Masanori Matsuzaki

List of Publications by Year
in descending order

52 papers	8,669 citations	147801 31 h-index	206112 48 g-index
58 all docs	58 docs citations	58 times ranked	8340 citing authors

#	Article	IF	Citations
1	Structural basis of long-term potentiation in single dendritic spines. Nature, 2004, 429, 761-766.	27.8	2,081
2	Dendritic spine geometry is critical for AMPA receptor expression in hippocampal CA1 pyramidal neurons. Nature Neuroscience, 2001, 4, 1086-1092.	14.8	1,413
3	Structureâ€“stabilityâ€“function relationships of dendritic spines. Trends in Neurosciences, 2003, 26, 360-368.	8.6	762
4	Protein Synthesis and Neurotrophin-Dependent Structural Plasticity of Single Dendritic Spines. Science, 2008, 319, 1683-1687.	12.6	560
5	The Subspine Organization of Actin Fibers Regulates the Structure and Plasticity of Dendritic Spines. Neuron, 2008, 57, 719-729.	8.1	448
6	Spine-Neck Geometry Determines NMDA Receptor-Dependent Ca2+ Signaling in Dendrites. Neuron, 2005, 46, 609-622.	8.1	370
7	High-speed mapping of synaptic connectivity using photostimulation in Channelrhodopsin-2 transgenic mice. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 8143-8148.	7.1	347
8	Principles of Long-Term Dynamics of Dendritic Spines. Journal of Neuroscience, 2008, 28, 13592-13608.	3.6	284
9	GABA promotes the competitive selection of dendritic spines by controlling local Ca2+ signaling. Nature Neuroscience, 2013, 16, 1409-1416.	14.8	183
10	<i>In vivo</i> twoâ€photon uncaging of glutamate revealing the structureâ€“function relationships of dendritic spines in the neocortex of adult mice. Journal of Physiology, 2011, 589, 2447-2457.	2.9	157
11	Number and Density of AMPA Receptors in Single Synapses in Immature Cerebellum. Journal of Neuroscience, 2005, 25, 799-807.	3.6	150
12	Two distinct layer-specific dynamics of cortical ensembles during learning of a motor task. Nature Neuroscience, 2014, 17, 987-994.	14.8	139
13	Two-color, two-photon uncaging of glutamate and GABA. Nature Methods, 2010, 7, 123-125.	19.0	125
14	Long-Term Two-Photon Calcium Imaging of Neuronal Populations with Subcellular Resolution in Adult Non-human Primates. Cell Reports, 2015, 13, 1989-1999.	6.4	124
15	Genetically Encoded Bright Ca2+ Probe Applicable for Dynamic Ca2+ Imaging of Dendritic Spines. Analytical Chemistry, 2005, 77, 5861-5869.	6.5	119
16	Transcranial optogenetic stimulation for functional mapping of the motor cortex. Journal of Neuroscience Methods, 2009, 179, 258-263.	2.5	97
17	Two-photon uncaging of Î³-aminobutyric acid in intact brain tissue. Nature Chemical Biology, 2010, 6, 255-257.	8.0	97
18	4-Carboxymethoxy-5,7-Dinitroindolinyl-Glu: An Improved Caged Glutamate for Expeditious Ultraviolet and Two-Photon Photolysis in Brain Slices. Journal of Neuroscience, 2007, 27, 6601-6604.	3.6	94

