Michael Hausser

List of Publications by Year
in descending order

126 papers	21,279 citations	14124 69 h-index	18400 124 g-index
144 all docs	144 docs citations	144 times ranked	17165 citing authors

#	Article	IF	Citations
1	Reward signals in the cerebellum: Origins, targets, and functional implications. Neuron, 2022, 110, 1290-1303.	3.8	42
2	All-optical interrogation of neural circuits in behaving mice. Nature Protocols, 2022, 17, 1579-1620.	5.5	29
3	Neuropixels 2.0: A miniaturized high-density probe for stable, long-term brain recordings. Science, 2021, 372, .	6.0	467
4	Standardized and reproducible measurement of decision-making in mice. ELife, 2021, 10, .	2.8	88
5	Active dendrites enable strong but sparse inputs to determine orientation selectivity. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	36
6	Optogenetics â€" The Might of Light. New England Journal of Medicine, 2021, 385, 1623-1626.	13.9	7
7	A synaptic learning rule for exploiting nonlinear dendritic computation. Neuron, 2021, 109, 4001-4017.e10.	3.8	28
8	Targeted Activation of Hippocampal Place Cells Drives Memory-Guided Spatial Behavior. Cell, 2020, 183, 1586-1599.e10.	13.5	153
9	Microcircuit Rules Governing Impact of Single Interneurons on Purkinje Cell Output InÂVivo. Cell Reports, 2020, 30, 3020-3035.e3.	2.9	43
10	International Brain Initiative: An Innovative Framework for Coordinated Global Brain Research Efforts. Neuron, 2020, 105, 212-216.	3.8	50
11	Are Human Dendrites Different?. Trends in Cognitive Sciences, 2020, 24, 411-412.	4.0	14
12	Purkinje Cell Activity Determines the Timing of Sensory-Evoked Motor Initiation. Cell Reports, 2020, 33, 108537.	2.9	20
13	How many neurons are sufficient for perception of cortical activity?. ELife, 2020, 9, .	2.8	82
14	Loss of Bardet-Biedl syndrome proteins causes synaptic aberrations in principal neurons. PLoS Biology, 2019, 17, e3000414.	2.6	17
15	Predictive and reactive reward signals conveyed by climbing fiber inputs to cerebellar Purkinje cells. Nature Neuroscience, 2019, 22, 950-962.	7.1	177
16	Dendritic NMDA receptors in parvalbumin neurons enable strong and stable neuronal assemblies. ELife, 2019, 8, .	2.8	42
17	Closed-loop all-optical interrogation of neural circuits in vivo. Nature Methods, 2018, 15, 1037-1040.	9.0	128
18	Wilfrid Rall (1922â€"2018). Neuron, 2018, 99, 877-879.	3.8	0

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19	Active dendritic integration as a mechanism for robust and precise grid cell firing. Nature Neuroscience, 2017, 20, 1114-1121.	7.1	66
20	NKX2-1 Is Required in the Embryonic Septum for Cholinergic System Development, Learning, and Memory. Cell Reports, 2017, 20, 1572-1584.	2.9	61
21	Building Bridges through Science. Neuron, 2017, 96, 730-735.	3.8	2
22	Fully integrated silicon probes for high-density recording of neural activity. Nature, 2017, 551, 232-236.	13.7	1,531
23	An International Laboratory for Systems and Computational Neuroscience. Neuron, 2017, 96, 1213-1218.	3.8	60
24	Aberrant Cortical Activity in Multiple GCaMP6-Expressing Transgenic Mouse Lines. ENeuro, 2017, 4, ENEURO.0207-17.2017.	0.9	221
25	Inverse Stochastic Resonance in Cerebellar Purkinje Cells. PLoS Computational Biology, 2016, 12, e1005000.	1.5	49
26	Millisecond Coupling of Local Field Potentials to Synaptic Currents in the Awake Visual Cortex. Neuron, 2016, 90, 35-42.	3.8	87
27	Conditional Spike Transmission Mediated by Electrical Coupling Ensures Millisecond Precision-Correlated Activity among Interneurons InÂVivo. Neuron, 2016, 90, 810-823.	3.8	52
28	To the Cloud! A Grassroots Proposal to Accelerate Brain Science Discovery. Neuron, 2016, 92, 622-627.	3.8	46
29	An excitatory basis for divisive normalization in visual cortex. Nature Neuroscience, 2016, 19, 568-570.	7.1	69
30	A better way to crack the brain. Nature, 2016, 539, 159-161.	13.7	18
31	Synaptic input patterns triggering local dendritic spikes in vivo. BMC Neuroscience, 2015, 16, .	0.8	0
32	Multimodal sensory integration in single cerebellar granule cells in vivo. ELife, 2015, 4, .	2.8	125
33	Dendritic Inhibitory Synapses Punch above Their Weight. Neuron, 2015, 87, 465-468.	3.8	0
34	Control of cerebellar granule cell output by sensory-evoked Golgi cell inhibition. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 13099-13104.	3.3	58
35	Reading out a spatiotemporal population code by imaging neighbouring parallel fibre axons in vivo. Nature Communications, 2015, 6, 6464.	5.8	68
36	All-Optical Interrogation of Neural Circuits. Journal of Neuroscience, 2015, 35, 13917-13926.	1.7	320

