Douglas Zhou

List of Publications by Year
in descending order

54 papers	594 citations	623734 14 h-index	752698 20 g-index
54 all docs	54 docs citations	54 times ranked	518 citing authors

#	Article	IF	Citations
1	Modified models of polymer phase separation. Physical Review E, 2006, 73, 061801.	2.1	36
2	Dynamics of current-based, Poisson driven, integrate-and-fire neuronal networks. Communications in Mathematical Sciences, 2010, 8, 541-600.	1.0	36
3	Causal and Structural Connectivity of Pulse-Coupled Nonlinear Networks. Physical Review Letters, 2013, 111, 054102.	7.8	35
4	Effects of Firing Variability on Network Structures with Spike-Timing-Dependent Plasticity. Frontiers in Computational Neuroscience, 2018, 12, 1.	2.1	32
5	Causal inference in nonlinear systems: Granger causality versus time-delayed mutual information. Physical Review E, 2018, 97, 052216.	2.1	27
6	Spatiotemporal dynamics of neuronal population response in the primary visual cortex. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 9517-9522.	7.1	26
7	Granger Causality Network Reconstruction of Conductance-Based Integrate-and-Fire Neuronal Systems. PLoS ONE, 2014, 9, e87636.	2.5	26
8	Spectrum of Lyapunov exponents of non-smooth dynamical systems of integrate-and-fire type. Journal of Computational Neuroscience, 2010, 28, 229-245.	1.0	24
9	Sparsity and Compressed Coding in Sensory Systems. PLoS Computational Biology, 2014, 10, e1003793.	3.2	23
10	Dendritic computations captured by an effective point neuron model. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 15244-15252.	7.1	19
11	Library-based numerical reduction of the Hodgkinâ€"Huxley neuron for network simulation. Journal of Computational Neuroscience, 2009, 27, 369-390.	1.0	17
12	Numerical simulation of phase separation coupled with crystallization. Journal of Chemical Physics, 2008, 129, 154901.	3.0	16
13	Pseudo-Lyapunov exponents and predictability of Hodgkin-Huxley neuronal network dynamics. Journal of Computational Neuroscience, 2010, 28, 247-266.	1.0	16
14	Network-induced chaos in integrate-and-fire neuronal ensembles. Physical Review E, 2009, 80, 031918.	2.1	15
15	Low-rank network decomposition reveals structural characteristics of small-world networks. Physical Review E, 2015, 92, 062822.	2.1	15
16	Phenomenological Incorporation of Nonlinear Dendritic Integration Using Integrate-and-Fire Neuronal Frameworks. PLoS ONE, 2013, 8, e53508.	2.5	14
17	Distribution of correlated spiking events in a population-based approach for Integrate-and-Fire networks. Journal of Computational Neuroscience, 2014, 36, 279-295.	1.0	14
18	A coarse-grained framework for spiking neuronal networks: between homogeneity and synchrony. Journal of Computational Neuroscience, 2014, 37, 81-104.	1.0	14

