Peter J Thomas

List of Publications by Year in descending order

72 papers	1,677 citations	471371 17 h-index	302012 39 g-index
77 all docs	77 docs citations	77 times ranked	1249 citing authors

#	Article	IF	Citations
1	Geometric visual hallucinations, Euclidean symmetry and the functional architecture of striate cortex. Philosophical Transactions of the Royal Society B: Biological Sciences, 2001, 356, 299-330.	1.8	335
2	What Geometric Visual Hallucinations Tell Us about the Visual Cortex. Neural Computation, 2002, 14, 473-491.	1.3	181
3	Discovering Spike Patterns in Neuronal Responses. Journal of Neuroscience, 2004, 24, 2989-3001.	1.7	177
4	Resonance Effect for Neural Spike Time Reliability. Journal of Neurophysiology, 1998, 80, 1427-1438.	0.9	137
5	Establishing Direction during Chemotaxis in Eukaryotic Cells. Biophysical Journal, 2002, 83, 1361-1367.	0.2	84
6	Scalar and pseudoscalar bifurcations motivated by pattern formation on the visual cortex. Nonlinearity, 2001, 14, 739-775.	0.6	48
7	Capacity of a Simple Intercellular Signal Transduction Channel. IEEE Transactions on Information Theory, 2016, 62, 7358-7382.	1.5	48
8	Network Graph Analysis of Category Fluency Testing. Cognitive and Behavioral Neurology, 2009, 22, 45-52.	0.5	43
9	Asymptotic Phase for Stochastic Oscillators. Physical Review Letters, 2014, 113, 254101.	2.9	40
10	Stochastic representations of ion channel kinetics and exact stochastic simulation of neuronal dynamics. Journal of Computational Neuroscience, 2015, 38, 67-82.	0.6	35
11	Phase Resetting in an Asymptotically Phaseless System: On the Phase Response of Limit Cycles Verging on a Heteroclinic Orbit. SIAM Journal on Applied Dynamical Systems, 2012, 11, 350-391.	0.7	34
12	Robustness, flexibility, and sensitivity in a multifunctional motor control model. Biological Cybernetics, 2017, 111, 25-47.	0.6	31
13	The significance of dynamical architecture for adaptive responses to mechanical loads during rhythmic behavior. Journal of Computational Neuroscience, 2015, 38, 25-51.	0.6	27
14	A new high-throughput method for simultaneous detection of drug resistance associated mutations in Plasmodium vivax dhfr, dhps and mdr1 genes. Malaria Journal, 2011, 10, 282.	0.8	23
15	Multiple Spike Time Patterns Occur at Bifurcation Points of Membrane Potential Dynamics. PLoS Computational Biology, 2012, 8, e1002615.	1.5	22
16	Intrinsic subthreshold oscillations extend the influence of inhibitory synaptic inputs on cortical pyramidal neurons. European Journal of Neuroscience, 2010, 31, 1019-1026.	1.2	20
17	Symmetry Induced Coupling of Cortical Feature Maps. Physical Review Letters, 2004, 92, 188101.	2.9	19
18	A binless correlation measure reduces the variability of memory reactivation estimates. Statistics in Medicine, 2007, 26, 3997-4008.	0.8	19

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19	Capacity of a simple intercellular signal transduction channel. , 2013, , .		18
20	Eupnea, tachypnea, and autoresuscitation in a closed-loop respiratory control model. Journal of Neurophysiology, 2017, 118, 2194-2215.	0.9	18
21	Phase descriptions of a multidimensional Ornstein-Uhlenbeck process. Physical Review E, 2019, 99, 062221.	0.8	18
22	Control for multifunctionality: bioinspired control based on feeding in Aplysia californica. Biological Cybernetics, 2020, 114, 557-588.	0.6	17
23	Finding the Event Structure of Neuronal Spike Trains. Neural Computation, 2011, 23, 2169-2208.	1.3	16
24	Control theory in biology and medicine. Biological Cybernetics, 2019, 113, 1-6.	0.6	16
25	Pursuit of food versus pursuit of information in a Markovian perceptionâ€“action loop model of foraging. Journal of Theoretical Biology, 2012, 304, 235-272.	0.8	14
26	Every Bit Counts. Science, 2011, 334, 321-322.	6.0	13
27	Measuring Edge Importance: A Quantitative Analysis of the Stochastic Shielding Approximation for Random Processes on Graphs. Journal of Mathematical Neuroscience, 2014, 4, 6.	2.4	13
28	Random local temporal structure of category fluency responses. Journal of Computational Neuroscience, 2012, 32, 213-231.	0.6	12
29	A Partial Differential Equation for the Mean--Return-Time Phase of Planar Stochastic Oscillators. SIAM Journal on Applied Mathematics, 2020, 80, 422-447.	0.8	12
30	Fast and Accurate Langevin Simulations of Stochastic Hodgkin-Huxley Dynamics. Neural Computation, 2020, 32, 1775-1835.	1.3	11
31	Isostables for Stochastic Oscillators. Physical Review Letters, 2021, 127, 254101.	2.9	11
32	Reliability and bifurcation in neurons driven by multiple sinusoids. Neurocomputing, 2003, 52-54, 955-961.	3.5	10
33	Shannon capacity of signal transduction for multiple independent receptors. , 2016, , .		9
34	The Channel Capacity of Channelrhodopsin and Other Intensity-Driven Signal Transduction Receptors. IEEE Transactions on Molecular, Biological, and Multi-Scale Communications, 2018, 4, 27-38.	1.4	9
35	Stochastic shielding and edge importance for Markov chains with timescale separation. PLoS Computational Biology, 2018, 14, e1006206.	1.5	9
36	How to avoid an extinction time paradox. Theoretical Ecology, 2019, 12, 467-487.	0.4	9

