Ole Paulsen

List of Publications by Year
in descending order

121 papers	12,846 citations	25014 57 h-index	25770 108 g-index
134 all docs	134 docs citations	134 times ranked	12769 citing authors

#	Article	IF	Citations
1	Synchronization of neuronal activity in hippocampus by individual GABAergic interneurons. Nature, 1995, 378, 75-78.	13.7	1,349
2	Cholinergic induction of network oscillations at 40â€‰Hz in the hippocampus in vitro. Nature, 1998, 394, 186-189.	13.7	793
3	Importance of the Intracellular Domain of NR2 Subunits for NMDA Receptor Function In Vivo. Cell, 1998, 92, 279-289.	13.5	419
4	Cerebral organoids at the airâ€“liquid interface generate diverse nerve tracts with functional output. Nature Neuroscience, 2019, 22, 669-679.	7.1	398
5	Role of GABAergic inhibition in hippocampal network oscillations. Trends in Neurosciences, 2007, 30, 343-349.	4.2	337
6	Distinct frequency preferences of different types of rat hippocampal neurones in response to oscillatory input currents. Journal of Physiology, 2000, 529, 205-213.	1.3	326
7	A model of hippocampal memory encoding and retrieval: GABAergic control of synaptic plasticity. Trends in Neurosciences, 1998, 21, 273-278.	4.2	296
8	Perisomatic Feedback Inhibition Underlies Cholinergically Induced Fast Network Oscillations in the Rat Hippocampus In Vitro. Neuron, 2005, 45, 105-117.	3.8	293
9	Spike Timing of Distinct Types of GABAergic Interneuron during Hippocampal Gamma Oscillations In Vitro. Journal of Neuroscience, 2004, 24, 9127-9137.	1.7	288
10	Tau Protein Is Required for Amyloid Î²-Induced Impairment of Hippocampal Long-Term Potentiation. Journal of Neuroscience, 2011, 31, 1688-1692.	1.7	275
11	Natural patterns of activity and long-term synaptic plasticity. Current Opinion in Neurobiology, 2000, 10, 172-180.	2.0	274
12	NMDA spikes enhance action potential generation during sensory input. Nature Neuroscience, 2014, 17, 383-390.	7.1	267
13	Preferential Origin and Layer Destination of GAD65-GFP Cortical Interneurons. Cerebral Cortex, 2004, 14, 1122-1133.	1.6	266
14	Network Oscillations: Emerging Computational Principles. Journal of Neuroscience, 2006, 26, 1673-1676.	1.7	256
15	GluN2A and GluN2B subunit-containing NMDA receptors in hippocampal plasticity. Philosophical Transactions of the Royal Society B: Biological Sciences, 2014, 369, 20130163.	1.8	219
16	Dopamine Neuron-Specific Optogenetic Stimulation in Rhesus Macaques. Cell, 2016, 166, 1564-1571.e6.	13.5	219
17	Maintaining network activity in submerged hippocampal slices: importance of oxygen supply. European Journal of Neuroscience, 2009, 29, 319-327.	1.2	210
18	Postsynaptic bursting is essential for â€˜Hebbianâ€™ induction of associative long-term potentiation at excitatory synapses in rat hippocampus. Journal of Physiology, 1999, 518, 571-576.	1.3	200

