Stefan Rotter

List of Publications by Year
in descending order

62 papers	2,954 citations	236912 25 h-index	182417 51 g-index
71 all docs	71 docs citations	71 times ranked	2245 citing authors

#	Article	IF	Citations
1	Time Course of Homeostatic Structural Plasticity in Response to Optogenetic Stimulation in Mouse Anterior Cingulate Cortex. Cerebral Cortex, 2022, 32, 1574-1592.	2.9	8
2	Homeostatic control of synaptic rewiring in recurrent networks induces the formation of stable memory engrams. PLoS Computational Biology, 2022, 18, e1009836.	3.2	11
3	Basal ganglia and cortical control of thalamic rebound spikes. European Journal of Neuroscience, 2021, 54, 4295-4313.	2.6	4
4	NFDI-Neuro: building a community for neuroscience research data management in Germany. Neuroforum, 2021, .	0.3	6
5	NEST Desktop, an Educational Application for Neuroscience. ENeuro, 2021, 8, ENEURO.0274-21.2021.	1.9	4
6	Propagation of orientation selectivity in a spiking network model of layered primary visual cortex. PLoS Computational Biology, 2019, 15, e1007080.	3.2	4
7	Bifurcation analysis of the dynamics of interacting subnetworks of a spiking network. Scientific Reports, 2019, 9, 11397.	3.3	4
8	Network remodeling induced by transcranial brain stimulation: A computational model of tDCS-triggered cell assembly formation. Network Neuroscience, 2019, 3, 924-943.	2.6	31
9	Associative properties of structural plasticity based on firing rate homeostasis in recurrent neuronal networks. Scientific Reports, 2018, 8, 3754.	3.3	25
10	Sparse Estimation of Resting-State Effective Connectivity From fMRI Cross-Spectra. Frontiers in Neuroscience, 2018, 12, 287.	2.8	5
11	From correlation to causation: Estimating effective connectivity from zero-lag covariances of brain signals. PLoS Computational Biology, 2018, 14, e1006056.	3.2	16
12	Solving the two-dimensional Fokker-Planck equation for strongly correlated neurons. Physical Review E, 2017, 95, 012412.	2.1	8
13	Joint statistics of strongly correlated neurons via dimensionality reduction. Journal of Physics A: Mathematical and Theoretical, 2017, 50, 254002.	2.1	2
14	Interplay between Graph Topology and Correlations of Third Order in Spiking Neuronal Networks. PLoS Computational Biology, 2016, 12, e1004963.	3.2	26
15	Emergence of Functional Specificity in Balanced Networks with Synaptic Plasticity. PLoS Computational Biology, 2015, 11, e1004307.	3.2	36
16	Cumulants of Hawkes point processes. Physical Review E, 2015, 91, 042802.	2.1	25
17	Orientation Selectivity in Inhibition-Dominated Networks of Spiking Neurons: Effect of Single Neuron Properties and Network Dynamics. PLoS Computational Biology, 2015, 11, e1004045.	3.2	18
18	Processing of Feature Selectivity in Cortical Networks with Specific Connectivity. PLoS ONE, 2015, 10, e0127547.	2.5	12

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19	Distribution of Orientation Selectivity in Recurrent Networks of Spiking Neurons with Different Random Topologies. PLoS ONE, 2014, 9, e114237.	2.5	7
20	A Markov model for the temporal dynamics of balanced random networks of finite size. Frontiers in Computational Neuroscience, 2014, 8, 142.	2.1	6
21	Statistics and geometry of orientation selectivity in primary visual cortex. Biological Cybernetics, 2014, 108, 631-653.	1.3	10
22	Impact of correlated inputs to neurons: modeling observations from in vivo intracellular recordings. Journal of Computational Neuroscience, 2014, 37, 293-304.	1.0	10
23	Mean-field analysis of orientation selectivity in inhibition-dominated networks of spiking neurons. SpringerPlus, 2014, 3, 148.	1.2	14
24	A new method to infer higher-order spike correlations from membrane potentials. Journal of Computational Neuroscience, 2013, 35, 169-186.	1.0	0
25	Nonlinear dynamics of large-scale activity in "networks of networks". BMC Neuroscience, 2013, 14, .	1.9	0
26	Impact of intrinsic biophysical diversity on the activity of spiking neurons. Physical Review E, 2013, 87, .	2.1	19
27	Reconstruction of sparse connectivity in neural networks from spike train covariances. Journal of Statistical Mechanics: Theory and Experiment, 2013, 2013, P03008.	2.3	24
28	The relevance of network micro-structure for neural dynamics. Frontiers in Computational Neuroscience, 2013, 7, 72.	2.1	25
29	How pattern formation in ring networks of excitatory and inhibitory spiking neurons depends on the input current regime. Frontiers in Computational Neuroscience, 2013, 7, 187.	2.1	35
30	Recurrent interactions in spiking networks with arbitrary topology. Physical Review E, 2012, 85, 031916.	2.1	54
31	Statistical properties of superimposed stationary spikeÂtrains. Journal of Computational Neuroscience, 2012, 32, 443-463.	1.0	23
32	Modeling and analyzing higher-order correlations in non-Poissonian spike trains. Journal of Neuroscience Methods, 2012, 208, 18-33.	2.5	10
33	Inferring General Relations between Network Characteristics from Specific Network Ensembles. PLoS ONE, 2012, 7, e37911.	2.5	7
34	Emergent Properties of Interacting Populations of Spiking Neurons. Frontiers in Computational Neuroscience, 2011, 5, 59.	2.1	5
35	How Structure Determines Correlations in Neuronal Networks. PLoS Computational Biology, 2011, 7, e1002059.	3.2	210
36	CuBIC: cumulant based inference of higher-order correlations in massively parallel spike trains. Journal of Computational Neuroscience, 2010, 29, 327-350.	1.0	66

