Lubomir Kostal

List of Publications by Year
in descending order

44 papers	491 citations	759233 12 h-index	752698 20 g-index
45 all docs	45 docs citations	45 times ranked	349 citing authors

#	Article	IF	Citations
1	REVIEW ARTICLE: Neuronal coding and spiking randomness. European Journal of Neuroscience, 2007, 26, 2693-2701.	2.6	66
2	Efficient Olfactory Coding in the Pheromone Receptor Neuron of a Moth. PLoS Computational Biology, 2008, 4, e1000053.	3.2	40
3	Patterns of spontaneous activity in single rat olfactory receptor neurons are different in normally breathing and tracheotomized animals. Journal of Neurobiology, 2005, 65, 97-114.	3.6	39
4	Measures of statistical dispersion based on Shannon and Fisher information concepts. Information Sciences, 2013, 235, 214-223.	6.9	29
5	Metabolic cost of neuronal information in an empirical stimulus-response model. Biological Cybernetics, 2013, 107, 355-365.	1.3	25
6	Similarity of interspike interval distributions and information gain in a stationary neuronal firing. Biological Cybernetics, 2006, 94, 157-167.	1.3	19
7	Information capacity in the weak-signal approximation. Physical Review E, 2010, 82, 026115.	2.1	19
8	Optimal decoding and information transmission in Hodgkinâ€“Huxley neurons under metabolic cost constraints. BioSystems, 2015, 136, 3-10.	2.0	17
9	Fano Factor: A Potentially Useful Information. Frontiers in Computational Neuroscience, 2020, 14, 569049.	2.1	16
10	The effect of interspike interval statistics on the information gainunder the rate coding hypothesis. Mathematical Biosciences and Engineering, 2014, 11, 63-80.	1.9	16
11	Classification of stationary neuronal activity according to its information rate. Network: Computation in Neural Systems, 2006, 17, 193-210.	3.6	15
12	Statistics of inverse interspike intervals: The instantaneous firing rate revisited. Chaos, 2018, 28, 106305.	2.5	15
13	Information capacity and its approximations under metabolic cost in a simple homogeneous population of neurons. BioSystems, 2013, 112, 265-275.	2.0	13
14	Entropy factor for randomness quantification in neuronal data. Neural Networks, 2017, 95, 57-65.	5.9	13
15	Moth olfactory receptor neurons adjust their encoding efficiency to temporal statistics of pheromone fluctuations. PLoS Computational Biology, 2018, 14, e1006586.	3.2	13
16	Variability Measures of Positive Random Variables. PLoS ONE, 2011, 6, e21998.	2.5	12
17	Randomness and variability of the neuronal activity described by the Ornsteinâ€“Uhlenbeck model. Network: Computation in Neural Systems, 2007, 18, 63-75.	3.6	11
18	Adaptive integrate-and-fire model reproduces the dynamics of olfactory receptor neuron responses in a moth. Journal of the Royal Society Interface, 2019, 16, 20190246.	3.4	11

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19	The effect of inhibition on rate code efficiency indicators. PLoS Computational Biology, 2019, 15, e1007545.	3.2	10
20	Nonparametric Estimation of Information-Based Measures of Statistical Dispersion. Entropy, 2012, 14, 1221-1233.	2.2	9
21	Approximate information capacity of the perfect integrate-and-fire neuron using the temporal code. Brain Research, 2012, 1434, 136-141.	2.2	9
22	Information transfer for small-amplitude signals. Physical Review E, 2010, 81, 050901.	2.1	8
23	Performance breakdown in optimal stimulus decoding. Journal of Neural Engineering, 2015, 12, 036012.	3.5	8
24	Efficient information transfer by Poisson neurons. Mathematical Biosciences and Engineering, 2016, 13, 509-520.	1.9	8
25	Neuronal Jitter: Can We Measure the Spike Timing Dispersion Differently?. Chinese Journal of Physiology, 2010, 53, 454-464.	1.0	8
26	Coding Accuracy Is Not Fully Determined by the Neuronal Model. Neural Computation, 2015, 27, 1051-1057.	2.2	6
27	Accuracy of rate coding: When shorter time window and higher spontaneous activity help. Physical Review E, 2017, 95, 022310.	2.1	6
28	Variability and randomness in stationary neuronal activity. BioSystems, 2007, 89, 44-49.	2.0	5
29	Stimulus reference frame and neural coding precision. Journal of Mathematical Psychology, 2016, 71, 22-27.	1.8	5
30	Presynaptic Spontaneous Activity Enhances the Accuracy of Latency Coding. Neural Computation, 2016, 28, 2162-2180.	2.2	5
31	Regular spiking in high-conductance states: The essential role of inhibition. Physical Review E, 2021, 103, 022408.	2.1	5
32	An optimal Gaussâ€"Markov approximation for a process with stochastic drift and applications. Stochastic Processes and Their Applications, 2020, 130, 6481-6514.	0.9	3
33	Encoding of pheromone intensity by dynamic activation of pheromone receptors. Neurocomputing, 2007, 70, 1759-1763.	5.9	2
34	Coordinate invariance as a fundamental constraint on the form of stimulus-specific information measures. Biological Cybernetics, 2018, 112, 13-23.	1.3	2
35	Neuronal jitter: can we measure the spike timing dispersion differently?. BMC Neuroscience, 2009, 10, .	1.9	1
36	Coding accuracy on the psychophysical scale. Scientific Reports, 2016, 6, 23810.	3.3	1

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37	Critical size of neural population for reliable information transmission. Physical Review E, 2019, 100, 050401.	2.1	1
38	The Adaptation of the Moth Pheromone Receptor Neuron to its Natural Stimulus. AIP Conference Proceedings, 2008, , .	0.4	0
39	Measures of statistical dispersion based on Entropy and Fisher information. BMC Neuroscience, 2011, 12, .	1.9	0
40	Maximum penalized likelihood estimation of interspike interval distribution. BMC Neuroscience, 2013, 14, .	1.9	0
41	Nonparametric estimation of characteristics of the interspike interval distribution. BMC Neuroscience, 2015, 16, .	1.9	0
42	Editorial. BioSystems, 2017, 161, 1-2.	2.0	0
43	Editorial. BioSystems, 2020, 187, 104049.	2.0	0
44	Variability and Randomness of the Instantaneous Firing Rate. Frontiers in Computational Neuroscience, 2021, 15, 620410.	2.1	0