Arthur Konnerth

List of Publications by Year
in descending order

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106 papers	18,718 citations	15504 65 h-index	29157 104 g-index
106 all docs	106 docs citations	106 times ranked	18065 citing authors

#	Article	IF	Citations
1	Impairments of glutamatergic synaptic transmission in Alzheimerâ€™s disease. Seminars in Cell and Developmental Biology, 2023, 139, 24-34.	5.0	15
2	Where have all the Orais gone? Commentary on â€œOrai1 channels are essential for amplification of glutamate-evoked Ca2+ signals in dendritic spines to regulate working and associative memoryâ€• Cell Calcium, 2021, 96, 102372.	2.4	3
3	In vivo genome editing in single mammalian brain neurons through CRISPR-Cas9 and cytosine base editors. Computational and Structural Biotechnology Journal, 2021, 19, 2477-2485.	4.1	1
4	Population imaging of synaptically released glutamate in mouse hippocampal slices. STAR Protocols, 2021, 2, 100877.	1.2	3
5	Fear learning induces Î±7-nicotinic acetylcholine receptor-mediated astrocytic responsiveness that is required for memory persistence. Nature Neuroscience, 2021, 24, 1686-1698.	14.8	31
6	Single-neuron representation of learned complex sounds in the auditory cortex. Nature Communications, 2020, 11, 4361.	12.8	29
7	A vicious cycle of Î² amyloidâ€“dependent neuronal hyperactivation. Science, 2019, 365, 559-565.	12.6	407
8	Two types of functionally distinct Ca2+ stores in hippocampal neurons. Nature Communications, 2019, 10, 3223.	12.8	34
9	Cell-type-specific profiling of brain mitochondria reveals functional and molecular diversity. Nature Neuroscience, 2019, 22, 1731-1742.	14.8	181
10	High-performance calcium sensors for imaging activity in neuronal populations and microcompartments. Nature Methods, 2019, 16, 649-657.	19.0	843
11	InÂVivo Functional Mapping of a Cortical Column at Single-Neuron Resolution. Cell Reports, 2019, 27, 1319-1326.e5.	6.4	43
12	MATRIEX imaging: multiarea two-photon real-time in vivo explorer. Light: Science and Applications, 2019, 8, 109.	16.6	26
13	Deep Two-Photon Imaging In Vivo with a Red-Shifted Calcium Indicator. Methods in Molecular Biology, 2019, 1929, 15-26.	0.9	4
14	Abolishing cAMP sensitivity in HCN2 pacemaker channels induces generalized seizures. JCI Insight, 2019, 4, .	5.0	23
15	What Happens with the Circuit in Alzheimer's Disease in Mice and Humans?. Annual Review of Neuroscience, 2018, 41, 277-297.	10.7	154
16	A Visual-Cue-Dependent Memory Circuit for Place Navigation. Neuron, 2018, 99, 47-55.e4.	8.1	53
17	In vivo deep twoâ€photon imaging of neural circuits with the fluorescent Ca²⁺ indicator Calâ€590. Journal of Physiology, 2017, 595, 3097-3105.	2.9	16
18	Improved deep two-photon calcium imaging in vivo. Cell Calcium, 2017, 64, 29-35.	2.4	42