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37	Optogenetics: 10 years after ChR2 in neuronsâ€"views from the community. Nature Neuroscience, 2015, 18, 1202-1212.	7.1	122
38	Simultaneous all-optical manipulation and recording of neural circuit activity with cellular resolution in vivo. Nature Methods, 2015, 12, 140-146.	9.0	494
39	CaRuby-Nano: a novel high affinity calcium probe for dual color imaging. ELife, 2015, 4, .	2.8	27
40	Synaptic representation of locomotion in single cerebellar granule cells. ELife, 2015, 4, .	2.8	103
41	How to build a grid cell. Philosophical Transactions of the Royal Society B: Biological Sciences, 2014, 369, 20120520.	1.8	11
42	Synaptically Induced Long-Term Modulation of Electrical Coupling in the Inferior Olive. Neuron, 2014, 81, 1290-1296.	3.8	63
43	Distal connectivity causes summation and division across mouse visual cortex. Nature Neuroscience, 2014, 17, 30-32.	7.1	56
44	Twitching towards the ideal calcium sensor. Nature Methods, 2014, 11, 139-140.	9.0	10
45	Two-Photon Targeted Patching and Electroporation In Vivo. Cold Spring Harbor Protocols, 2014, 2014, pdb.prot080143.	0.2	9
46	Optogenetics: the age of light. Nature Methods, 2014, 11, 1012-1014.	9.0	166
47	Structured Connectivity in Cerebellar Inhibitory Networks. Neuron, 2014, 81, 913-929.	3.8	103
48	Dendritic spikes enhance stimulus selectivity in cortical neurons in vivo. Nature, 2013, 503, 115-120.	13.7	362
49	Target-Specific Effects of Somatostatin-Expressing Interneurons on Neocortical Visual Processing. Journal of Neuroscience, 2013, 33, 19567-19578.	1.7	110
50	Inhibition dominates sensory responses in the awake cortex. Nature, 2013, 493, 97-100.	13.7	494
51	Cellular mechanisms of spatial navigation in the medial entorhinal cortex. Nature Neuroscience, 2013, 16, 325-331.	7.1	249
52	Targeting neurons and photons for optogenetics. Nature Neuroscience, 2013, 16, 805-815.	7.1	297
53	Information Processing in Dendrites and Spines. , 2013, , 231-260.		19
54	Tonic Inhibition Enhances Fidelity of Sensory Information Transmission in the Cerebellar Cortex. Journal of Neuroscience, 2012, 32, 11132-11143.	1.7	135

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55	Dendritic Ventriloquism: Inhibitory Synapses Throw Their Voices. Neuron, 2012, 75, 190-193.	3.8	1
56	Probing the functional properties of mammalian dendrites (R. Llinas and M. Sugimori, J. Physiology,) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 5	1.4	0
57	A Preferentially Segregated Recycling Vesicle Pool of Limited Size Supports Neurotransmission in Native Central Synapses. Neuron, 2012, 76, 579-589.	3.8	89
58	A scaling law derived from optimal dendritic wiring. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 11014-11018.	3.3	135
59	Synaptic Integration Gradients in Single Cortical Pyramidal Cell Dendrites. Neuron, 2011, 69, 885-892.	3.8	293
60	Quantitative comparison of genetically encoded Ca2+ indicators in cortical pyramidal cells and cerebellar purkinje cells. Frontiers in Cellular Neuroscience, 2011, 5, 18.	1.8	42
61	The TREES Toolboxâ€"Probing the Basis of Axonal and Dendritic Branching. Neuroinformatics, 2011, 9, 91-96.	1.5	73
62	Dendritic Calcium Signaling Triggered by Spontaneous and Sensory-Evoked Climbing Fiber Input to Cerebellar Purkinje Cells In Vivo. Journal of Neuroscience, 2011, 31, 10847-10858.	1.7	99
63	The single dendritic branch as a fundamental functional unit in the nervous system. Current Opinion in Neurobiology, 2010, 20, 494-502.	2.0	301
64	Sensitivity to perturbations in vivo implies high noise and suggests rate coding in cortex. Nature, 2010, 466, 123-127.	13.7	399
65	RAPID REPORT: Initiation of simple and complex spikes in cerebellar Purkinje cells. Journal of Physiology, 2010, 588, 1709-1717.	1.3	81
66	A plastic axonal hotspot. Nature, 2010, 465, 1022-1023.	13.7	16
67	Parallel processing of visual space by neighboring neurons in mouse visual cortex. Nature Neuroscience, 2010, 13, 1144-1149.	7.1	194
68	Dendritic spikes mediate negative synaptic gain control in cerebellar Purkinje cells. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 22284-22289.	3.3	32
69	One Rule to Grow Them All: A General Theory of Neuronal Branching and Its Practical Application. PLoS Computational Biology, 2010, 6, e1000877.	1.5	340
70	A New Approach for Determining Phase Response Curves Reveals that Purkinje Cells Can Act as Perfect Integrators. PLoS Computational Biology, 2010, 6, e1000768.	1.5	46
71	Dendritic Discrimination of Temporal Input Sequences in Cortical Neurons. Science, 2010, 329, 1671-1675.	6.0	398
72	Spatial Pattern Coding of Sensory Information by Climbing Fiber-Evoked Calcium Signals in Networks of Neighboring Cerebellar Purkinje Cells. Journal of Neuroscience, 2009, 29, 8005-8015.	1.7	125

