

Yasuhiko Jimbo

List of Publications by Year in descending order

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117
papers

1,751
citations

361296

20
h-index

289141

40
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117
all docs

117
docs citations

117
times ranked

1406
citing authors

#	ARTICLE	IF	CITATIONS
1	Spontaneous periodic synchronized bursting during formation of mature patterns of connections in cortical cultures. <i>Neuroscience Letters</i> , 1996, 206, 109-112.	1.0	332
2	A system for MEA-based multisite stimulation. <i>IEEE Transactions on Biomedical Engineering</i> , 2003, 50, 241-248.	2.5	185
3	The dynamics of a neuronal culture of dissociated cortical neurons of neonatal rats. <i>Biological Cybernetics</i> , 2000, 83, 1-20.	0.6	146
4	Electrical stimulation and recording from cultured neurons using a planar electrode array. <i>Bioelectrochemistry</i> , 1992, 29, 193-204.	1.0	122
5	Stepwise pattern modification of neuronal network in photo-thermally-etched agarose architecture on multi-electrode array chip for individual-cell-based electrophysiological measurement. <i>Lab on A Chip</i> , 2005, 5, 241.	3.1	99
6	Activity-dependent enhancement in the reliability of correlated spike timings in cultured cortical neurons. <i>Biological Cybernetics</i> , 1999, 80, 45-55.	0.6	68
7	Device for co-culture of sympathetic neurons and cardiomyocytes using microfabrication. <i>Lab on A Chip</i> , 2011, 11, 2268.	3.1	57
8	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.	0.6	50
9	Cultured Cortical Neurons Can Perform Blind Source Separation According to the Free-Energy Principle. <i>PLoS Computational Biology</i> , 2015, 11, e1004643.	1.5	44
10	Continuous monitoring of developmental activity changes in cultured cortical networks. <i>Electrical Engineering in Japan (English Translation of Denki Gakkai Ronbunshi)</i> , 2003, 145, 28-37.	0.2	43
11	Analytical characterization of spontaneous firing in networks of developing rat cultured cortical neurons. <i>Physical Review E</i> , 2002, 65, 051924.	0.8	40
12	Individual-Cell-Based Electrophysiological Measurement of a Topographically Controlled Neuronal Network Pattern Using Agarose Architecture with a Multi-Electrode Array. <i>Japanese Journal of Applied Physics</i> , 2004, 43, L403-L406.	0.8	37
13	Microcasting with agarose gel via degassed polydimethylsiloxane molds for repellency-guided cell patterning. <i>RSC Advances</i> , 2016, 6, 54754-54762.	1.7	36
14	Network-wide integration of stem cell-derived neurons and mouse cortical neurons using microfabricated co-culture devices. <i>BioSystems</i> , 2012, 107, 1-8.	0.9	35
15	Sympathetic neurons modulate the beat rate of pluripotent cell-derived cardiomyocytes in vitro. <i>Integrative Biology (United Kingdom)</i> , 2012, 4, 1532.	0.6	28
16	A light addressable electrode with a TiO ₂ nanocrystalline film for localized electrical stimulation of cultured neurons. <i>Sensors and Actuators B: Chemical</i> , 2014, 192, 393-398.	4.0	27
17	Light-addressable electrode with hydrogenated amorphous silicon and low-conductive passivation layer for stimulation of cultured neurons. <i>Applied Physics Letters</i> , 2007, 90, 093901.	1.5	25
18	Axon Guidance of Sympathetic Neurons to Cardiomyocytes by Glial Cell Line-Derived Neurotrophic Factor (GDNF). <i>PLoS ONE</i> , 2013, 8, e65202.	1.1	25

