Toshio Aoyagi

List of Publications by Year
in descending order

56	961	471509 17	454955 30
papers	citations	h-index	g-index

56	56	56	694
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Co-evolution of Phases and Connection Strengths in a Network of Phase Oscillators. Physical Review Letters, 2009, 102, 034101.	7.8	125
2	Synchrony of Fast-Spiking Interneurons Interconnected by GABAergic and Electrical Synapses. Neural Computation, 2003, 15, 2179-2198.	2.2	77
3	Network of Neural Oscillators for Retrieving Phase Information. Physical Review Letters, 1995, 74, 4075-4078.	7.8	75
4	Self-organized network of phase oscillators coupled by activity-dependent interactions. Physical Review E, 2011, 84, 066109.	2.1	63
5	Multistable Attractors in a Network of Phase Oscillators with Three-Body Interactions. Physical Review Letters, 2011, 106, 224101.	7.8	58
6	Recurrent Infomax Generates Cell Assemblies, Neuronal Avalanches, and Simple Cell-Like Selectivity. Neural Computation, 2009, 21, 1038-1067.	2.2	47
7	A model for feature linking via collective oscillations in the primary visual cortex. Biological Cybernetics, 1993, 68, 483-490.	1.3	45
8	Weighted Spike-Triggered Average of a Fluctuating Stimulus Yielding the Phase Response Curve. Physical Review Letters, 2009, 103, 024101.	7.8	33
9	Retrieval Dynamics in Oscillator Neural Networks. Neural Computation, 1998, 10, 1527-1546.	2.2	27
10	Effect of random synaptic dilution in oscillator neural networks. Physical Review E, 1997, 55, 7424-7428.	2.1	26
11	Gamma Rhythmic Bursts: Coherence Control in Networks of Cortical Pyramidal Neurons. Neural Computation, 2003, 15, 1035-1061.	2.2	25
12	Evaluation of the Phase-Dependent Rhythm Control of Human Walking Using Phase Response Curves. PLoS Computational Biology, 2016, 12, e1004950.	3.2	23
13	Retrieval dynamics of neural networks for sparsely coded sequential patterns. Journal of Physics A, 1998, 31, L613-L620.	1.6	22
14	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.	7.8	22
15	Synchronous and asynchronous bursting states: role of intrinsic neural dynamics. Journal of Computational Neuroscience, 2007, 23, 189-200.	1.0	20
16	Self-Organizing Maps with Asymmetric Neighborhood Function. Neural Computation, 2007, 19, 2515-2535.	2.2	19
17	Interaction mechanisms quantified from dynamical features of frog choruses. Royal Society Open Science, 2020, 7, 191693.	2.4	18
18	A dynamical systems approach for estimating phase interactions between rhythms of different frequencies from experimental data. PLoS Computational Biology, 2018, 14, e1005928.	3.2	18

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19	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.	2.1	17
20	Effect of random synaptic dilution on recalling dynamics in an oscillator neural network. Physical Review E, 1998, 57, 5914-5919.	2.1	16
21	Oscillator Neural Network Retrieving Sparsely Coded Phase Patterns. Physical Review Letters, 1999, 83, 1062-1065.	7.8	14
22	Synchrony-Induced Switching Behavior of Spike Pattern Attractors Created by Spike-Timing-Dependent Plasticity. Neural Computation, 2007, 19, 2720-2738.	2.2	13
23	Optimal weighted networks of phase oscillators for synchronization. Physical Review E, 2008, 78, 046210.	2.1	13
24	Bayesian estimation of phase response curves. Neural Networks, 2010, 23, 752-763.	5.9	12
25	Self-organization of complex networks as a dynamical system. Physical Review E, 2015, 91, 012908.	2.1	12
26	Bayesian Estimation of Phase Dynamics Based on Partially Sampled Spikes Generated by Realistic Model Neurons. Frontiers in Computational Neuroscience, 2018, 11, 116.	2.1	12
27	Weighted scale-free networks with variable power-law exponents. Physica D: Nonlinear Phenomena, 2008, 237, 898-907.	2.8	11
28	Nonstandard transitions in the Kuramoto model: a role of asymmetry in natural frequency distributions. Journal of Statistical Mechanics: Theory and Experiment, 2017, 2017, 013403.	2.3	10
29	Dynamics of two populations of phase oscillators with different frequency distributions. Physical Review E, 2016, 94, 012213.	2.1	9
30	Ordering process of self-organizing maps improved by asymmetric neighborhood function. Cognitive Neurodynamics, 2009, 3, 9-15.	4.0	8
31	A Possible Role of Incoming Spike Synchrony in Associative Memory Model with STDP Learning Rule. Progress of Theoretical Physics Supplement, 2006, 161, 152-155.	0.1	7
32	Asymmetric neighborhood functions accelerate ordering process of self-organizing maps. Physical Review E, 2011, 83, 021903.	2.1	7
33	Effect of recurrent infomax on the information processing capability of input-driven recurrent neural networks. Neuroscience Research, 2020, 156, 225-233.	1.9	7
34	A bursting mechanism of chattering neurons based on Ca2+-dependent cationic currents. Neurocomputing, 2001, 38-40, 93-98.	5.9	6
35	Possible role of synchronous input spike trains in controlling the function of neural networks. Neurocomputing, 2004, 58-60, 259-264.	5.9	6
36	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.	2.2	6