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19	Aberration-free three-dimensional multiphoton imaging of neuronal activity at kHz rates. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 2919-2924.	3.3	195
20	Distinct Roles of GABAA and GABAB Receptors in Balancing and Terminating Persistent Cortical Activity. Journal of Neuroscience, 2009, 29, 7513-7518.	1.7	188
21	Differences in subthreshold resonance of hippocampal pyramidal cells and interneurons: the role of hâ€current and passive membrane characteristics. Journal of Physiology, 2010, 588, 2109-2132.	1.3	187
22	Leftâ€"right dissociation of hippocampal memory processes in mice. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 15238-15243.	3.3	161
23	Effect, number and location of synapses made by single pyramidal cells onto aspiny interneurones of cat visual cortex.. Journal of Physiology, 1997, 500, 689-713.	1.3	149
24	Novel Markers Reveal Subpopulations of Subplate Neurons in the Murine Cerebral Cortex. Cerebral Cortex, 2009, 19, 1738-1750.	1.6	145
25	Neuromodulation of Spike-Timing-Dependent Plasticity: Past, Present, and Future. Neuron, 2019, 103, 563-581.	3.8	145
26	Maturation of Long-Term Potentiation Induction Rules in Rodent Hippocampus: Role of GABAergic Inhibition. Journal of Neuroscience, 2003, 23, 11142-11146.	1.7	142
27	Spike timingâ€"dependent long-term depression requires presynaptic NMDA receptors. Nature Neuroscience, 2008, 11, 744-745.	7.1	139
28	Emergence of Rich-Club Topology and Coordinated Dynamics in Development of Hippocampal Functional Networks<i>In Vitro</i>. Journal of Neuroscience, 2015, 35, 5459-5470.	1.7	138
29	Network mechanisms of gamma oscillations in the CA3 region of the hippocampus. Neural Networks, 2009, 22, 1113-1119.	3.3	134
30	Amphiphilic Porphyrins for Second Harmonic Generation Imaging. Journal of the American Chemical Society, 2009, 131, 2758-2759.	6.6	134
31	Synaptic Currents in Anatomically Identified CA3 Neurons during Hippocampal Gamma Oscillations In Vitro. Journal of Neuroscience, 2006, 26, 9923-9934.	1.7	129
32	Hippocampal gamma-frequency oscillations: from interneurones to pyramidal cells, and back. Journal of Physiology, 2005, 562, 55-63.	1.3	126
33	Blockade of GABAB Receptors Alters the Tangential Migration of Cortical Neurons. Cerebral Cortex, 2003, 13, 932-942.	1.6	122
34	Double Dissociation of Spike Timingâ€"Dependent Potentiation and Depression by Subunit-Preferring NMDA Receptor Antagonists in Mouse Barrel Cortex. Cerebral Cortex, 2009, 19, 2959-2969.	1.6	121
35	Priming of Hippocampal Population Bursts by Individual Perisomatic-Targeting Interneurons. Journal of Neuroscience, 2010, 30, 5979-5991.	1.7	119
36	Early maturation and distinct tau pathology in induced pluripotent stem cell-derived neurons from patients with<i>MAPT</i>mutations. Brain, 2015, 138, 3345-3359.	3.7	116

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37	Matching storage and recall: hippocampal spike timingâ€“dependent plasticity and phase response curves. Nature Neuroscience, 2005, 8, 1677-1683.	7.1	112
38	Presynaptic Spike Timing-Dependent Long-Term Depression in the Mouse Hippocampus. Cerebral Cortex, 2016, 26, 3637-3654.	1.6	109
39	Expression and distribution of metabotropic GABA receptor subtypes GABABR1 and GABABR2 during rat neocortical development. European Journal of Neuroscience, 2002, 15, 1766-1778.	1.2	108
40	Hemisphere-specific optogenetic stimulation reveals left-right asymmetry of hippocampal plasticity. Nature Neuroscience, 2011, 14, 1413-1415.	7.1	106
41	Micro-connectomics: probing the organization of neuronal networks at the cellular scale. Nature Reviews Neuroscience, 2017, 18, 131-146.	4.9	103
42	Distinct properties of carbachol- and DHPG-induced network oscillations in hippocampal slices. Neuropharmacology, 2004, 47, 381-389.	2.0	102
43	Specificity of protein kinase inhibitor peptides and induction of long-term potentiation.. Proceedings of the National Academy of Sciences of the United States of America, 1994, 91, 4761-4765.	3.3	95
44	The Roles of GABAB Receptors in Cortical Network Activity. Advances in Pharmacology, 2010, 58, 205-229.	1.2	95
45	Activity-Dependent Downscaling of Subthreshold Synaptic Inputs during Slow-Wave-Sleep-like Activity InÂVivo. Neuron, 2018, 97, 1244-1252.e5.	3.8	95
46	Retroactive modulation of spike timing-dependent plasticity by dopamine. ELife, 2015, 4, .	2.8	94
47	The Hodgkin-Huxley Heritage: From Channels to Circuits. Journal of Neuroscience, 2012, 32, 14064-14073.	1.7	86
48	Roles of Presynaptic NMDA Receptors in Neurotransmission and Plasticity. Trends in Neurosciences, 2016, 39, 26-39.	4.2	81
49	A comparison of computational methods for detecting bursts in neuronal spike trains and their application to human stem cell-derived neuronal networks. Journal of Neurophysiology, 2016, 116, 306-321.	0.9	77
50	Stem Cells Expanded from the Human Embryonic Hindbrain Stably Retain Regional Specification and High Neurogenic Potency. Journal of Neuroscience, 2013, 33, 12407-12422.	1.7	74
51	Sequential neuromodulation of Hebbian plasticity offers mechanism for effective reward-based navigation. ELife, 2017, 6, .	2.8	74
52	Archaerhodopsin Selectively and Reversibly Silences Synaptic Transmission through Altered pH. Cell Reports, 2016, 16, 2259-2268.	2.9	72
53	Human ALS/FTD brain organoid slice cultures display distinct early astrocyte and targetable neuronal pathology. Nature Neuroscience, 2021, 24, 1542-1554.	7.1	72
54	Induction and expression of GluA1 (GluRâ€A)â€independent LTP in the hippocampus. European Journal of Neuroscience, 2009, 29, 1141-1152.	1.2	68