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19	Spontaneous Calcium Transients in Cultured Cortical Networks During Development. IEEE Transactions on Biomedical Engineering, 2009, 56, 2949-2956.	2.5	22
20	A co-culture microtunnel technique demonstrating a significant contribution of unmyelinated Schwann cells to the acceleration of axonal conduction in Schwann cell-regulated peripheral nerve development. Integrative Biology (United Kingdom), 2017, 9, 678-686.	0.6	22
21	Development of low magnesium-induced spontaneous synchronized bursting and GABAergic modulation in cultured rat neocortical neurons. Neuroscience Letters, 1996, 210, 41-44.	1.0	21
22	Synchronous firing patterns of induced pluripotent stem cell-derived cortical neurons depend on the network structure consisting of excitatory and inhibitory neurons. Biochemical and Biophysical Research Communications, 2018, 501, 152-157.	1.0	21
23	Functional innervation of human induced pluripotent stem cell-derived cardiomyocytes by co-culture with sympathetic neurons developed using a microtunnel technique. Biochemical and Biophysical Research Communications, 2017, 494, 138-143.	1.0	20
24	Light-Addressed Stimulation Under Ca^{2+} Imaging of Cultured Neurons. IEEE Transactions on Biomedical Engineering, 2009, 56, 2660-2665.	2.5	17
25	Long-Term Developmental Process of the Human Cortex Revealed In Vitro by Axon-Targeted Recording Using a Microtunnel-Augmented Microelectrode Array. IEEE Transactions on Biomedical Engineering, 2019, 66, 2538-2545.	2.5	17
26	Relationship between the mechanisms of gamma rhythm generation and the magnitude of the macroscopic phase response function in a population of excitatory and inhibitory modified quadratic integrate-and-fire neurons. Physical Review E, 2018, 97, 012209.	0.8	16
27	A device for co-culturing autonomic neurons and cardiomyocytes using micro-fabrication techniques. Integrative Biology (United Kingdom), 2016, 8, 341-348.	0.6	12
28	Response of Cultured Neuronal Network Activity After High-Intensity Power Frequency Magnetic Field Exposure. Frontiers in Physiology, 2018, 9, 189.	1.3	12
29	Functional Scaffolding for Brain Implants: Engineered Neuronal Network by Microfabrication and iPSC Technology. Frontiers in Neuroscience, 2019, 13, 890.	1.4	11
30	Signal transfer within a cultured asymmetric cortical neuron circuit. Journal of Neural Engineering, 2015, 12, 066023.	1.8	9
31	Recording Saltatory Conduction Along Sensory Axons Using a High-Density Microelectrode Array. Frontiers in Neuroscience, 2022, 16, 854637.	1.4	9
32	Linking Neuromodulated Spike-Timing Dependent Plasticity with the Free-Energy Principle. Neural Computation, 2016, 28, 1859-1888.	1.3	8
33	Temporal relation between neural activity and neurite pruning on a numerical model and a microchannel device with micro electrode array. Biochemical and Biophysical Research Communications, 2017, 486, 539-544.	1.0	8
34	Spike-contrast: A novel time scale independent and multivariate measure of spike train synchrony. Journal of Neuroscience Methods, 2018, 293, 136-143.	1.3	8
35	Properties of the Evoked Spatio-Temporal Electrical Activity in Neuronal Assemblies. Reviews in the Neurosciences, 1999, 10, 279-90.	1.4	7
36	Recording axonal conduction to evaluate the integration of pluripotent cell-derived neurons into a neuronal network. Biomedical Microdevices, 2015, 17, 94.	1.4	7

