Anthony Holtmaat

List of Publications by Year
in descending order

63 papers	8,525 citations	147726 31 h-index	123376 61 g-index
70 all docs	70 docs citations	70 times ranked	9260 citing authors

#	Article	IF	Citations
1	Circuit mechanisms for cortical plasticity and learning. Seminars in Cell and Developmental Biology, 2022, 125, 68-75.	2.3	10
2	Dendritic Branch-constrained N-Methyl-d-Aspartate Receptor-mediated Spikes Drive Synaptic Plasticity in Hippocampal CA3 Pyramidal Cells. Neuroscience, 2022, 489, 57-68.	1.1	5
3	A subpopulation of cortical VIP-expressing interneurons with highly dynamic spines. Communications Biology, 2022, 5, 352.	2.0	7
4	An increase in dendritic plateau potentials is associated with experience-dependent cortical map reorganization. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	11
5	Temporal Sharpening of Sensory Responses by Layer V in the Mouse Primary Somatosensory Cortex. Current Biology, 2020, 30, 1589-1599.e10.	1.8	25
6	Dynamic perceptual feature selectivity in primary somatosensory cortex upon reversal learning. Nature Communications, 2020, 11, 3245.	5.8	19
7	Toward Biophysical Mechanisms of Neocortical Computation after 50 Years of Barrel Cortex Research. Function, 2020, 2, zqaa046.	1.1	2
8	The mesoSPIM initiative: open-source light-sheet microscopes for imaging cleared tissue. Nature Methods, 2019, 16, 1105-1108.	9.0	174
9	Higher-Order Thalamocortical Inputs Gate Synaptic Long-Term Potentiation via Disinhibition. Neuron, 2019, 101, 91-102.e4.	3.8	170
10	Control of synaptic plasticity in deep cortical networks. Nature Reviews Neuroscience, 2018, 19, 166-180.	4.9	176
11	Reconstructing Evolving Tree Structures in Time Lapse Sequences by Enforcing Time-Consistency. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2018, 40, 755-761.	9.7	6
12	Neurogliaform cortical interneurons derive from cells in the preoptic area. ELife, 2018, 7, .	2.8	40
13	Reply to â€˜Can neocortical feedback alter the sign of plasticity?â€™. Nature Reviews Neuroscience, 2018, 19, 637-638.	4.9	2
14	New recipes with CaMPARI for â€˜snapshotsâ€™ of synaptic circuit activity. Journal of Physiology, 2017, 595, 1435-1436.	1.3	3
15	Transcriptomic and anatomic parcellation of 5-HT3AR expressing cortical interneuron subtypes revealed by single-cell RNA sequencing. Nature Communications, 2017, 8, 14219.	5.8	51
16	Input-dependent regulation of excitability controls dendritic maturation in somatosensory thalamocortical neurons. Nature Communications, 2017, 8, 2015.	5.8	30
17	Rejuvenating brain plasticity. Science, 2017, 356, 1335-1336.	6.0	7
18	Structural Plasticity and Cortical Connectivity. , 2017, , 3-26.		1

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19	Computer assisted detection of axonal bouton structural plasticity in in vivo time-lapse images. ELife, 2017, 6, .	2.8	18
20	Functional and structural underpinnings of neuronal assembly formation in learning. Nature Neuroscience, 2016, 19, 1553-1562.	7.1	193
21	Dendrites<i>In Vitro</i>and<i>In Vivo</i>Contain Microtubules of Opposite Polarity and Axon Formation Correlates with Uniform Plus-End-Out Microtubule Orientation. Journal of Neuroscience, 2016, 36, 1071-1085.	1.7	164
22	Dominique Muller (1956â€“2015). Neuron, 2015, 87, 12-13.	3.8	3
23	Dissonant Synapses Shall Be Punished. Neuron, 2015, 87, 245-247.	3.8	2
24	Single cell electroporation for longitudinal imaging of synaptic structure and function in the adult mouse neocortex in vivo. Frontiers in Neuroanatomy, 2015, 9, 36.	0.9	13
25	Reconstructing Evolving Tree Structures in Time Lapse Sequences. , 2014, , .		7
26	The Relationship between PSD-95 Clustering and Spine Stability<i>In Vivo</i>. Journal of Neuroscience, 2014, 34, 2075-2086.	1.7	183
27	Correlative In Vivo 2-Photon Imaging and Focused Ion Beam Scanning Electron Microscopy. Methods in Cell Biology, 2014, 124, 339-361.	0.5	23
28	Semiautomated correlative 3D electron microscopy of in vivoâ€“imaged axons and dendrites. Nature Protocols, 2014, 9, 1354-1366.	5.5	45
29	Activity-Dependent Structural Plasticity of Perisynaptic Astrocytic Domains Promotes Excitatory Synapse Stability. Current Biology, 2014, 24, 1679-1688.	1.8	294
30	Sensory-evoked LTP driven by dendritic plateau potentials in vivo. Nature, 2014, 515, 116-119.	13.7	239
31	Modality-specific thalamocortical inputs instruct the identity of postsynaptic L4 neurons. Nature, 2014, 511, 471-474.	13.7	116
32	Optical imaging of structural and functional synaptic plasticity in vivo. European Journal of Pharmacology, 2013, 719, 128-136.	1.7	22
33	Dendritic Spine Instability Leads to Progressive Neocortical Spine Loss in a Mouse Model of Huntington's Disease. Journal of Neuroscience, 2013, 33, 12997-13009.	1.7	87
34	Peripheral Deafferentation-Driven Functional Somatosensory Map Shifts Are Associated with Local, Not Large-Scale Dendritic Structural Plasticity. Journal of Neuroscience, 2013, 33, 9474-9487.	1.7	21
35	Correlative In Vivo 2 Photon and Focused Ion Beam Scanning Electron Microscopy of Cortical Neurons. PLoS ONE, 2013, 8, e57405.	1.1	79
36	Synapses Let Loose for a Change: Inhibitory Synapse Pruning throughout Experience-Dependent Cortical Plasticity. Neuron, 2012, 74, 214-217.	3.8	5

