model *Communications in Nonlinear Science and Numerical Simulation*, **2009**, 14, 2844	3.7	1
15	Prime Quasientropy and Quasichaos. *International Journal of Theoretical Physics*, **2002**, 41, 1389-1395	1.1	1
14	QUANTUM CHAOS FOR THE VIBRATING RECTANGULAR BILLIARD. *International Journal of Bifurcation and Chaos in Applied Sciences and Engineering*, **2001**, 11, 2317-2337	2	1
13	Classical and Quantum Random-Walk Centrality Measures in Multilayer Networks. *SIAM Journal on Applied Mathematics*, **2021**, 81, 2704-2724	1.8	1
12	Inference of edge correlations in multilayer networks. *Physical Review E*, **2020**, 102, 062307	2.4	1
11	Motifs for Processes on Networks. *SIAM Journal on Applied Dynamical Systems*, **2021**, 20, 2516-2557	2.8	1
10	Pull out all the stops: Textual analysis via punctuation sequences. *European Journal of Applied Mathematics*, **2020**, 1-37	1	1
9	Tie-Decay Networks in Continuous Time and Eigenvector-Based Centralities. *IEEE Transactions on Network Science and Engineering*, **2021**, 8, 1759-1771	4.9	1
8	Heterogeneous, weakly coupled map lattices. *Communications in Nonlinear Science and Numerical Simulation*, **2016**, 36, 549-563	3.7	1
7	Topological Data Analysis of Spatial Systems. *Understanding Complex Systems*, **2022**, 389-399	0.4	1
6	Role detection in bicycle-sharing networks using multilayer stochastic block models. *Network Science*, **2022**, 10, 46-81	2.9	0
5	Networks of necessity: Simulating COVID-19 mitigation strategies for disabled people and their caregivers.. *PLoS Computational Biology*, **2022**, 18, e1010042	5	0
4	A Galerkin approach to electronic near-degeneracies in molecular systems. *Physica D: Nonlinear Phenomena*, **2002**, 167, 218-247	3.3	
3	Remarks on whale cultures from a complex systems perspective. *Behavioral and Brain Sciences*, **2001**, 24, 344-344	0.9	

2	Counterparty Credit Limits: The Impact of a Risk-Mitigation Measure on Everyday Trading. *Applied Mathematical Finance*, **2020**, 27, 520-548	0.9
1	Detection of functional communities in networks of randomly coupled oscillators using the dynamic-mode decomposition. *Physical Review E*, **2021**, 104, 044305	2.4