Toshio Aoyagi

List of Publications by Year
in descending order

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56 papers	961 citations	471061 17 h-index	454577 30 g-index
56 all docs	56 docs citations	56 times ranked	694 citing authors

#	Article	IF	Citations
1	Interaction mechanisms quantified from dynamical features of frog choruses. Royal Society Open Science, 2020, 7, 191693.	1.1	18
2	Effect of recurrent infomax on the information processing capability of input-driven recurrent neural networks. Neuroscience Research, 2020, 156, 225-233.	1.0	7
3	Bayesian Estimation of Phase Dynamics Based on Partially Sampled Spikes Generated by Realistic Model Neurons. Frontiers in Computational Neuroscience, 2018, 11, 116.	1.2	12
4	A dynamical systems approach for estimating phase interactions between rhythms of different frequencies from experimental data. PLoS Computational Biology, 2018, 14, e1005928.	1.5	18
5	Nonstandard transitions in the Kuramoto model: a role of asymmetry in natural frequency distributions. Journal of Statistical Mechanics: Theory and Experiment, 2017, 2017, 013403.	0.9	10
6	Robust Measurements of Phase Response Curves Realized via Multicycle Weighted Spike-Triggered Averages. Journal of the Physical Society of Japan, 2017, 86, 024009.	0.7	6
7	Improvement effect of measuring phase response curves by using multicycle data. Nonlinear Theory and Its Applications IEICE, 2016, 7, 58-65.	0.4	5
8	Dynamics of two populations of phase oscillators with different frequency distributions. Physical Review E, 2016, 94, 012213.	0.8	9
9	Evaluation of the Phase-Dependent Rhythm Control of Human Walking Using Phase Response Curves. PLoS Computational Biology, 2016, 12, e1004950.	1.5	23
10	Network organization as a dynamical system**This work was supported by JSPS KAKENHI Grants No. 24120708, No. 24740266, No. 25115719, and No. 26520206.. IFAC-PapersOnLine, 2015, 48, 181-186.	0.5	0
11	Learning in neural networks based on a generalized fluctuation theorem. Physical Review E, 2015, 92, 052710.	0.8	4
12	Self-organization of complex networks as a dynamical system. Physical Review E, 2015, 91, 012908.	0.8	12
13	A biologically plausible learning rule for the Infomax on recurrent neural networks. Frontiers in Computational Neuroscience, 2014, 8, 143.	1.2	6
14	A mathematical model of negative covariability of interâ€columnar excitatory synaptic actions caused by presynaptic inhibition. European Journal of Neuroscience, 2013, 38, 2999-3007.	1.2	0
15	Replicating Receptive Fields of Simple and Complex Cells in Primary Visual Cortex in a Neuronal Network Model with Temporal and Population Sparseness and Reliability. Neural Computation, 2012, 24, 2700-2725.	1.3	6
16	Scale-Free Structures Emerging from Co-evolution of a Network and the Distribution of a Diffusive Resource on it. Physical Review Letters, 2012, 109, 208702.	2.9	22
17	Multistable Attractors in a Network of Phase Oscillators with Three-Body Interactions. Physical Review Letters, 2011, 106, 224101.	2.9	58
18	Self-organized network of phase oscillators coupled by activity-dependent interactions. Physical Review E, 2011, 84, 066109.	0.8	63