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37	Non-conductive and miniature fiber-optic imaging system for real-time detection of neuronal activity in time-varying electromagnetic fields. <i>Biosensors and Bioelectronics</i> , 2017, 87, 786-793.	5.3	7
38	MEA-Based Spike Recording in Cultured Neuronal Networks. , 2006, , 88-98.		6
39	Direction control of information transfer between neuronal populations with asymmetric three-dimensional microstructure. <i>Electronics and Communications in Japan</i> , 2010, 93, 17-25.	0.3	6
40	Neurogenesis Enhances Response Specificity to Spatial Pattern Stimulation in Hippocampal Cultures. <i>IEEE Transactions on Biomedical Engineering</i> , 2017, 64, 2555-2561.	2.5	6
41	Phase-reduction for synchronization of oscillating flow by perturbation on surrounding structure. <i>Journal of Fluid Mechanics</i> , 2021, 911, .	1.4	6
42	Microfabricated device for co-culture of sympathetic neuron and iPS-derived cardiomyocytes. , 2013, 2013, 3817-20.		5
43	Modulation of dynamics in a pre-existing hippocampal network by neural stem cells on a microelectrode array. <i>Journal of Neural Engineering</i> , 2021, 18, 0460e2.	1.8	5
44	Multichannel Glutamate Monitoring by Electrode Array Electrochemically Immobilized with Enzymes. <i>Electrochemistry</i> , 2000, 68, 886-889.	0.6	4
45	Developmental effects of low frequency magnetic fields on P19-derived neuronal cells. , 2009, 2009, 5942-5.		4
46	Parallel multipoint recording of aligned and cultured neurons on micro channel array toward cellular network analysis. <i>Biomedical Microdevices</i> , 2010, 12, 737-743.	1.4	4
47	Modulation of neuronal network activity using magnetic nanoparticle-based astrocytic network integration. <i>Biomaterials Science</i> , 2015, 3, 1228-1235.	2.6	4
48	Experimental evaluation of activity-dependent changes in axonal conduction delay using a microtunnel device. <i>Nonlinear Theory and Its Applications IEICE</i> , 2016, 7, 76-85.	0.4	4
49	Coupling of in vitro Neocortical-Hippocampal Coculture Bursts Induces Different Spike Rhythms in Individual Networks. <i>Frontiers in Neuroscience</i> , 2022, 16, .	1.4	4
50	Ensemble Stimulation of Embryoid Bodies using Substrate-Embedded Electrodes. <i>IEEJ Transactions on Electrical and Electronic Engineering</i> , 2009, 4, 734-735.	0.8	3
51	Ensemble recording of electrical activity in neurons derived from P19 embryonal carcinoma cells. <i>Electronics and Communications in Japan</i> , 2011, 94, 9-19.	0.3	3
52	Induced Current Pharmacological Split Stimulation System for Neuronal Networks. <i>IEEE Transactions on Biomedical Engineering</i> , 2014, 61, 463-472.	2.5	3
53	Estimating the parameters of neural mass models including time delay and nonlinearity using a particle filter: a preliminary study toward model-based <scp>EEG</scp> analysis. <i>IEEJ Transactions on Electrical and Electronic Engineering</i> , 2017, 12, 899-906.	0.8	3
54	Distinct effects of heterogeneity and noise on gamma oscillation in a model of neuronal network with different reversal potential. <i>Scientific Reports</i> , 2021, 11, 12960.	1.6	3

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55	Autonomic nervous system driven cardiomyocytes in vitro. , 2011, 2011, 1945-8.		2
56	In vitro reconstruction and functional development of the superior colliculus in the retinotectal pathway. Neuroscience Letters, 2013, 545, 96-101.	1.0	2
57	Neural Transplantation Model Using Integration Co-culture Chamber. Electronics and Communications in Japan, 2014, 97, 36-43.	0.3	2
58	Suppression of Macroscopic Oscillations in Mixed Populations of Active and Inactive Oscillators Coupled through Lattice Laplacian. Journal of the Physical Society of Japan, 2019, 88, 054004.	0.7	2
59	Site-selective Electrical Recording from Small Neuronal Circuits using Spray Patterning Method and Mobile Microelectrodes. , 2007, , .		1
60	Cell-cycle-dependent Ca ²⁺ transients in human induced pluripotent stem cells revealed by a simultaneous imaging of cell nuclei and intracellular Ca ²⁺ level. Integrative Biology (United Kingdom), 2016, 8, 985-990.	0.6	1
61	Deriving theoretical phase locking values of a coupled cortico-thalamic neural mass model using center manifold reduction. Journal of Computational Neuroscience, 2017, 42, 231-243.	0.6	1
62	Improvement in Pattern Separation by Regulating Neurogenesis in Hippocampal Culture. Electronics and Communications in Japan, 2017, 100, 3-12.	0.3	1
63	Evaluation of heuristic reductions of a model for the segmentation clock in zebrafish. IEEJ Transactions on Electrical and Electronic Engineering, 2018, 13, 271-279.	0.8	1
64	Microdevice for Evaluating Ion Channel Expression by Axon-Targeted Recording to Cultured Neurons*. , 2019, 2019, 1044-1047.		1
65	Computational Study of Desynchronization of Fast-spiking Interneurons at Macroscopic Gamma Oscillations. IEEJ Transactions on Electrical and Electronic Engineering, 2020, 15, 1197-1204.	0.8	1
66	Analysis of echocardiographic video by dynamic mode decomposition. Electronics and Communications in Japan, 2021, 104, 65-73.	0.3	1
67	Initiation and termination of reentry-like activity in rat cardiomyocytes cultured in a microelectrode array. Biochemical and Biophysical Research Communications, 2021, 576, 117-122.	1.0	1
68	Ensemble Recording of Electrical Activity in Neurons Derived from P19 Embryonal Carcinoma Cells. IEEJ Transactions on Electronics, Information and Systems, 2009, 129, 8-16.	0.1	1
69	Co-culture of Parasympathetic Neurons and Cardiomyocyte. IEEJ Transactions on Electronics, Information and Systems, 2015, 135, 813-818.	0.1	1
70	Basic Research for Development of a Multimodal AR-BCI. IEEJ Transactions on Electronics, Information and Systems, 2016, 136, 1291-1297.	0.1	1
71	Evaluating Propagation Pattern During Reentry-like Activity of Cultured Cardiomyocytes. IEEJ Transactions on Electronics, Information and Systems, 2020, 140, 730-736.	0.1	1
72	Response of Alpha Wave in Visual Cortex with Quantitative Light Stimulus. IEEJ Transactions on Electronics, Information and Systems, 2018, 138, 822-827.	0.1	1