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55	Identification of the current generator underlying cholinergically induced gamma frequency field potential oscillations in the hippocampal CA3 region. Journal of Physiology, 2010, 588, 785-797.	1.3	68
56	Transgenic Overexpression of the Type I Isoform of Neuregulin 1 Affects Working Memory and Hippocampal Oscillations but not Long-term Potentiation. Cerebral Cortex, 2012, 22, 1520-1529.	1.6	68
57	Oscillatory Activity in the Medial Prefrontal Cortex and Nucleus Accumbens Correlates with Impulsivity and Reward Outcome. PLoS ONE, 2014, 9, e111300.	1.1	68
58	Towards resolving the presynaptic NMDA receptor debate. Current Opinion in Neurobiology, 2018, 51, 1-7.	2.0	68
59	Presynaptic Induction and Expression of Timing-Dependent Long-Term Depression Demonstrated by Compartment-Specific Photorelease of a Use-Dependent NMDA Receptor Antagonist. Journal of Neuroscience, 2011, 31, 8564-8569.	1.7	67
60	Dissociation of experience-dependent and -independent changes in excitatory synaptic transmission during development of barrel cortex. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 15518-15523.	3.3	60
61	Mechanisms underlying gamma (â€˜40 Hzâ€™) network oscillations in the hippocampusâ€”a mini-review. Progress in Biophysics and Molecular Biology, 2005, 87, 67-76.	1.4	60
62	The timing of external input controls the sign of plasticity at local synapses. Nature Neuroscience, 2009, 12, 1219-1221.	7.1	58
63	Intrinsic Cornu Ammonis Area 1 Theta-Nested Gamma Oscillations Induced by Optogenetic Theta Frequency Stimulation. Journal of Neuroscience, 2016, 36, 4155-4169.	1.7	57
64	Presynaptic Self-Depression at Developing Neocortical Synapses. Neuron, 2013, 77, 35-42.	3.8	56
65	Distinct mechanisms of spike timing-dependent LTD at vertical and horizontal inputs onto L2/3 pyramidal neurons in mouse barrel cortex. Physiological Reports, 2014, 2, e00271.	0.7	53
66	Distinct roles of GABA_{B1a}â€•and GABA_{B1b}â€‐containing GABA_B receptors in spontaneous and evoked termination of persistent cortical activity. Journal of Physiology, 2013, 591, 835-843.	1.3	52
67	Synaptic Plasticity and Memory. Neuroscientist, 2015, 21, 490-502.	2.6	49
68	Presynaptic NMDA receptors and spike timing-dependent long-term depression at cortical synapses. Frontiers in Synaptic Neuroscience, 2010, 2, 18.	1.3	48
69	New excitement in cognitive space: between place cells and spatial memory. Current Opinion in Neurobiology, 2001, 11, 745-751.	2.0	47
70	Development of dendritic tonic GABAergic inhibition regulates excitability and plasticity in CA1 pyramidal neurons. Journal of Neurophysiology, 2014, 112, 287-299.	0.9	46
71	The quantal size at retinogeniculate synapses determined from spontaneous and evoked EPSCs in guineaâ€‐pig thalamic slices.. Journal of Physiology, 1994, 480, 505-511.	1.3	45
72	Î±5 Subunit-containing GABAA receptors mediate a slowly decaying inhibitory synaptic current in CA1 pyramidal neurons following Schaffer collateral activation. Neuropharmacology, 2010, 58, 668-675.	2.0	44