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19	Asymmetric neighborhood functions accelerate ordering process of self-organizing maps. Physical Review E, 2011, 83, 021903.	0.8	7
20	Bayesian estimation of phase response curves. Neural Networks, 2010, 23, 752-763.	3.3	12
21	Weighted Spike-Triggered Average of a Fluctuating Stimulus Yielding the Phase Response Curve. Physical Review Letters, 2009, 103, 024101.	2.9	33
22	Co-evolution of Phases and Connection Strengths in a Network of Phase Oscillators. Physical Review Letters, 2009, 102, 034101.	2.9	125
23	Recurrent Infomax Generates Cell Assemblies, Neuronal Avalanches, and Simple Cell-Like Selectivity. Neural Computation, 2009, 21, 1038-1067.	1.3	47
24	Ordering process of self-organizing maps improved by asymmetric neighborhood function. Cognitive Neurodynamics, 2009, 3, 9-15.	2.3	8
25	Weighted scale-free networks with variable power-law exponents. Physica D: Nonlinear Phenomena, 2008, 237, 898-907.	1.3	11
26	Optimal weighted networks of phase oscillators for synchronization. Physical Review E, 2008, 78, 046210.	0.8	13
27	Synchrony-Induced Switching Behavior of Spike Pattern Attractors Created by Spike-Timing-Dependent Plasticity. Neural Computation, 2007, 19, 2720-2738.	1.3	13
28	Self-Organizing Maps with Asymmetric Neighborhood Function. Neural Computation, 2007, 19, 2515-2535.	1.3	19
29	Kernel Analysis Of Multi-neuronal Spike Trains. , 2007, , .		0
30	Synchronous and asynchronous bursting states: role of intrinsic neural dynamics. Journal of Computational Neuroscience, 2007, 23, 189-200.	0.6	20
31	Analysis of Multineuron Activity Using the Kernel Method. Journal of Robotics and Mechatronics, 2007, 19, 364-368.	0.5	0
32	Synchrony-Induced Attractor Transition in Cortical Neural Networks Organized by Spike-Timing Dependent Plasticity. Journal of Robotics and Mechatronics, 2007, 19, 409-415.	0.5	0
33	Ordering Process of Self-Organizing Maps Improved by Asymmetric Neighborhood Function. Lecture Notes in Computer Science, 2007, , 426-435.	1.0	0
34	Phase Analysis of Inhibitory Neurons Involved in the Thalamocortical Loop. Progress of Theoretical Physics Supplement, 2006, 161, 310-313.	0.2	0
35	Synchronization Properties of Slow Cortical Oscillations. Progress of Theoretical Physics Supplement, 2006, 161, 356-359.	0.2	0
36	A Possible Role of Incoming Spike Synchrony in Associative Memory Model with STDP Learning Rule. Progress of Theoretical Physics Supplement, 2006, 161, 152-155.	0.2	7

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37	Gamma frequency synchronization in a local cortical network model. Neurocomputing, 2004, 58-60, 173-178.	3.5	1
38	Possible role of synchronous input spike trains in controlling the function of neural networks. Neurocomputing, 2004, 58-60, 259-264.	3.5	6
39	Two-level hierarchy with sparsely and temporally coded patterns and its possible functional role in information processing. Neural Networks, 2003, 16, 947-954.	3.3	1
40	Synchrony of Fast-Spiking Interneurons Interconnected by GABAergic and Electrical Synapses. Neural Computation, 2003, 15, 2179-2198.	1.3	77
41	Gamma Rhythmic Bursts: Coherence Control in Networks of Cortical Pyramidal Neurons. Neural Computation, 2003, 15, 1035-1061.	1.3	25
42	Phase Locking States in Network of Inhibitory Neurons: A Putative Role of Gap Junction. Journal of the Physical Society of Japan, 2002, 71, 2644-2648.	0.7	1
43	Modeling the layer V cortical pyramidal neurons showing theta-rhythmic firing in the presence of muscarine. Neurocomputing, 2002, 44-46, 103-108.	3.5	0
44	A possible functional organization of the corticostriatal input within the weakly-correlated striatal activity: a modeling study. Neuroscience Research, 2001, 40, 87-96.	1.0	5
45	Synchronous and asynchronous activities in a network model of the striatal spiny projection neurons. Neurocomputing, 2001, 38-40, 721-726.	3.5	0
46	A bursting mechanism of chattering neurons based on Ca2+-dependent cationic currents. Neurocomputing, 2001, 38-40, 93-98.	3.5	6
47	Analysis of oscillator neural networks for sparsely coded phase patterns. Journal of Physics A, 2000, 33, 8681-8702.	1.6	3
48	Oscillator Neural Network Retrieving Sparsely Coded Phase Patterns. Physical Review Letters, 1999, 83, 1062-1065.	2.9	14
49	Retrieval Dynamics in Oscillator Neural Networks. Neural Computation, 1998, 10, 1527-1546.	1.3	27
50	Retrieval dynamics of neural networks for sparsely coded sequential patterns. Journal of Physics A, 1998, 31, L613-L620.	1.6	22
51	Effect of random synaptic dilution on recalling dynamics in an oscillator neural network. Physical Review E, 1998, 57, 5914-5919.	0.8	16
52	Emergent System and its Applications. Oscillator Neural Networks and its Applications.. Journal of the Japan Society for Precision Engineering, 1998, 64, 1435-1438.	0.0	0
53	Effect of random synaptic dilution in oscillator neural networks. Physical Review E, 1997, 55, 7424-7428.	0.8	26
54	Network of Neural Oscillators for Retrieving Phase Information. Physical Review Letters, 1995, 74, 4075-4078.	2.9	75

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55	A model for feature linking via collective oscillations in the primary visual cortex. Biological Cybernetics, 1993, 68, 483-490.	0.6	45
56	Frequency order and wave patterns of mutual entrainment in two-dimensional oscillator lattices. Physics Letters, Section A: General, Atomic and Solid State Physics, 1991, 155, 410-414.	0.9	17