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19	Factors critical for the plasticity of dendritic spines and memory storage. Neuroscience Research, 2007, 57, 1-9.	1.9	94
20	Spatiotemporal Dynamics of Functional Clusters of Neurons in the Mouse Motor Cortex during a Voluntary Movement. Journal of Neuroscience, 2013, 33, 1377-1390.	3.6	86
21	Two-photon imaging of neuronal activity in motor cortex of marmosets during upper-limb movement tasks. Nature Communications, 2018, 9, 1879.	12.8	66
22	Distinct Functional Modules for Discrete and Rhythmic Forelimb Movements in the Mouse Motor Cortex. Journal of Neuroscience, 2015, 35, 13311-13322.	3.6	63
23	Thalamocortical Axonal Activity in Motor Cortex Exhibits Layer-Specific Dynamics during Motor Learning. Neuron, 2018, 100, 244-258.e12.	8.1	63
24	Two-photon calcium imaging of the medial prefrontal cortex and hippocampus without cortical invasion. ELife, 2017, 6, .	6.0	63
25	Next-generation transgenic mice for optogenetic analysis of neural circuits. Frontiers in Neural Circuits, 2013, 7, 160.	2.8	62
26	Three-Dimensional Mapping of Unitary Synaptic Connections by Two-Photon Macro Photolysis of Caged Glutamate. Journal of Neurophysiology, 2008, 99, 1535-1544.	1.8	58
27	In vivo optogenetic tracing of functional corticocortical connections between motor forelimb areas. Frontiers in Neural Circuits, 2013, 7, 55.	2.8	57
28	Motor learning requires myelination to reduce asynchrony and spontaneity in neural activity. Glia, 2020, 68, 193-210.	4.9	55
29	Reinforcing operandum: rapid and reliable learning of skilled forelimb movements by head-fixed rodents. Journal of Neurophysiology, 2012, 108, 1781-1792.	1.8	48
30	Super-wide-field two-photon imaging with a micro-optical device moving in post-objective space. Nature Communications, 2018, 9, 3550.	12.8	44
31	Arm movements induced by noninvasive optogenetic stimulation of the motor cortex in the common marmoset. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 22844-22850.	7.1	40
32	Modular organization of cerebellar climbing fiber inputs during goal-directed behavior. ELife, 2019, 8, .	6.0	40
33	Simultaneous visualization of multiple neuronal properties with single-cell resolution in the living rodent brain. Molecular and Cellular Neurosciences, 2011, 48, 246-257.	2.2	39
34	Neuronal processing of noxious thermal stimuli mediated by dendritic Ca2+ influx in Drosophila somatosensory neurons. ELife, 2016, 5, .	6.0	39
35	Spatial Distributions of GABA Receptors and Local Inhibition of Ca2+ Transients Studied with GABA Uncaging in the Dendrites of CA1 Pyramidal Neurons. PLoS ONE, 2011, 6, e22652.	2.5	32
36	Reward-timing-dependent bidirectional modulation of cortical microcircuits during optical single-neuron operant conditioning. Nature Communications, 2014, 5, 5551.	12.8	25

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37	In vivo wide-field calcium imaging of mouse thalamocortical synapses with an 8â€‰K ultra-high-definition camera. Scientific Reports, 2018, 8, 8324.	3.3	20
38	Propagation of Î³PKC translocation along the dendrites of Purkinje cell in Î³PKC-GFP transgenic mice. Genes To Cells, 2004, 9, 945-957.	1.2	19
39	Structural dynamics and stability of corticocortical and thalamocortical axon terminals during motor learning. PLoS ONE, 2020, 15, e0234930.	2.5	17
40	Two-Photon Uncaging Microscopy. Cold Spring Harbor Protocols, 2011, 2011, pdb.prot5620.	0.3	16
41	Neuronal representations of reward-predicting cues and outcome history with movement in the frontal cortex. Cell Reports, 2021, 34, 108704.	6.4	15
42	Silencing of FUS in the common marmoset (Callithrix jacchus) brain via stereotaxic injection of an adeno-associated virus encoding shRNA. Neuroscience Research, 2018, 130, 56-64.	1.9	14
43	1-Acyl-5-methoxy-8-nitro-1,2-dihydroquinoline: a biologically useful photolabile precursor of carboxylic acids. Tetrahedron Letters, 2010, 51, 1642-1647.	1.4	12
44	Tb ³⁺ -doped fluorescent glass for biology. Science Advances, 2021, 7, .	10.3	9
45	Common marmoset as a model primate for study of the motor control system. Current Opinion in Neurobiology, 2020, 64, 103-110.	4.2	8
46	Simultaneous two-photon activation of presynaptic cells and calcium imaging in postsynaptic dendritic spines. Neural Systems & Circuits, 2011, 1, 2.	1.8	7
47	Non-action Learning: Saving Action-Associated Cost Serves as a Covert Reward. Frontiers in Behavioral Neuroscience, 2020, 14, 141.	2.0	2
48	Optical deep-cortex exploration in behaving rhesus macaques. Nature Communications, 2021, 12, 4656.	12.8	2
49	A small-scale robotic manipulandum for motor control study with rodents. Advanced Robotics, 2021, 35, 898-906.	1.8	0
50	Two-Photon Imaging and Photomanipulation of Multicellular Neural Activity in Awake Behaving Animals. The Review of Laser Engineering, 2013, 41, 86.	0.0	0
51	Two-photon Calcium Imaging of Axons Reveals Thalamocortical Neuronal Dynamics during Motor Learning. The Brain & Neural Networks, 2020, 27, 35-43.	0.1	0
52	Silent microscopy to explore a brain that hears butterfliesâ€™ wings. Light: Science and Applications, 2022, 11, 140.	16.6	0