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19	Analysis of sampling artifacts on the Granger causality analysis for topology extraction of neuronal dynamics. Frontiers in Computational Neuroscience, 2014, 8, 75.	2.1	12
20	A Combined Offlineâ€"Online Algorithm for Hodgkinâ€"Huxley Neural Networks. Journal of Scientific Computing, 2020, 84, 1.	2.3	12
21	Bilinearity in Spatiotemporal Integration of Synaptic Inputs. PLoS Computational Biology, 2014, 10, e1004014.	3.2	11
22	Improved Compressive Sensing of Natural Scenes Using Localized Random Sampling. Scientific Reports, 2016, 6, 31976.	3.3	11
23	Compressive sensing reconstruction of feed-forward connectivity in pulse-coupled nonlinear networks. Physical Review E, 2016, 93, 060201.	2.1	9
24	Modulation-resonance mechanism for surface waves in a two-layer fluid system. Journal of Fluid Mechanics, 2019, 875, 807-841.	3.4	9
25	Renormalized dispersion relations ofÎ²-Fermi-Pasta-Ulam chains in equilibrium and nonequilibrium states. Physical Review E, 2014, 90, 032925.	2.1	8
26	Compressive Sensing Inference of Neuronal Network Connectivity in Balanced Neuronal Dynamics. Frontiers in Neuroscience, 2019, 13, 1101.	2.8	8
27	Determination of effective synaptic conductances using somatic voltage clamp. PLoS Computational Biology, 2019, 15, e1006871.	3.2	8
28	Stochastic linearization of turbulent dynamics of dispersive waves in equilibrium and non-equilibrium state. New Journal of Physics, 2016, 18, 083028.	2.9	7
29	The characterization of hippocampal theta-driving neurons â€" a time-delayed mutual information approach. Scientific Reports, 2017, 7, 5637.	3.3	7
30	Effective dispersion in the focusing nonlinear SchrÃ¶dinger equation. Physical Review E, 2019, 100, 022215.	2.1	7
31	The Dynamics of Balanced Spiking Neuronal Networks Under Poisson Drive Is Not Chaotic. Frontiers in Computational Neuroscience, 2018, 12, 47.	2.1	6
32	A Role for Electrotonic Coupling Between Cortical Pyramidal Cells. Frontiers in Computational Neuroscience, 2019, 13, 33.	2.1	6
33	A dynamical state underlying the second order maximum entropy principle in neuronal networks. Communications in Mathematical Sciences, 2017, 15, 665-692.	1.0	6
34	Reliability of the Granger causality inference. New Journal of Physics, 2014, 16, 043016.	2.9	5
35	Network dynamics for optimal compressive-sensing input-signal recovery. Physical Review E, 2014, 90, 042908.	2.1	5
36	Efficient image processing via compressive sensing of integrate-and-fire neuronal network dynamics. Neurocomputing, 2016, 171, 1313-1322.	5.9	5

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37	Balanced Active Core in Heterogeneous Neuronal Networks. Frontiers in Computational Neuroscience, 2019, 12, 109.	2.1	5
38	Network mechanism for insect olfaction. Cognitive Neurodynamics, 2021, 15, 103-129.	4.0	5
39	Analysis of the dendritic integration of excitatory and inhibitory inputs using cable models. Communications in Mathematical Sciences, 2015, 13, 565-575.	1.0	5
40	Exponential Time Differencing Algorithm for Pulse-Coupled Hodgkin-Huxley Neural Networks. Frontiers in Computational Neuroscience, 2020, 14, 40.	2.1	4
41	Maximum Entropy Principle Underlies Wiring Length Distribution in Brain Networks. Cerebral Cortex, 2021, 31, 4628-4641.	2.9	4
42	A Novel Characterization of Amalgamated Networks in Natural Systems. Scientific Reports, 2015, 5, 10611.	3.3	3
43	Spike-Triggered Regression for Synaptic Connectivity Reconstruction in Neuronal Networks. Frontiers in Computational Neuroscience, 2017, 11, 101.	2.1	3
44	Mechanisms underlying contrast-dependent orientation selectivity in mouse V1. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 11619-11624.	7.1	3
45	Maximum entropy principle analysis in network systems with short-time recordings. Physical Review E, 2019, 99, 022409.	2.1	3
46	A computational investigation of electrotonic coupling between pyramidal cells in the cortex. Journal of Computational Neuroscience, 2020, 48, 387-407.	1.0	3
47	Mathematical Modeling and Analysis of Spatial Neuron Dynamics: Dendritic Integration and Beyond. Communications on Pure and Applied Mathematics, 2023, 76, 114-162.	3.1	3
48	Emergence of spatially periodic diffusive waves in small-world neuronal networks. Physical Review E, 2019, 100, 042401.	2.1	2
49	Dynamical and Coupling Structure of Pulse-Coupled Networks in Maximum Entropy Analysis. Entropy, 2019, 21, 76.	2.2	2
50	The extended Granger causality analysis for Hodgkinâ€"Huxley neuronal models. Chaos, 2020, 30, 103102.	2.5	2
51	Coarse-grained event tree analysis for quantifying Hodgkin-Huxley neuronal network dynamics. Journal of Computational Neuroscience, 2012, 32, 55-72.	1.0	0
52	Granger causality analysis with nonuniform sampling and its application to pulse-coupled nonlinear dynamics. Physical Review E, 2016, 93, 042217.	2.1	0
53	Neural networks of different species, brain areas and states can be characterized by the probability polling state. European Journal of Neuroscience, 2020, 52, 3790-3802.	2.6	0
54	Improved effective linearization of nonlinear SchrÃ¶dinger waves by increasing nonlinearity. Physical Review Research, 2022, 4, .	3.6	0