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37	Power Spectrum of a Noisy System Close to a Heteroclinic Orbit. Journal of Statistical Physics, 2017, 168, 447-469.	0.5	8
38	Shape versus Timing: Linear Responses of a Limit Cycle with Hard Boundaries under Instantaneous and Static Perturbation. SIAM Journal on Applied Dynamical Systems, 2021, 20, 701-744.	0.7	8
39	Simultaneous constraints on pre- and post-synaptic cells couple cortical feature maps in a 2D geometric model of orientation preference. Mathematical Medicine and Biology, 2006, 23, 119-138.	0.8	7
40	Differentiating Plasmodium falciparum alleles by transforming Cartesian X,Y data to polar coordinates. BMC Genetics, 2010, 11, 57.	2.7	7
41	A Lower Bound for the First Passage Time Density of the Suprathreshold Ornstein-Uhlenbeck Process. Journal of Applied Probability, 2011, 48, 420-434.	0.4	7
42	Information theory of intercellular signal transduction. , 2015, , .		7
43	Dynamical consequences of sensory feedback in a half-center oscillator coupled to a simple motor system. Biological Cybernetics, 2021, 115, 135-160.	0.6	7
44	Thomas and Lindner Reply:. Physical Review Letters, 2015, 115, 069402.	2.9	6
45	Resolving molecular contributions of ion channel noise to interspike interval variability through stochastic shielding. Biological Cybernetics, 2021, 115, 267-302.	0.6	6
46	Generalized spin models for coupled cortical feature maps obtained by coarse graining correlation based synaptic learning rules. Journal of Mathematical Biology, 2012, 65, 1149-1186.	0.8	5
47	Finite-state channel models for signal transduction in neural systems. , 2016, , .		5
48	A Renewed Vision for Biological Cybernetics. Biological Cybernetics, 2020, 114, 315-316.	0.6	5
49	Spontaneous autoresuscitation in a model of respiratory control. , 2012, 2012, 6669-72.		4
50	Stochastic Network Models in Neuroscience: A Festschrift for Jack Cowan. Introduction to the Special Issue. Journal of Mathematical Neuroscience, 2016, 6, 4.	2.4	4
51	Biological Cybernetics: 60 years and more to come. Biological Cybernetics, 2021, 115, 5-6.	0.6	4
52	A Lower Bound for the First Passage Time Density of the Suprathreshold Ornstein-Uhlenbeck Process. Journal of Applied Probability, 2011, 48, 420-434.	0.4	3
53	Growth and evolution of category fluency network graphs. Journal of Systems and Integrative Neuroscience, 2015, 1, 6-13.	0.6	3
54	Mean-return-time phase of a stochastic oscillator provides an approximate renewal description for the associated point process. Biological Cybernetics, 2022, , 1.	0.6	3

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55	Quantitative comparison of the meanâ€“return-time phase and the stochastic asymptotic phase for noisy oscillators. Biological Cybernetics, 2022, 116, 219-234.	0.6	3
56	Experimental Validation of a Closed-Loop Respiratory Control Model using Dynamic Clamp. , 2018, 2018, 5273-5276.		2
57	Thermodynamic Properties of Molecular Communication. , 2018, , .		2
58	Linear Noise Approximation of Intensity-Driven Signal Transduction Channels. , 2019, , .		2
59	Robotics Application of a Method for Analytically Computing Infinitesimal Phase Response Curves. Lecture Notes in Computer Science, 2020, , 104-115.	1.0	2
60	Subjective Information and Survival in a Simulated Biological System. Entropy, 2022, 24, 639.	1.1	2
61	Neuromechanical bistability contributes to robust and flexible behavior in a model of motor pattern generation. BMC Neuroscience, 2015, 16, .	0.8	1
62	Guest Editorial Biological Applications of Information Theory in Honor of Claude Shannonâ€™s Centennialâ€”Part 1. IEEE Transactions on Molecular, Biological, and Multi-Scale Communications, 2016, 2, 1-4.	1.4	1
63	Analytical approach to the mean-return-time phase of isotropic stochastic oscillators. Physical Review E, 2022, 105, 024202.	0.8	1
64	A homeostasis criterion for limit cycle systems based on infinitesimal shape response curves. Journal of Mathematical Biology, 2022, 84, 24.	0.8	1
65	The Network HHD: Quantifying Cyclic Competition in Trait-Performance Models of Tournaments. SIAM Review, 2022, 64, 360-391.	4.2	1
66	Intrinsic subthreshold oscillations extend the influence of inhibitory synaptic inputs on cortical pyramidal neurons. European Journal of Neuroscience, 2010, 31, 1509-1509.	1.2	0
67	Fast and accurate representations of stochastic ion channel fluctuations. BMC Neuroscience, 2015, 16, P258.	0.8	0
68	Commentary on Structured chaos shapes spike-response noise entropy in balanced neural networks, by Lajoie, Thivierge, and Shea-Brown. Frontiers in Computational Neuroscience, 2015, 9, 23.	1.2	0
69	Guest Editorial Biological Applications of Information Theory in Honor of Claude Shannonâ€™s Centennialâ€”Part II. IEEE Transactions on Molecular, Biological, and Multi-Scale Communications, 2016, 2, 117-119.	1.4	0
70	Welcome from the new Editor(s)-in-Chief. Biological Cybernetics, 2018, 112, 163-163.	0.6	0
71	Subjective Information in Life Processes. , 2021, , .		0
72	Experimental Validation of a Respiratory Control Model. FASEB Journal, 2018, 32, 915.1.	0.2	0