

# Takuya Isomura

## List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/8598536/publications.pdf>

Version: 2024-02-01

35  
papers

508  
citations

933447

10  
h-index

752698

20  
g-index

44  
all docs

44  
docs citations

44  
times ranked

387  
citing authors

#	ARTICLE	IF	CITATIONS
1	Canonical neural networks perform active inference. <i>Communications Biology</i> , 2022, 5, 55.	4.4	15
2	Active inference leads to Bayesian neurophysiology. <i>Neuroscience Research</i> , 2022, 175, 38-45.	1.9	18
3	Dimensionality reduction to maximize prediction generalization capability. <i>Nature Machine Intelligence</i> , 2021, 3, 434-446.	16.0	7
4	On the Achievability of Blind Source Separation for High-Dimensional Nonlinear Source Mixtures. <i>Neural Computation</i> , 2021, 33, 1433-1468.	2.2	6
5	Zebrafish capable of generating future state prediction error show improved active avoidance behavior in virtual reality. <i>Nature Communications</i> , 2021, 12, 5712.	12.8	23
6	Reverse-Engineering Neural Networks to Characterize Their Cost Functions. <i>Neural Computation</i> , 2020, 32, 2085-2121.	2.2	9
7	Inferring Neuronal Couplings From Spiking Data Using a Systematic Procedure With a Statistical Criterion. <i>Neural Computation</i> , 2020, 32, 2187-2211.	2.2	2
8	Bayesian Filtering with Multiple Internal Models: Toward a Theory of Social Intelligence. <i>Neural Computation</i> , 2019, 31, 2390-2431.	2.2	25
9	The emergence of synchrony in networks of mutually inferring neurons. <i>Scientific Reports</i> , 2019, 9, 6412.	3.3	35
10	Suppression of Macroscopic Oscillations in Mixed Populations of Active and Inactive Oscillators Coupled through Lattice Laplacian. <i>Journal of the Physical Society of Japan</i> , 2019, 88, 054004.	1.6	2
11	Multi-context blind source separation by error-gated Hebbian rule. <i>Scientific Reports</i> , 2019, 9, 7127.	3.3	6
12	Objective and efficient inference for couplings in neuronal network. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2019, 2019, 124010.	2.3	1
13	Error-Gated Hebbian Rule: A Local Learning Rule for Principal and Independent Component Analysis. <i>Scientific Reports</i> , 2018, 8, 1835.	3.3	21
14	Spike-contrast: A novel time scale independent and multivariate measure of spike train synchrony. <i>Journal of Neuroscience Methods</i> , 2018, 293, 136-143.	2.5	8
15	A Measure of Information Available for Inference. <i>Entropy</i> , 2018, 20, 512.	2.2	7
16	In vitro neural networks minimise variational free energy. <i>Scientific Reports</i> , 2018, 8, 16926.	3.3	35
17	Task-Related Synaptic Changes Localized to Small Neuronal Population in Recurrent Neural Network Cortical Models. <i>Frontiers in Computational Neuroscience</i> , 2018, 12, 83.	2.1	6
18	Introduction of the Free-Energy Principle: Perception, Action, and Inference of Another's Mind. <i>The Brain &amp; Neural Networks</i> , 2018, 25, 71-85.	0.1	0

#	ARTICLE	IF	CITATIONS
19	Temporal relation between neural activity and neurite pruning on a numerical model and a microchannel device with micro electrode array. <i>Biochemical and Biophysical Research Communications</i> , 2017, 486, 539-544.	2.1	8
20	Neurogenesis Enhances Response Specificity to Spatial Pattern Stimulation in Hippocampal Cultures. <i>IEEE Transactions on Biomedical Engineering</i> , 2017, 64, 2555-2561.	4.2	6
21	Improvement in Pattern Separation by Regulating Neurogenesis in Hippocampal Culture. <i>Electronics and Communications in Japan</i> , 2017, 100, 3-12.	0.5	1
22	Learning with three factors: modulating Hebbian plasticity with errors. <i>Current Opinion in Neurobiology</i> , 2017, 46, 170-177.	4.2	92
23	Linking Neuromodulated Spike-Timing Dependent Plasticity with the Free-Energy Principle. <i>Neural Computation</i> , 2016, 28, 1859-1888.	2.2	8
24	A Local Learning Rule for Independent Component Analysis. <i>Scientific Reports</i> , 2016, 6, 28073.	3.3	39
25	Basic Research for Development of a Multimodal AR-BCI. <i>IEEJ Transactions on Electronics, Information and Systems</i> , 2016, 136, 1291-1297.	0.2	1
26	Cultured Cortical Neurons Can Perform Blind Source Separation According to the Free-Energy Principle. <i>PLoS Computational Biology</i> , 2015, 11, e1004643.	3.2	44
27	Accurate Connection Strength Estimation Based on Variational Bayes for Detecting Synaptic Plasticity. <i>Neural Computation</i> , 2015, 27, 819-844.	2.2	4
28	Signal transfer within a cultured asymmetric cortical neuron circuit. <i>Journal of Neural Engineering</i> , 2015, 12, 066023.	3.5	9
29	Axonal conduction slowing induced by spontaneous bursting activity in cortical neurons cultured in a microtunnel device. <i>Integrative Biology (United Kingdom)</i> , 2015, 7, 64-72.	1.3	50
30	Improvement in Pattern Separation by Regulating Neurogenesis in Hippocampal Culture. <i>IEEJ Transactions on Electronics, Information and Systems</i> , 2015, 135, 805-812.	0.2	0
31	Connection-strength Estimation of Neuronal Networks by Fitting for Izhikevich Model. <i>Electrical Engineering in Japan (English Translation of Denki Gakkai Ronbunshi)</i> , 2014, 187, 42-50.	0.4	1
32	Neuron Type Sorting Based on Connection-strength Estimation. <i>IEEJ Transactions on Electronics, Information and Systems</i> , 2013, 133, 1806-1813.	0.2	0
33	Serotonergic Modulation of Activity Pattern on Neuronal Network. <i>IEEJ Transactions on Electronics, Information and Systems</i> , 2013, 133, 1814-1819.	0.2	0
34	Connection-strength Estimation of Neuronal Networks by Fitting for Izhikevich Model. <i>IEEJ Transactions on Electronics, Information and Systems</i> , 2012, 132, 1581-1588.	0.2	2
35	Neuronal Maximum a Posteriori Estimation on Microelectrode Arrays. <i>Frontiers in Neuroscience</i> , 0, 10, .	2.8	0