

# Ole Paulsen

## List of Publications by Citations

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121  
papers

10,097  
citations

53  
h-index

100  
g-index

134  
ext. papers

11,814  
ext. citations

9.4  
avg, IF

6.25  
L-index

#	Paper	IF	Citations
121	Synchronization of neuronal activity in hippocampus by individual GABAergic interneurons. <i>Nature</i> , <b>1995</b> , 378, 75-8	50.4	1202
120	Cholinergic induction of network oscillations at 40 Hz in the hippocampus in vitro. <i>Nature</i> , <b>1998</b> , 394, 186-9	50.4	685
119	Importance of the intracellular domain of NR2 subunits for NMDA receptor function in vivo. <i>Cell</i> , <b>1998</b> , 92, 279-89	56.2	398
118	Role of GABAergic inhibition in hippocampal network oscillations. <i>Trends in Neurosciences</i> , <b>2007</b> , 30, 343-9	19.3	281
117	Distinct frequency preferences of different types of rat hippocampal neurones in response to oscillatory input currents. <i>Journal of Physiology</i> , <b>2000</b> , 529 Pt 1, 205-13	3.9	274
116	A model of hippocampal memory encoding and retrieval: GABAergic control of synaptic plasticity. <i>Trends in Neurosciences</i> , <b>1998</b> , 21, 273-8	13.3	270
115	Preferential origin and layer destination of GAD65-GFP cortical interneurons. <i>Cerebral Cortex</i> , <b>2004</b> , 14, 1122-33	5.1	244
114	Perisomatic feedback inhibition underlies cholinergically induced fast network oscillations in the rat hippocampus in vitro. <i>Neuron</i> , <b>2005</b> , 45, 105-17	13.9	243
113	Spike timing of distinct types of GABAergic interneuron during hippocampal gamma oscillations in vitro. <i>Journal of Neuroscience</i> , <b>2004</b> , 24, 9127-37	6.6	234
112	Tau protein is required for amyloid {beta}-induced impairment of hippocampal long-term potentiation. <i>Journal of Neuroscience</i> , <b>2011</b> , 31, 1688-92	6.6	228
111	Natural patterns of activity and long-term synaptic plasticity. <i>Current Opinion in Neurobiology</i> , <b>2000</b> , 10, 172-9	7.6	215
110	Cerebral organoids at the air-liquid interface generate diverse nerve tracts with functional output. <i>Nature Neuroscience</i> , <b>2019</b> , 22, 669-679	25.5	212
109	Network oscillations: emerging computational principles. <i>Journal of Neuroscience</i> , <b>2006</b> , 26, 1673-6	6.6	212
108	NMDA spikes enhance action potential generation during sensory input. <i>Nature Neuroscience</i> , <b>2014</b> , 17, 383-90	25.5	194
107	Maintaining network activity in submerged hippocampal slices: importance of oxygen supply. <i>European Journal of Neuroscience</i> , <b>2009</b> , 29, 319-27	3.5	183
106	Rapid report: postsynaptic bursting is essential for Hebbian induction of associative long-term potentiation at excitatory synapses in rat hippocampus. <i>Journal of Physiology</i> , <b>1999</b> , 518 ( Pt 2), 571-6	3.9	181
105	GluN2A and GluN2B subunit-containing NMDA receptors in hippocampal plasticity. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , <b>2014</b> , 369, 20130163	5.8	174