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19	BACE inhibition-dependent repair of Alzheimerâ€™s pathophysiology. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 8631-8636.	7.1	93
20	Impairments of neural circuit function in Alzheimer's disease. Philosophical Transactions of the Royal Society B: Biological Sciences, 2016, 371, 20150429.	4.0	241
21	Synaptic dynamics and neuronal network connectivity are reflected in the distribution of times in Up states. Frontiers in Computational Neuroscience, 2015, 9, 96.	2.1	15
22	Neuronal hyperactivity â€“ A key defect in Alzheimer's disease?. BioEssays, 2015, 37, 624-632.	2.5	182
23	TRPC3â€dependent synaptic transmission in central mammalian neurons. Journal of Molecular Medicine, 2015, 93, 983-989.	3.9	21
24	Rescue of long-range circuit dysfunction in Alzheimer's disease models. Nature Neuroscience, 2015, 18, 1623-1630.	14.8	179
25	Î-Secretase processing of APP inhibits neuronal activity in the hippocampus. Nature, 2015, 526, 443-447.	27.8	308
26	Deep two-photon brain imaging with a red-shifted fluorometric Ca ²⁺ indicator. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 11377-11382.	7.1	100
27	Decreased amyloid-Î² and increased neuronal hyperactivity by immunotherapy in Alzheimer's models. Nature Neuroscience, 2015, 18, 1725-1727.	14.8	121
28	Dendritic function in vivo. Trends in Neurosciences, 2015, 38, 45-54.	8.6	91
29	An assay to image neuronal microtubule dynamics in mice. Nature Communications, 2014, 5, 4827.	12.8	132
30	NMDA Receptor-Dependent Multidendrite Ca 2+ Spikes Required for Hippocampal Burst Firing InÂVivo. Neuron, 2014, 81, 1274-1281.	8.1	162
31	Local domains of motor cortical activity revealed by fiber-optic calcium recordings in behaving nonhuman primates. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 463-468.	7.1	36
32	STIM1 Controls Neuronal Ca2+ Signaling, mGluR1-Dependent Synaptic Transmission, and Cerebellar Motor Behavior. Neuron, 2014, 82, 635-644.	8.1	162
33	Linear integration of spine Ca ²⁺ signals in layer 4 cortical neurons in vivo. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 9277-9282.	7.1	55
34	Multibranch activity in basal and tuft dendrites during firing of layer 5 cortical neurons in vivo. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 13618-13623.	7.1	70
35	Making Waves: Initiation and Propagation of Corticothalamic Ca2+ Waves InÂVivo. Neuron, 2013, 77, 1136-1150.	8.1	217
36	Kainate Receptor-Induced Retrograde Inhibition of Glutamatergic Transmission in Vasopressin Neurons. Journal of Neuroscience, 2012, 32, 1301-1310.	3.6	4

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37	Imaging Calcium in Neurons. Neuron, 2012, 73, 862-885.	8.1	1,080
38	Soundâ€evoked network calcium transients in mouse auditory cortex in vivo. Journal of Physiology, 2012, 590, 899-918.	2.9	60
39	Staged decline of neuronal function in vivo in an animal model of Alzheimer's disease. Nature Communications, 2012, 3, 774.	12.8	116
40	LOTOS-based two-photon calcium imaging of dendritic spines in vivo. Nature Protocols, 2012, 7, 1818-1829.	12.0	67
41	Dendritic spines: from structure to in vivo function. EMBO Reports, 2012, 13, 699-708.	4.5	248
42	Critical role of soluble amyloid-Î² for early hippocampal hyperactivity in a mouse model of Alzheimerâ€™s disease. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 8740-8745.	7.1	541
43	Dendritic coding of multiple sensory inputs in single cortical neurons in vivo. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 15420-15425.	7.1	127
44	Functional mapping of single spines in cortical neurons in vivo. Nature, 2011, 475, 501-505.	27.8	360
45	In vivo two-photon imaging of sensory-evoked dendritic calcium signals in cortical neurons. Nature Protocols, 2011, 6, 28-35.	12.0	156
46	Development of Direction Selectivity in Mouse Cortical Neurons. Neuron, 2011, 71, 425-432.	8.1	156
47	Tracking Stem Cell Differentiation in the Setting of Automated Optogenetic Stimulation. Stem Cells, 2011, 29, 78-88.	3.2	85
48	Dendritic organization of sensory input to cortical neurons in vivo. Nature, 2010, 464, 1307-1312.	27.8	464
49	Rapid time course of action potentials in spines and remote dendrites of mouse visual cortex neurons. Journal of Physiology, 2010, 588, 1085-1096.	2.9	68
50	Disruption of the olivo-cerebellar circuit by Purkinje neuron-specific ablation of BK channels. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 12323-12328.	7.1	91
51	In Vivo Two-Photon Calcium Imaging Using Multicell Bolus Loading. Cold Spring Harbor Protocols, 2010, 2010, pdb.prot5482.	0.3	11
52	Sparsification of neuronal activity in the visual cortex at eye-opening. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 15049-15054.	7.1	240
53	Genetically encoded Ca2+ sensors come of age. Nature Methods, 2008, 5, 761-762.	19.0	18
54	Clusters of Hyperactive Neurons Near Amyloid Plaques in a Mouse Model of Alzheimer's Disease. Science, 2008, 321, 1686-1689.	12.6	882