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37	Spike-Timing-Dependent Potentiation of Sensory Surround in the Somatosensory Cortex Is Facilitated by Deprivation-Mediated Disinhibition. Neuron, 2012, 75, 490-502.	3.8	58
38	Imaging Neocortical Neurons through a Chronic Cranial Window. Cold Spring Harbor Protocols, 2012, 2012, pdb.prot069617-pdb.prot069617.	0.2	44
39	Structural Plasticity Underlies Experience-Dependent Functional Plasticity of Cortical Circuits. Journal of Neuroscience, 2010, 30, 4927-4932.	1.7	118
40	A protocol for preparing GFP-labeled neurons previously imaged in vivo and in slice preparations for light and electron microscopic analysis. Nature Protocols, 2009, 4, 1145-1156.	5.5	71
41	Long-term, high-resolution imaging in the mouse neocortex through a chronic cranial window. Nature Protocols, 2009, 4, 1128-1144.	5.5	894
42	Experience-dependent structural synaptic plasticity in the mammalian brain. Nature Reviews Neuroscience, 2009, 10, 647-658.	4.9	1,569
43	Dendritic spine plasticityâ€"Current understanding from in vivo studies. Brain Research Reviews, 2008, 58, 282-289.	9.1	61
44	Imaging of experience-dependent structural plasticity in the mouse neocortex in vivo. Behavioural Brain Research, 2008, 192, 20-25.	1.2	42
45	Cell Type-Specific Structural Plasticity of Axonal Branches and Boutons in the Adult Neocortex. Neuron, 2006, 49, 861-875.	3.8	376
46	Spine growth precedes synapse formation in the adult neocortex in vivo. Nature Neuroscience, 2006, 9, 1117-1124.	7.1	506
47	Experience-dependent and cell-type-specific spine growth in the neocortex. Nature, 2006, 441, 979-983.	13.7	562
48	Growth-associated protein GAP-43 and L1 act synergistically to promote regenerative growth of Purkinje cell axons in vivo. Proceedings of the National Academy of Sciences of the United States of America, 2005, 102, 14883-14888.	3.3	76
49	Transient and Persistent Dendritic Spines in the Neocortex In Vivo. Neuron, 2005, 45, 279-291.	3.8	1,003
50	GAP-43mRNA and protein expression in the hippocampal and parahippocampal region during the course of epileptogenesis in rats. European Journal of Neuroscience, 2003, 17, 2369-2380.	1.2	30
51	The astrocyte/meningeal cell interface is a barrier to neurite outgrowth which can be overcome by manipulation of inhibitory molecules or axonal signalling pathways. Molecular and Cellular Neurosciences, 2003, 24, 913-925.	1.0	102
52	Semaphorins: contributors to structural stability of hippocampal networks?. Progress in Brain Research, 2002, 138, 17-38.	0.9	16
53	Transgenic expression of B-50/GAP-43 in mature olfactory neurons triggers downregulation of native B-50/GAP-43 expression in immature olfactory neurons. Molecular Brain Research, 1999, 74, 197-207.	2.5	2
54	Expression of the Gene Encoding the Chemorepellent Semaphorin III Is Induced in the Fibroblast Component of Neural Scar Tissue Formed Following Injuries of Adult But Not Neonatal CNS. Molecular and Cellular Neurosciences, 1999, 13, 143-166.	1.0	290

#	ARTICLE	IF	CITATIONS
55	Anatomical distribution of the chemorepellent semaphorin III/collapsin-1 in the adult rat and human brain: Predominant expression in structures of the olfactory-hippocampal pathway and the motor system. , 1998, 52, 27-42.		113
56	Manipulation of gene expression in the mammalian nervous system: application in the study of neurite outgrowth and neuroregeneration-related proteins. Brain Research Reviews, 1998, 26, 43-71.	9.1	21
57	Chapter 12 Semaphorin III: Role in neuronal development and structural plasticity. Progress in Brain Research, 1998, 117, 133-149.	0.9	20
58	Adenoviral Vector-Mediated Expression of B-50/GAP-43 Induces Alterations in the Membrane Organization of Olfactory Axon TerminalsIn Vivo. Journal of Neuroscience, 1997, 17, 6575-6586.	1.7	40
59	Transient gene transfer to neurons and glia: Analysis of adenoviral vector performance in the CNS and PNS. Journal of Neuroscience Methods, 1997, 71, 85-98.	1.3	81
60	Efficient adenoviral vector-directed expression of a foreign gene to neurons and sustentacular cells in the mouse olfactory neuroepithelium. Molecular Brain Research, 1996, 41, 148-156.	2.5	28
61	Directed expression of the growth-associated protein B-50/GAP-43 to olfactory neurons in transgenic mice results in changes in axon morphology and extraglomerular fiber growth. Journal of Neuroscience, 1995, 15, 7953-7965.	1.7	79
62	Peptide-induced grooming behavior and caudate nucleus dopamine release. Brain Research, 1993, 625, 169-172.	1.1	27
63	Synchronism of pressor response and grooming behavior in freely moving, conscious rats following intracerebroventicular administration of ACTH/MSH-like peptides. Brain Research, 1993, 631, 265-269.	1.1	15