104	Dopamine Neuron-Specific Optogenetic Stimulation in Rhesus Macaques. <i>Cell</i> , <b>2016</b> , 166, 1564-1571.e6	56.2	152
103	Differences in subthreshold resonance of hippocampal pyramidal cells and interneurons: the role of h-current and passive membrane characteristics. <i>Journal of Physiology</i> , <b>2010</b> , 588, 2109-32	3.9	148
102	Distinct roles of GABA(A) and GABA(B) receptors in balancing and terminating persistent cortical activity. <i>Journal of Neuroscience</i> , <b>2009</b> , 29, 7513-7518	6.6	139
101	Aberration-free three-dimensional multiphoton imaging of neuronal activity at kHz rates. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2012</b> , 109, 2919-24	11.5	131
100	Maturation of long-term potentiation induction rules in rodent hippocampus: role of GABAergic inhibition. <i>Journal of Neuroscience</i> , <b>2003</b> , 23, 11142-6	6.6	127
99	Left-right dissociation of hippocampal memory processes in mice. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2014</b> , 111, 15238-43	11.5	124
98	Effect, number and location of synapses made by single pyramidal cells onto aspiny interneurons of cat visual cortex. <i>Journal of Physiology</i> , <b>1997</b> , 500 ( Pt 3), 689-713	3.9	121
97	Network mechanisms of gamma oscillations in the CA3 region of the hippocampus. <i>Neural Networks</i> , <b>2009</b> , 22, 1113-9	9.1	114
96	Spike timing-dependent long-term depression requires presynaptic NMDA receptors. <i>Nature Neuroscience</i> , <b>2008</b> , 11, 744-5	25.5	113
95	Amphiphilic porphyrins for second harmonic generation imaging. <i>Journal of the American Chemical Society</i> , <b>2009</b> , 131, 2758-9	16.4	111
94	Blockade of GABA(B) receptors alters the tangential migration of cortical neurons. <i>Cerebral Cortex</i> , <b>2003</b> , 13, 932-42	5.1	110
93	Hippocampal gamma-frequency oscillations: from interneurons to pyramidal cells, and back. <i>Journal of Physiology</i> , <b>2005</b> , 562, 55-63	3.9	106
92	Novel markers reveal subpopulations of subplate neurons in the murine cerebral cortex. <i>Cerebral Cortex</i> , <b>2009</b> , 19, 1738-50	5.1	104
91	Priming of hippocampal population bursts by individual perisomatic-targeting interneurons. <i>Journal of Neuroscience</i> , <b>2010</b> , 30, 5979-91	6.6	101
90	Double dissociation of spike timing-dependent potentiation and depression by subunit-preferring NMDA receptor antagonists in mouse barrel cortex. <i>Cerebral Cortex</i> , <b>2009</b> , 19, 2959-69	5.1	100
89	Synaptic currents in anatomically identified CA3 neurons during hippocampal gamma oscillations in vitro. <i>Journal of Neuroscience</i> , <b>2006</b> , 26, 9923-34	6.6	98
88	Matching storage and recall: hippocampal spike timing-dependent plasticity and phase response curves. <i>Nature Neuroscience</i> , <b>2005</b> , 8, 1677-83	25.5	98
87	Expression and distribution of metabotropic GABA receptor subtypes GABABR1 and GABABR2 during rat neocortical development. <i>European Journal of Neuroscience</i> , <b>2002</b> , 15, 1766-78	3.5	91

86	Hemisphere-specific optogenetic stimulation reveals left-right asymmetry of hippocampal plasticity. <i>Nature Neuroscience</i> , <b>2011</b> , 14, 1413-5	25.5	90
85	Specificity of protein kinase inhibitor peptides and induction of long-term potentiation. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>1994</b> , 91, 4761-5	11.5	88
84	Early maturation and distinct tau pathology in induced pluripotent stem cell-derived neurons from patients with MAPT mutations. <i>Brain</i> , <b>2015</b> , 138, 3345-59	11.2	87
83	Emergence of rich-club topology and coordinated dynamics in development of hippocampal functional networks in vitro. <i>Journal of Neuroscience</i> , <b>2015</b> , 35, 5459-70	6.6	82
82	Distinct properties of carbachol- and DHPG-induced network oscillations in hippocampal slices. <i>Neuropharmacology</i> , <b>2004</b> , 47, 381-9	5.5	80
81	The roles of GABAB receptors in cortical network activity. <i>Advances in Pharmacology</i> , <b>2010</b> , 58, 205-29	5.7	77
80	Presynaptic Spike Timing-Dependent Long-Term Depression in the Mouse Hippocampus. <i>Cerebral Cortex</i> , <b>2016</b> , 26, 3637-3654	5.1	71
79	Identification of the current generator underlying cholinergically induced gamma frequency field potential oscillations in the hippocampal CA3 region. <i>Journal of Physiology</i> , <b>2010</b> , 588, 785-97	3.9	65
78	Roles of Presynaptic NMDA Receptors in Neurotransmission and Plasticity. <i>Trends in Neurosciences</i> , <b>2016</b> , 39, 26-39	13.3	63
77	Neuromodulation of Spike-Timing-Dependent Plasticity: Past, Present, and Future. <i>Neuron</i> , <b>2019</b> , 103, 563-581	13.9	61
76	Micro-connectomics: probing the organization of neuronal networks at the cellular scale. <i>Nature Reviews Neuroscience</i> , <b>2017</b> , 18, 131-146	13.5	60
75	Activity-Dependent Downscaling of Subthreshold Synaptic Inputs during Slow-Wave-Sleep-like Activity In Vivo. <i>Neuron</i> , <b>2018</b> , 97, 1244-1252.e5	13.9	59
74	Transgenic overexpression of the type I isoform of neuregulin 1 affects working memory and hippocampal oscillations but not long-term potentiation. <i>Cerebral Cortex</i> , <b>2012</b> , 22, 1520-9	5.1	59
73	Retroactive modulation of spike timing-dependent plasticity by dopamine. <i>ELife</i> , <b>2015</b> , 4,	8.9	59
72	Induction and expression of GluA1 (GluR-A)-independent LTP in the hippocampus. <i>European Journal of Neuroscience</i> , <b>2009</b> , 29, 1141-52	3.5	58
71	Dissociation of experience-dependent and -independent changes in excitatory synaptic transmission during development of barrel cortex. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2004</b> , 101, 15518-23	11.5	56
70	The Hodgkin-Huxley heritage: from channels to circuits. <i>Journal of Neuroscience</i> , <b>2012</b> , 32, 14064-73	6.6	55
69	Mechanisms underlying gamma (40 Hz) network oscillations in the hippocampus--a mini-review. <i>Progress in Biophysics and Molecular Biology</i> , <b>2005</b> , 87, 67-76	4.7	55