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55	TRPC3 Channels Are Required for Synaptic Transmission and Motor Coordination. Neuron, 2008, 59, 392-398.	8.1	356
56	Homosynaptic Long-Term Synaptic Potentiation of the â€œWinnerâ€•Climbing Fiber Synapse in Developing Purkinje Cells. Journal of Neuroscience, 2008, 28, 798-807.	3.6	79
57	4D brain signaling. Nature Methods, 2007, 4, 19-20.	19.0	1
58	Improved calcium imaging in transgenic mice expressing a troponin Câ€“based biosensor. Nature Methods, 2007, 4, 127-129.	19.0	177
59	Troponin C-based biosensors: A new family of genetically encoded indicators for in vivo calcium imaging in the nervous system. Cell Calcium, 2007, 42, 351-361.	2.4	62
60	Requirement of TrkB for synapse elimination in developing cerebellar Purkinje cells. Brain Cell Biology, 2007, 35, 87-101.	3.2	61
61	Targeted bulk-loading of fluorescent indicators for two-photon brain imaging in vivo. Nature Protocols, 2006, 1, 380-386.	12.0	237
62	Quantitative single-cell RT-PCR and Ca2+ imaging in brain slices. Pflugers Archiv European Journal of Physiology, 2006, 451, 716-726.	2.8	19
63	Optical monitoring of brain function in vivo: from neurons to networks. Pflugers Archiv European Journal of Physiology, 2006, 453, 385-396.	2.8	87
64	Dendritic spikes and activity-dependent synaptic plasticity. Cell and Tissue Research, 2006, 326, 369-377.	2.9	37
65	Cortical calcium waves in resting newborn mice. Nature Neuroscience, 2005, 8, 988-990.	14.8	249
66	Determinants of postsynaptic Ca2+ signaling in Purkinje neurons. Cell Calcium, 2005, 37, 459-466.	2.4	88
67	Neurotrophin-Mediated Rapid Signaling in the Central Nervous System: Mechanisms and Functions. Physiology, 2005, 20, 70-78.	3.1	188
68	Single-shock LTD by local dendritic spikes in pyramidal neurons of mouse visual cortex. Journal of Physiology, 2004, 560, 27-36.	2.9	82
69	Neurotrophin action on a rapid timescale. Current Opinion in Neurobiology, 2004, 14, 558-563.	4.2	80
70	From modulator to mediator: rapid effects of BDNF on ion channels. BioEssays, 2004, 26, 1185-1194.	2.5	103
71	In vivo two-photon calcium imaging of neuronal networks. Proceedings of the National Academy of Sciences of the United States of America, 2003, 100, 7319-7324.	7.1	1,208
72	Absence epilepsy and sinus dysrhythmia in mice lacking the pacemaker channel HCN2. EMBO Journal, 2003, 22, 216-224.	7.8	471