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73	Low Delay Connection-strength Estimation of Cultured Neuronal Networks Considering Spike-timing-Dependent Plasticity Rule. IEEJ Transactions on Electronics, Information and Systems, 2019, 139, 596-602.	0.1	1
74	Observing Cell Assemblies From Spike Train Recordings Based on the Biological Basis of Synaptic Connectivity. IEEE Transactions on Biomedical Engineering, 2022, 69, 1524-1532.	2.5	1
75	Study of Subject's Biological Information and Probe Operation Apply to Automate and Semi-automate Echocardiography. IEEJ Transactions on Electronics, Information and Systems, 2020, 140, 747-753.	0.1	1
76	2P379 Plasticity in single-cell-based reconstructed neuronal network pattern(44.) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 627 Td (Neuro-b 46, S390.	0.0	0
77	Spontaneous Calcium Dynamics in the Development of Cultured Cortical Networks. , 2007, , .		0
78	Development of spatially separated coculture system of the sympathetic neuron and the cardiomyocyte. IEEJ Transactions on Electrical and Electronic Engineering, 2011, 6, 151-156.	0.8	0
79	Effects of extremely low frequency magnetic fields on neuronal development of P19 embryonal carcinoma cells. IEEJ Transactions on Electrical and Electronic Engineering, 2011, 6, 157-162.	0.8	0
80	Localized Induced Current Stimulation to Neuronal Culture Using Soft Magnetic Material. Electronics and Communications in Japan, 2013, 96, 9-17.	0.3	0
81	Bidirectional synaptic connection between primary and stem cell-derived neurons in co-culture device. , 2013, 2013, 6675-8.		0
82	Microfabricated multi-electrode device for detecting oligodendrocyte-regulated changes in axonal conduction velocity. , 2015, 2015, 7127-30.		0
83	Evaluation of Cardiovascular Response to Scent Stimulation for Biofeedback Application. Electronics and Communications in Japan, 2016, 99, 21-28.	0.3	0
84	Microtunnel-electrode device for elucidating axon features: Toward pharmacological manipulation of individual axons. , 2017, , .		0
85	Spontaneous Activity and Evoked response change to 100ms temporal stimulation in Dissociated Neuronal Networks. , 2018, , .		0
86	Microtunnel-Based Recording for Evaluating Axon Conduction Change after Chemical Treatment. , 2018, , .		0
87	Mathematical analysis of the signal propagation characteristics of neuronal networks. Electronics and Communications in Japan, 2019, 102, 27-34.	0.3	0
88	Change in Evoked Response of Mature Neuronal Network to Spatial Pattern Stimulation by Immature Neurons. , 2019, 2019, 2141-2144.		0
89	Evaluation of Conduction Properties of Sensory Axons with High-Density Microelectrode Array. , 2019, , .		0
90	Analysis of reservoir computing focusing on the spectrum of bistable delayed dynamical systems. Electronics and Communications in Japan, 2019, 102, 15-20.	0.3	0