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73	Basal Forebrain and Brainstem Cholinergic Neurons Differentially Impact Amygdala Circuits and Learning-Related Behavior. Current Biology, 2018, 28, 2557-2569.e4.	1.8	44
74	An emergent neural coactivity code for dynamic memory. Nature Neuroscience, 2021, 24, 694-704.	7.1	43
75	Ramping single unit activity in the medial prefrontal cortex and ventral striatum reflects the onset of waiting but not imminent impulsive actions. European Journal of Neuroscience, 2015, 41, 1524-1537.	1.2	40
76	Flexible spike timing of layer 5 neurons during dynamic beta oscillation shifts in rat prefrontal cortex. Journal of Physiology, 2009, 587, 5177-5196.	1.3	39
77	Short-Term Exposure to Bilirubin Reduces Synaptic Activation in Rat Transverse Hippocampal Slices. Pediatric Research, 1988, 23, 453-456.	1.1	38
78	Properties of horizontal axo-axonic cells in stratum oriens of the hippocampal CA1 area of rats in vitro. Hippocampus, 2004, 14, 232-243.	0.9	37
79	Neuronal oscillations and the rateâ€toâ€phase transform: mechanism, model and mutual information. Journal of Physiology, 2009, 587, 769-785.	1.3	36
80	Cortical Up states induce the selective weakening of subthreshold synaptic inputs. Nature Communications, 2017, 8, 665.	5.8	34
81	Acetylcholine-modulated plasticity in reward-driven navigation: a computational study. Scientific Reports, 2018, 8, 9486.	1.6	34
82	Hippocampal mossy fiber longâ€term depression in Grm2/3 double knockout mice. Synapse, 2011, 65, 945-954.	0.6	33
83	Hippocampal network oscillations â€" recent insights from in vitro experiments. Current Opinion in Neurobiology, 2015, 31, 40-44.	2.0	32
84	Quantal properties of spontaneous EPSCs in neurones of the guineaâ€pig dorsal lateral geniculate nucleus.. Journal of Physiology, 1996, 496, 759-772.	1.3	31
85	Failure to Induce Long-term Depression by an Anti-Correlation Procedure in Area CA1 of the Rat Hippocampal Slice. European Journal of Neuroscience, 1993, 5, 1241-1246.	1.2	30
86	Comparison of three gamma oscillations in the mouse entorhinalâ€"hippocampal system. European Journal of Neuroscience, 2018, 48, 2795-2806.	1.2	27
87	Neuregulin 1 Type I Overexpression Is Associated with Reduced NMDA Receptorâ€"Mediated Synaptic Signaling in Hippocampal Interneurons Expressing PV or CCK. ENeuro, 2018, 5, ENEURO.0418-17.2018.	0.9	27
88	Neuronal Cx3cr1 Deficiency Protects against Amyloid Î²-Induced Neurotoxicity. PLoS ONE, 2015, 10, e0127730.	1.1	26
89	Stochastic and deterministic dynamics of intrinsically irregular firing in cortical inhibitory interneurons. ELife, 2016, 5, .	2.8	26
90	Different encoding of reward location in dorsal and intermediate hippocampus. Current Biology, 2022, 32, 834-841.e5.	1.8	26