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73	Truncated TrkB-T1 mediates neurotrophin-evoked calcium signalling in glia cells. Nature, 2003, 426, 74-78.	27.8	326
74	Impairment of LTD and cerebellar learning by Purkinje cellâ€“specific ablation of cGMP-dependent protein kinase I. Journal of Cell Biology, 2003, 163, 295-302.	5.2	136
75	Calbindin in Cerebellar Purkinje Cells Is a Critical Determinant of the Precision of Motor Coordination. Journal of Neuroscience, 2003, 23, 3469-3477.	3.6	158
76	Functional Reconstitution of Vascular Smooth Muscle Cells With cGMP-Dependent Protein Kinase I Isoforms. Circulation Research, 2002, 90, 1080-1086.	4.5	115
77	Postsynaptic Induction of BDNF-Mediated Long-Term Potentiation. Science, 2002, 295, 1729-1734.	12.6	427
78	Two-photon chloride imaging in neurons of brain slices. Pflugers Archiv European Journal of Physiology, 2002, 445, 357-365.	2.8	67
79	Neurotrophin-evoked depolarization requires the sodium channel NaV1.9. Nature, 2002, 419, 687-693.	27.8	250
80	Stores Not Just for Storage. Neuron, 2001, 31, 519-522.	8.1	210
81	Impairment of Mossy Fiber Long-Term Potentiation and Associative Learning in Pituitary Adenylate Cyclase Activating Polypeptide Type I Receptor-Deficient Mice. Journal of Neuroscience, 2001, 21, 5520-5527.	3.6	167
82	NMDA Receptor-Mediated Na⁺Signals in Spines and Dendrites. Journal of Neuroscience, 2001, 21, 4207-4214.	3.6	155
83	Roles of Glutamate Receptor Î´2 Subunit (GluRÎ´2) and Metabotropic Glutamate Receptor Subtype 1 (mGluR1) in Climbing Fiber Synapse Elimination during Postnatal Cerebellar Development. Journal of Neuroscience, 2001, 21, 9701-9712.	3.6	152
84	Exciting glial oscillations. Nature Neuroscience, 2001, 4, 773-774.	14.8	11
85	GABAâ€mediated Ca 2+ signalling in developing rat cerebellar Purkinje neurones. Journal of Physiology, 2001, 536, 429-437.	2.9	82
86	Large-scale oscillatory calcium waves in the immature cortex. Nature Neuroscience, 2000, 3, 452-459.	14.8	429
87	Self-regulating synapses. Nature, 2000, 405, 413-414.	27.8	8
88	NMDA Receptor-Mediated Subthreshold Ca²⁺Signals in Spines of Hippocampal Neurons. Journal of Neuroscience, 2000, 20, 1791-1799.	3.6	262
89	Neurotrophin-evoked rapid excitation of central neurons. Progress in Brain Research, 2000, 128, 243-249.	1.4	10
90	Neurotrophin-evoked rapid excitation through TrkB receptors. Nature, 1999, 401, 918-921.	27.8	498

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91	A new class of synaptic response involving calcium release in dendritic spines. Nature, 1998, 396, 757-760.	27.8	390
92	Importance of the Intracellular Domain of NR2 Subunits for NMDA Receptor Function In Vivo. Cell, 1998, 92, 279-289.	28.9	419
93	Dendritic signal integration. Current Opinion in Neurobiology, 1997, 7, 385-390.	4.2	78
94	Release and sequestration of calcium by ryanodine-sensitive stores in rat hippocampal neurones. Journal of Physiology, 1997, 502, 13-30.	2.9	211
95	Ca2+signals underlying synaptic plasticity in cerebellar Purkinje neurones. Seminars in Neuroscience, 1996, 8, 271-279.	2.2	0
96	Localized calcium signalling and neuronal integration in cerebellar Purkinje neurones. Cell Calcium, 1996, 20, 215-226.	2.4	53
97	Long-term potentiation and functional synapse induction in developing hippocampus. Nature, 1996, 381, 71-75.	27.8	716
98	IntrazellulÃre Calciumregulation - Neue Einblicke in die neuronale Signalverarbeitung. E-Neuroforum, 1995, 1, 18-23.	0.1	0
99	Subthreshold synaptic Ca2+ signalling in fine dendrites and spines of cerebellar Purkinje neurons. Nature, 1995, 373, 155-158.	27.8	336
100	Depolarization-induced calcium signals in the somata of cerebellar Purkinje neurons. Neuroscience Research, 1995, 24, 87-95.	1.9	18
101	Calcium requirement of long-term depression and rebound potentiation in cerebellar Purkinje neurons. Seminars in Cell Biology, 1994, 5, 243-250.	3.4	10
102	GABA-mediated synaptic transmission in neuroendocrine cells: a patch-clamp study in a pituitary slice preparation. Pflugers Archiv European Journal of Physiology, 1992, 421, 364-373.	2.8	25
103	Patch-clamping in slices of mammalian CNS. Trends in Neurosciences, 1990, 13, 321-323.	8.6	70
104	Voltage-sensitive dyes measure potential changes in axons and glia of the frog optic nerve. Neuroscience Letters, 1986, 66, 49-54.	2.1	43
105	Histamine and noradrenaline decrease calcium-activated potassium conductance in hippocampal pyramidal cells. Nature, 1983, 302, 432-434.	27.8	398
106	Presynaptic involvement in frequency facilitation in the hippocampal slice. Neuroscience Letters, 1983, 42, 255-260.	2.1	36