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73	Electrophysiology in the age of light. Nature, 2009, 461, 930-939.	13.7	395
74	Lighting up neural networks using a new generation of genetically encoded calcium sensors. Nature Methods, 2009, 6, 871-872.	9.0	13
75	Traveling waves in developing cerebellar cortex mediated by asymmetrical Purkinje cell connectivity. Nature Neuroscience, 2009, 12, 463-473.	7.1	170
76	Targeted single-cell electroporation of mammalian neurons in vivo. Nature Protocols, 2009, 4, 862-869.	5.5	131
77	The Selfish Spike: Local and Global Resets of Dendritic Excitability. Neuron, 2009, 61, 815-817.	3.8	5
78	Encoding of Oscillations by Axonal Bursts in Inferior Olive Neurons. Neuron, 2009, 62, 388-399.	3.8	203
79	Predicting the synaptic information efficacy in cortical layer 5 pyramidal neurons using a minimal integrate-and-fire model. Biological Cybernetics, 2008, 99, 393-401.	0.6	14
80	Targeted patch-clamp recordings and single-cell electroporation of unlabeled neurons in vivo. Nature Methods, 2008, 5, 61-67.	9.0	332
81	Signalling mechanisms. Current Opinion in Neurobiology, 2008, 18, 229-231.	2.0	0
82	Dendritic Excitability and Synaptic Plasticity. Physiological Reviews, 2008, 88, 769-840.	13.1	607
83	The Origin of the Complex Spike in Cerebellar Purkinje Cells. Journal of Neuroscience, 2008, 28, 7599-7609.	1.7	176
84	Local and Global Effects of<i>I</i>_hDistribution in Dendrites of Mammalian Neurons. Journal of Neuroscience, 2007, 27, 8643-8653.	1.7	88
85	Targeted dendrotomy reveals active and passive contributions of the dendritic tree to synaptic integration and neuronal output. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 11447-11452.	3.3	91
86	Linking Synaptic Plasticity and Spike Output at Excitatory and Inhibitory Synapses onto Cerebellar Purkinje Cells. Journal of Neuroscience, 2007, 27, 5559-5570.	1.7	97
87	Cerebellar LTD and Pattern Recognition by Purkinje Cells. Neuron, 2007, 54, 121-136.	3.8	161
88	Controlling neural circuits with light. Nature, 2007, 446, 617-619.	13.7	61
89	High-fidelity transmission of sensory information by single cerebellar mossy fibre boutons. Nature, 2007, 450, 1245-1248.	13.7	265
90	Dendritic Enlightenment: Using Patterned Two-Photon Uncaging to Reveal the Secrets of the Brain's Smallest Dendrites. Neuron, 2006, 50, 180-183.	3.8	30