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91	Estimation of brain response to multimodal stimuli by index of spatiotemporal locality by magnetoencephalography. Electronics and Communications in Japan, 2020, 103, 63-70.	0.3	0
92	Dependence of Neuronal Network Structure on Event-Related Desynchronization Caused by Light Stimulation. IEEJ Transactions on Electronics, Information and Systems, 2021, 141, 602-606.	0.1	0
93	Microfabricated Device to Record Axonal Conduction under Pharmacological Treatment for Functional Evaluation of Axon Ion Channel. IEEE Transactions on Biomedical Engineering, 2021, 68, 1-1.	2.5	0
94	Development of Teaching Program of Finger Braille-Teaching of way to dot of sentence-. Journal of Life Support Engineering, 2005, 17, 149-149.	0.1	0
95	Study of visual information processing using retinal organotypic culture system. Journal of Life Support Engineering, 2005, 17, 73-73.	0.1	0
96	Real-time electrical stimulation feedback system against cardiac excitation propagation using optical mapping method. Journal of Life Support Engineering, 2005, 17, 60-60.	0.1	0
97	Simultaneous recording of electrical activity and contraction from cultured cardiomyocytes. Journal of Life Support Engineering, 2005, 17, 74-74.	0.1	0
98	Application of Micro-fabrication Technology to Cell-activity Measurements. Journal of the Japan Society for Precision Engineering, 2009, 75, 113-114.	0.0	0
99	Effects of Electrical Stimulation in Sympathetic Neuron-Cardiomyocyte Co-cultures. IEEJ Transactions on Electronics, Information and Systems, 2010, 130, 1139-1144.	0.1	0
100	Trends in Neural Engineering. IEEJ Transactions on Electronics, Information and Systems, 2013, 133, 544-549.	0.1	0
101	Neuron Type Sorting Based on Connection-strength Estimation. IEEJ Transactions on Electronics, Information and Systems, 2013, 133, 1806-1813.	0.1	0
102	Derivation of Experimental Phase Response Curves of a Delay-induced Oscillation Composed with an Electrical Circuit. IEEJ Transactions on Electronics, Information and Systems, 2015, 135, 819-825.	0.1	0
103	Improvement in Pattern Separation by Regulating Neurogenesis in Hippocampal Culture. IEEJ Transactions on Electronics, Information and Systems, 2015, 135, 805-812.	0.1	0
104	Migration Guidance of Human iPSC-derived Neurons by a Two-dimensional Patterning. IEEJ Transactions on Electronics, Information and Systems, 2016, 136, 1268-1276.	0.1	0
105	A Quantitative Comparison of Hemoglobin Concentration and BOLD Signal using Time-Resolved Near-Infrared Spectroscopy. IEEJ Transactions on Electronics, Information and Systems, 2018, 138, 790-798.	0.1	0
106	Analysis of Reservoir Computing Focusing on the Spectrum of Bistable Delayed Dynamical Systems. IEEJ Transactions on Electronics, Information and Systems, 2018, 138, 1054-1059.	0.1	0
107	Evaluating Responses of Circulatory Systems, Sweating and Pupil Diameter to Postural Change. IEEJ Transactions on Electronics, Information and Systems, 2018, 138, 1141-1147.	0.1	0
108	Development and Calibration of Reassembled Ultrasonic Diagnosis Robot. IEEJ Transactions on Electronics, Information and Systems, 2018, 138, 1133-1140.	0.1	0

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109	Mathematical Analysis about Signal Propagation Characteristics of Neuronal Networks. IEEJ Transactions on Electronics, Information and Systems, 2019, 139, 154-160.	0.1	0
110	Amyloid Beta Oligomer-induced Changes in Spontaneous Activity of Neuronal Networks. IEEJ Transactions on Electronics, Information and Systems, 2019, 139, 638-639.	0.1	0
111	The Effect of Immature Neurons on Spatial Pattern Separation in Hippocampal Cultured Network. IEEJ Transactions on Electronics, Information and Systems, 2019, 139, 814-815.	0.1	0
112	Exploring a Method for Inter-module Time Delay Training in a Semi-separated Dissociated Neuronal Network. IEEJ Transactions on Electronics, Information and Systems, 2019, 139, 816-817.	0.1	0
113	Optimization of Selecting using Brain Computer Interface in Mixed-reality. IEEJ Transactions on Electronics, Information and Systems, 2019, 139, 1153-1158.	0.1	0
114	Estimation of Brain Response to Multimodal Stimuli by Index of Spatiotemporal Locality by Magnetoencephalography. IEEJ Transactions on Electronics, Information and Systems, 2020, 140, 711-717.	0.1	0
115	Analysis of Echocardiographic Video by Dynamic Mode Decomposition. IEEJ Transactions on Electronics, Information and Systems, 2020, 140, 754-761.	0.1	0
116	Distribution Analysis of Axonal Conduction Delay in <i>in vitro&/i> Reconstructed Sensory Fiber. IEEJ Transactions on Electronics, Information and Systems, 2021, 141, 1331-1339.	0.1	0
117	Light-addressable planar electrode with hydrogenated amorphous silicon and low-conductive passivation layer for stimulation of cultured neurons. Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 2006, , .	0.5	0