

# Toshio Aoyagi

## List of Publications by Year in descending order

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56  
papers

961  
citations

471509

17  
h-index

454955

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.	2.4	18
2	Effect of recurrent infomax on the information processing capability of input-driven recurrent neural networks. Neuroscience Research, 2020, 156, 225-233.	1.9	7
3	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
4	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
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.	2.3	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.	1.6	6
7	Improvement effect of measuring phase response curves by using multicycle data. Nonlinear Theory and Its Applications IEICE, 2016, 7, 58-65.	0.6	5
8	Dynamics of two populations of phase oscillators with different frequency distributions. Physical Review E, 2016, 94, 012213.	2.1	9
9	Evaluation of the Phase-Dependent Rhythm Control of Human Walking Using Phase Response Curves. PLoS Computational Biology, 2016, 12, e1004950.	3.2	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.	0.9	0
11	Learning in neural networks based on a generalized fluctuation theorem. Physical Review E, 2015, 92, 052710.	2.1	4
12	Self-organization of complex networks as a dynamical system. Physical Review E, 2015, 91, 012908.	2.1	12
13	A biologically plausible learning rule for the Infomax on recurrent neural networks. Frontiers in Computational Neuroscience, 2014, 8, 143.	2.1	6
14	A mathematical model of negative covariability of intercolumnar excitatory synaptic actions caused by presynaptic inhibition. European Journal of Neuroscience, 2013, 38, 2999-3007.	2.6	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.	2.2	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.	7.8	22
17	Multistable Attractors in a Network of Phase Oscillators with Three-Body Interactions. Physical Review Letters, 2011, 106, 224101.	7.8	58
18	Self-organized network of phase oscillators coupled by activity-dependent interactions. Physical Review E, 2011, 84, 066109.	2.1	63

#	ARTICLE	IF	CITATIONS
19	Asymmetric neighborhood functions accelerate ordering process of self-organizing maps. Physical Review E, 2011, 83, 021903.	2.1	7
20	Bayesian estimation of phase response curves. Neural Networks, 2010, 23, 752-763.	5.9	12
21	Weighted Spike-Triggered Average of a Fluctuating Stimulus Yielding the Phase Response Curve. Physical Review Letters, 2009, 103, 024101.	7.8	33
22	Co-evolution of Phases and Connection Strengths in a Network of Phase Oscillators. Physical Review Letters, 2009, 102, 034101.	7.8	125
23	Recurrent Infomax Generates Cell Assemblies, Neuronal Avalanches, and Simple Cell-Like Selectivity. Neural Computation, 2009, 21, 1038-1067.	2.2	47
24	Ordering process of self-organizing maps improved by asymmetric neighborhood function. Cognitive Neurodynamics, 2009, 3, 9-15.	4.0	8
25	Weighted scale-free networks with variable power-law exponents. Physica D: Nonlinear Phenomena, 2008, 237, 898-907.	2.8	11
26	Optimal weighted networks of phase oscillators for synchronization. Physical Review E, 2008, 78, 046210.	2.1	13
27	Synchrony-Induced Switching Behavior of Spike Pattern Attractors Created by Spike-Timing-Dependent Plasticity. Neural Computation, 2007, 19, 2720-2738.	2.2	13
28	Self-Organizing Maps with Asymmetric Neighborhood Function. Neural Computation, 2007, 19, 2515-2535.	2.2	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.	1.0	20
31	Analysis of Multineuron Activity Using the Kernel Method. Journal of Robotics and Mechatronics, 2007, 19, 364-368.	1.0	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.	1.0	0
33	Ordering Process of Self-Organizing Maps Improved by Asymmetric Neighborhood Function. Lecture Notes in Computer Science, 2007, , 426-435.	1.3	0
34	Phase Analysis of Inhibitory Neurons Involved in the Thalamocortical Loop. Progress of Theoretical Physics Supplement, 2006, 161, 310-313.	0.1	0
35	Synchronization Properties of Slow Cortical Oscillations. Progress of Theoretical Physics Supplement, 2006, 161, 356-359.	0.1	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.	0.1	7

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37	Gamma frequency synchronization in a local cortical network model. <i>Neurocomputing</i> , 2004, 58-60, 173-178.	5.9	1
38	Possible role of synchronous input spike trains in controlling the function of neural networks. <i>Neurocomputing</i> , 2004, 58-60, 259-264.	5.9	6
39	Two-level hierarchy with sparsely and temporally coded patterns and its possible functional role in information processing. <i>Neural Networks</i> , 2003, 16, 947-954.	5.9	1
40	Synchrony of Fast-Spiking Interneurons Interconnected by GABAergic and Electrical Synapses. <i>Neural Computation</i> , 2003, 15, 2179-2198.	2.2	77
41	Gamma Rhythmic Bursts: Coherence Control in Networks of Cortical Pyramidal Neurons. <i>Neural Computation</i> , 2003, 15, 1035-1061.	2.2	25
42	Phase Locking States in Network of Inhibitory Neurons: A Putative Role of Gap Junction. <i>Journal of the Physical Society of Japan</i> , 2002, 71, 2644-2648.	1.6	1
43	Modeling the layer V cortical pyramidal neurons showing theta-rhythmic firing in the presence of muscarine. <i>Neurocomputing</i> , 2002, 44-46, 103-108.	5.9	0
44	A possible functional organization of the corticostriatal input within the weakly-correlated striatal activity: a modeling study. <i>Neuroscience Research</i> , 2001, 40, 87-96.	1.9	5
45	Synchronous and asynchronous activities in a network model of the striatal spiny projection neurons. <i>Neurocomputing</i> , 2001, 38-40, 721-726.	5.9	0
46	A bursting mechanism of chattering neurons based on Ca <sup>2+</sup> -dependent cationic currents. <i>Neurocomputing</i> , 2001, 38-40, 93-98.	5.9	6
47	Analysis of oscillator neural networks for sparsely coded phase patterns. <i>Journal of Physics A</i> , 2000, 33, 8681-8702.	1.6	3
48	Oscillator Neural Network Retrieving Sparsely Coded Phase Patterns. <i>Physical Review Letters</i> , 1999, 83, 1062-1065.	7.8	14
49	Retrieval Dynamics in Oscillator Neural Networks. <i>Neural Computation</i> , 1998, 10, 1527-1546.	2.2	27
50	Retrieval dynamics of neural networks for sparsely coded sequential patterns. <i>Journal of Physics A</i> , 1998, 31, L613-L620.	1.6	22
51	Effect of random synaptic dilution on recalling dynamics in an oscillator neural network. <i>Physical Review E</i> , 1998, 57, 5914-5919.	2.1	16
52	Emergent System and its Applications. Oscillator Neural Networks and its Applications.. <i>Journal of the Japan Society for Precision Engineering</i> , 1998, 64, 1435-1438.	0.1	0
53	Effect of random synaptic dilution in oscillator neural networks. <i>Physical Review E</i> , 1997, 55, 7424-7428.	2.1	26
54	Network of Neural Oscillators for Retrieving Phase Information. <i>Physical Review Letters</i> , 1995, 74, 4075-4078.	7.8	75

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55	A model for feature linking via collective oscillations in the primary visual cortex. <i>Biological Cybernetics</i> , 1993, 68, 483-490.	1.3	45
56	Frequency order and wave patterns of mutual entrainment in two-dimensional oscillator lattices. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1991, 155, 410-414.	2.1	17