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91	Gating of NMDA receptor-mediated hippocampal spike timing-dependent potentiation by mGluR5. Neuropharmacology, 2012, 63, 701-709.	2.0	23
92	Dopamine suppresses persistent network activity via D₁â€like dopamine receptors in rat medial entorhinal cortex. European Journal of Neuroscience, 2013, 37, 1242-1247.	1.2	21
93	Thalamus mediates neocortical Down state transition via GABAB-receptor-targeting interneurons. Neuron, 2021, 109, 2682-2690.e5.	3.8	20
94	Impaired spatial learning and suppression of sharp wave ripples by cholinergic activation at the goal location. ELife, 2021, 10, .	2.8	19
95	From Invertebrate Olfaction to Human Cognition: Emerging Computational Functions of Synchronized Oscillatory Activity. Journal of Neuroscience, 2006, 26, 1661-1662.	1.7	16
96	Thalamocortical maturation in mice is influenced by body weight. Journal of Comparative Neurology, 2008, 511, 415-420.	0.9	16
97	Bidirectional control of spike timing by GABAA receptor-mediated inhibition during theta oscillation in CA1 pyramidal neurons. NeuroReport, 2009, 20, 1209-1213.	0.6	16
98	The many tunes of perisomatic targeting interneurons in the hippocampal network. Frontiers in Cellular Neuroscience, 2010, 4, .	1.8	16
99	Modulation of hippocampal plasticity in learning and memory. Current Opinion in Neurobiology, 2022, 75, 102558.	2.0	16
100	Wild-Type, but Not Mutant N296H, Human Tau Restores AÎ²-Mediated Inhibition of LTP in Tauâˆ'/âˆ' mice. Frontiers in Neuroscience, 2017, 11, 201.	1.4	15
101	Local Field Potential Oscillations as a Cortical Soliloquy. Neuron, 2010, 67, 3-5.	3.8	13
102	Caged intracellular NMDA receptor blockers for the study of subcellular ion channel function. Communicative and Integrative Biology, 2012, 5, 240-242.	0.6	13
103	Frequency dependence of CA3 spike phase response arising from h-current properties. Frontiers in Cellular Neuroscience, 2013, 7, 263.	1.8	12
104	Phase of Firing as a Local Window for Efficient Neuronal Computation: Tonic and Phasic Mechanisms in the Control of Theta Spike Phase. Frontiers in Human Neuroscience, 2011, 5, 3.	1.0	10
105	Distinct mechanisms of Up state maintenance in the medial entorhinal cortex and neocortex. Neuropharmacology, 2017, 113, 543-555.	2.0	10
106	Keeping Inhibition Timely. Neuron, 2006, 49, 8-9.	3.8	9
107	Cortical Songs Revisited: A Lesson in Statistics. Neuron, 2007, 53, 319-321.	3.8	9
108	An endoscopic drainage procedure for afferent loop occlusion. Gastrointestinal Endoscopy, 1987, 33, 125-126.	0.5	8

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109	Flies put the buzz back into long-term-potentiation. Nature Neuroscience, 2002, 5, 289-290.	7.1	8
110	Association between the low threshold calcium spike and activation of NMDA receptors in guinea-pig substantia nigra pars compacta neurons. European Journal of Neuroscience, 1998, 10, 2009-2015.	1.2	6
111	Genes Involved in the Formation of the Earliest Cortical Circuits. Novartis Foundation Symposium, 0, , 212-229.	1.2	6
112	Partial restoration of physiological UP-state activity by GABA pathway modulation in an acute brain slice model of epilepsy. Neuropharmacology, 2019, 148, 394-405.	2.0	5
113	Differential vulnerability of hippocampal CA3-CA1 synapses to Aî². Acta Neuropathologica Communications, 2022, 10, 45.	2.4	4
114	The Hippocampal Cacophony: Multiple Layers of Communication. Neuron, 2014, 84, 251-253.	3.8	3
115	Cholinergic modulation of Upâ€"Down states in the mouse medial entorhinal cortex in vitro. European Journal of Neuroscience, 2021, 53, 1378-1393.	1.2	3
116	Exploring Fast Hippocampal Network Oscillations: Combining Multi-Electrode Recordings with Optical Imaging and Patch-Clamp Techniques. , 2006, , 454-469.		2
117	The functional role of sequentially neuromodulated synaptic plasticity in behavioural learning. PLoS Computational Biology, 2021, 17, e1009017.	1.5	2
118	Currents in space: understanding inhibitory field potentials. Journal of Physiology, 2010, 588, 2015-2016.	1.3	1
119	Cellular mechanisms underlying network synchrony in the medial temporal lobe. , 0, , 21-48.		0
120	OptoGenie: an open-source device for the optogenetic stimulation of cells. Journal of Open Hardware, 2021, 5, .	0.2	0
121	Optogenetic Methods to Study Lateralized Synaptic Function. Neuromethods, 2017, , 331-365.	0.2	0