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37	Multiplicatively interacting point processes and applications to neural modeling. Journal of Computational Neuroscience, 2010, 28, 267-284.	1.0	22
38	Analysis and modeling of massively parallel neural signals—2010 Special Issue. Neural Networks, 2010, 23, 667-668.	5.9	0
39	Spiking activity propagation in neuronal networks: reconciling different perspectives on neural coding. Nature Reviews Neuroscience, 2010, 11, 615-627.	10.2	395
40	Higher-order correlations in non-stationary parallel spike trains: statistical modeling and inference. Frontiers in Computational Neuroscience, 2010, 4, .	2.1	41
41	Extending stability through hierarchical clusters in Echo State Networks. Frontiers in Neuroinformatics, 2010, 4, .	2.5	13
42	Instantaneous Non-Linear Processing by Pulse-Coupled Threshold Units. PLoS Computational Biology, 2010, 6, e1000929.	3.2	28
43	Nonequilibrium dynamics of stochastic point processes with refractoriness. Physical Review E, 2010, 82, 021129.	2.1	19
44	Higher-Order Correlations and Cumulants. , 2010, , 253-280.		16
45	Dynamic Encoding of Movement Direction in Motor Cortical Neurons. Journal of Neuroscience, 2009, 29, 13870-13882.	3.6	67
46	Correlations in spiking neuronal networks with distance dependent connections. Journal of Computational Neuroscience, 2009, 27, 177-200.	1.0	36
47	Interpreting neurodynamics: concepts and facts. Cognitive Neurodynamics, 2008, 2, 297-318.	4.0	44
48	Measurement of variability dynamics in cortical spike trains. Journal of Neuroscience Methods, 2008, 169, 374-390.	2.5	182
49	Dependence of Neuronal Correlations on Filter Characteristics and Marginal Spike Train Statistics. Neural Computation, 2008, 20, 2133-2184.	2.2	69
50	The High-Conductance State of Cortical Networks. Neural Computation, 2008, 20, 1-43.	2.2	180
51	Conditions for Propagating Synchronous Spiking and Asynchronous Firing Rates in a Cortical Network Model. Journal of Neuroscience, 2008, 28, 5268-5280.	3.6	182
52	Correlations and Population Dynamics in Cortical Networks. Neural Computation, 2008, 20, 2185-2226.	2.2	99
53	Can Spike Coordination Be Differentiated from Rate Covariation?. Neural Computation, 2008, 20, 1973-1999.	2.2	30
54	Structural plasticity controlled by calcium based correlation detection. Frontiers in Computational Neuroscience, 2008, 2, 7.	2.1	39

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55	Serial interval statistics of spontaneous activity in cortical neurons in vivo and in vitro. Neurocomputing, 2007, 70, 1717-1722.	5.9	60
56	Decomposition of neuronal assembly activity via empirical de-Poissonization. Electronic Journal of Statistics, 2007, 1, .	0.7	13
57	Controlling Synaptic Input Patterns In Vitro by Dynamic Photo Stimulation. Journal of Neurophysiology, 2005, 94, 2948-2958.	1.8	30
58	Neuronal Integration of Synaptic Input in the Fluctuation-Driven Regime. Journal of Neuroscience, 2004, 24, 2345-2356.	3.6	178
59	Elimination of response latency variability in neuronal spike trains. Biological Cybernetics, 2003, 88, 321-334.	1.3	44
60	Higher-Order Statistics of Input Ensembles and the Response of Simple Model Neurons. Neural Computation, 2003, 15, 67-101.	2.2	146
61	Single-trial estimation of neuronal firing rates: From single-neuron spike trains to population activity. Journal of Neuroscience Methods, 1999, 94, 81-92.	2.5	115
62	Exact digital simulation of time-invariant linear systems with applications to neuronal modeling. Biological Cybernetics, 1999, 81, 381-402.	1.3	131