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91	A Cooperative Switch Determines the Sign of Synaptic Plasticity in Distal Dendrites of Neocortical Pyramidal Neurons. Neuron, 2006, 51, 227-238.	3.8	366
92	Purkinje cells in awake behaving animals operate in stable upstate membrane potential. Nature Neuroscience, 2006, 9, 461-461.	7.1	8
93	Dendritic patch-clamp recording. Nature Protocols, 2006, 1, 1235-1247.	5.5	146
94	Neural Coding: Hybrid Analog and Digital Signalling in Axons. Current Biology, 2006, 16, R585-R588.	1.8	42
95	Dendritic Calcium Spikes Are Tunable Triggers of Cannabinoid Release and Short-Term Synaptic Plasticity in Cerebellar Purkinje Neurons. Journal of Neuroscience, 2006, 26, 5428-5437.	1.7	116
96	The site of action potential initiation in cerebellar Purkinje neurons. Nature Neuroscience, 2005, 8, 137-139.	7.1	132
97	Bistability of cerebellar Purkinje cells modulated by sensory stimulation. Nature Neuroscience, 2005, 8, 202-211.	7.1	292
98	Feed-forward inhibition shapes the spike output of cerebellar Purkinje cells. Journal of Physiology, 2005, 563, 369-378.	1.3	275
99	Determinants of Action Potential Propagation in Cerebellar Purkinje Cell Axons. Journal of Neuroscience, 2005, 25, 464-472.	1.7	141
100	DENDRITIC COMPUTATION. Annual Review of Neuroscience, 2005, 28, 503-532.	5.0	958
101	Electrical Properties of Dendrites Relevant to Dendritic Transmitter Release. , 2005, , 55-67.		2
102	The Beat Goes On: Spontaneous Firing in Mammalian Neuronal Microcircuits. Journal of Neuroscience, 2004, 24, 9215-9219.	1.7	73
103	Storing memories in dendritic channels. Nature Neuroscience, 2004, 7, 98-100.	7.1	7
104	A proportional but slower NMDA potentiation follows AMPA potentiation in LTP. Nature Neuroscience, 2004, 7, 518-524.	7.1	139
105	Integration of quanta in cerebellar granule cells during sensory processing. Nature, 2004, 428, 856-860.	13.7	606
106	Neuronal Microcircuits: Frequency-Dependent Flow of Inhibition. Current Biology, 2004, 14, R837-R839.	1.8	18
107	Dendrites: bug or feature?. Current Opinion in Neurobiology, 2003, 13, 372-383.	2.0	316
108	The density of AMPA receptors activated by a transmitter quantum at the climbing fibreâ€Purkinje cell synapse in immature rats. Journal of Physiology, 2003, 549, 75-92.	1.3	58

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109	Revealing the Properties of Dendritic Voltage-Gated Channels: A New Approach to the Space Clamp Problem. Biophysical Journal, 2003, 84, 3497-3498.	0.2	9
110	Less Means More. Neuron, 2003, 40, 449-451.	3.8	5
111	Membrane potential bistability is controlled by the hyperpolarizationâ€activated current I H in rat cerebellar Purkinje neurons in vitro. Journal of Physiology, 2002, 539, 469-483.	1.3	153
112	The information efficacy of a synapse. Nature Neuroscience, 2002, 5, 332-340.	7.1	141
113	Differential Shunting of EPSPs by Action Potentials. Science, 2001, 291, 138-141.	6.0	95
114	Propagation of Action Potentials in Dendrites Depends on Dendritic Morphology. Journal of Neurophysiology, 2001, 85, 926-937.	0.9	537
115	Dendritic coincidence detection of EPSPs and action potentials. Nature Neuroscience, 2001, 4, 63-71.	7.1	303
116	Compartmental models of rat cerebellar Purkinje cells based on simultaneous somatic and dendritic patchâ€clamp recordings. Journal of Physiology, 2001, 535, 445-472.	1.3	246
117	Synaptic function: Dendritic democracy. Current Biology, 2001, 11, R10-R12.	1.8	95
118	The Hodgkin-Huxley theory of the action potential. Nature Neuroscience, 2000, 3, 1165-1165.	7.1	106
119	Coincidence detection in single dendritic spines mediated by calcium release. Nature Neuroscience, 2000, 3, 1266-1273.	7.1	432
120	Diversity and Dynamics of Dendritic Signaling. Science, 2000, 290, 739-744.	6.0	700
121	Tonic Synaptic Inhibition Modulates Neuronal Output Pattern and Spatiotemporal Synaptic Integration. Neuron, 1997, 19, 665-678.	3.8	577
122	Action potential initiation and backpropagation in neurons of the mammalian CNS. Trends in Neurosciences, 1997, 20, 125-131.	4.2	671
123	Estimating the Time Course of the Excitatory Synaptic Conductance in Neocortical Pyramidal Cells Using a Novel Voltage Jump Method. Journal of Neuroscience, 1997, 17, 7606-7625.	1.7	134
124	Axonal initiation and active dendritic propagation of action potentials in substantia nigra neurons. Neuron, 1995, 15, 637-647.	3.8	257
125	Initiation and spread of sodium action potentials in cerebellar purkinje cells. Neuron, 1994, 13, 703-712.	3.8	310
126	Kinetics of in vitro decarboxylation and the in vivo metabolism of 2-18F- and 6-18F-fluoroDOPA in the hooded rat. Biochemical Pharmacology, 1988, 37, 247-250.	2.0	56