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37	A biologically plausible learning rule for the Infomax on recurrent neural networks. Frontiers in Computational Neuroscience, 2014, 8, 143.	2.1	6
38	Robust Measurements of Phase Response Curves Realized via Multicycle Weighted Spike-Triggered Averages. Journal of the Physical Society of Japan, 2017, 86, 024009.	1.6	6
39	A possible functional organization of the corticostriatal input within the weakly-correlated striatal activity: a modeling study. Neuroscience Research, 2001, 40, 87-96.	1.9	5
40	Improvement effect of measuring phase response curves by using multicycle data. Nonlinear Theory and Its Applications IEICE, 2016, 7, 58-65.	0.6	5
41	Learning in neural networks based on a generalized fluctuation theorem. Physical Review E, 2015, 92, 052710.	2.1	4
42	Analysis of oscillator neural networks for sparsely coded phase patterns. Journal of Physics A, 2000, 33, 8681-8702.	1.6	3
43	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.	1.6	1
44	Two-level hierarchy with sparsely and temporally coded patterns and its possible functional role in information processing. Neural Networks, 2003, 16, 947-954.	5.9	1
45	Gamma frequency synchronization in a local cortical network model. Neurocomputing, 2004, 58-60, 173-178.	5.9	1
46	Synchronous and asynchronous activities in a network model of the striatal spiny projection neurons. Neurocomputing, 2001, 38-40, 721-726.	5.9	0
47	Modeling the layer V cortical pyramidal neurons showing theta-rhythmic firing in the presence of muscarine. Neurocomputing, 2002, 44-46, 103-108.	5.9	0
48	Phase Analysis of Inhibitory Neurons Involved in the Thalamocortical Loop. Progress of Theoretical Physics Supplement, 2006, 161, 310-313.	0.1	0
49	Synchronization Properties of Slow Cortical Oscillations. Progress of Theoretical Physics Supplement, 2006, 161, 356-359.	0.1	0
50	Kernel Analysis Of Multi-neuronal Spike Trains. , 2007, , .		0
51	A mathematical model of negative covariability of interâ€columnar excitatory synaptic actions caused by presynaptic inhibition. European Journal of Neuroscience, 2013, 38, 2999-3007.	2.6	0
52	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.	0.9	0
53	Analysis of Multineuron Activity Using the Kernel Method. Journal of Robotics and Mechatronics, 2007, 19, 364-368.	1.0	0
54	Synchrony-Induced Attractor Transition in Cortical Neural Networks Organized by Spike-Timing Dependent Plasticity. Journal of Robotics and Mechatronics, 2007, 19, 409-415.	1.0	0

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55	Emergent System and its Applications. Oscillator Neural Networks and its Applications.. Journal of the Japan Society for Precision Engineering, 1998, 64, 1435-1438.	0.1	0
56	Ordering Process of Self-Organizing Maps Improved by Asymmetric Neighborhood Function. Lecture Notes in Computer Science, 2007, , 426-435.	1.3	0