68	Stem cells expanded from the human embryonic hindbrain stably retain regional specification and high neurogenic potency. <i>Journal of Neuroscience</i> , <b>2013</b> , 33, 12407-22	6.6	53
67	Presynaptic induction and expression of timing-dependent long-term depression demonstrated by compartment-specific photorelease of a use-dependent NMDA receptor antagonist. <i>Journal of Neuroscience</i> , <b>2011</b> , 31, 8564-8569	6.6	53
66	A comparison of computational methods for detecting bursts in neuronal spike trains and their application to human stem cell-derived neuronal networks. <i>Journal of Neurophysiology</i> , <b>2016</b> , 116, 306-21	3.2	51
65	Oscillatory activity in the medial prefrontal cortex and nucleus accumbens correlates with impulsivity and reward outcome. <i>PLoS ONE</i> , <b>2014</b> , 9, e111300	3.7	47
64	The timing of external input controls the sign of plasticity at local synapses. <i>Nature Neuroscience</i> , <b>2009</b> , 12, 1219-21	25.5	46
63	Sequential neuromodulation of Hebbian plasticity offers mechanism for effective reward-based navigation. <i>ELife</i> , <b>2017</b> , 6,	8.9	45
62	The quantal size at retinogeniculate synapses determined from spontaneous and evoked EPSCs in guinea-pig thalamic slices. <i>Journal of Physiology</i> , <b>1994</b> , 480 ( Pt 3), 505-11	3.9	43
61	Archaeorhodopsin Selectively and Reversibly Silences Synaptic Transmission through Altered pH. <i>Cell Reports</i> , <b>2016</b> , 16, 2259-2268	10.6	42
60	Towards resolving the presynaptic NMDA receptor debate. <i>Current Opinion in Neurobiology</i> , <b>2018</b> , 51, 1-7	7.6	41
59	Distinct roles of GABAB1a- and GABAB1b-containing GABAB receptors in spontaneous and evoked termination of persistent cortical activity. <i>Journal of Physiology</i> , <b>2013</b> , 591, 835-43	3.9	39
58	Presynaptic self-depression at developing neocortical synapses. <i>Neuron</i> , <b>2013</b> , 77, 35-42	13.9	39
57	New excitement in cognitive space: between place cells and spatial memory. <i>Current Opinion in Neurobiology</i> , <b>2001</b> , 11, 745-51	7.6	39
56	Presynaptic NMDA Receptors and Spike Timing-Dependent Depression at Cortical Synapses. <i>Frontiers in Synaptic Neuroscience</i> , <b>2010</b> , 2, 18	3.5	38
55	Flexible spike timing of layer 5 neurons during dynamic beta oscillation shifts in rat prefrontal cortex. <i>Journal of Physiology</i> , <b>2009</b> , 587, 5177-96	3.9	36
54	Short-term exposure to bilirubin reduces synaptic activation in rat transverse hippocampal slices. <i>Pediatric Research</i> , <b>1988</b> , 23, 453-6	3.2	36
53	alpha5 Subunit-containing GABA(A) receptors mediate a slowly decaying inhibitory synaptic current in CA1 pyramidal neurons following Schaffer collateral activation. <i>Neuropharmacology</i> , <b>2010</b> , 58, 668-75	5.5	35
52	Intrinsic Cornu Ammonis Area 1 Theta-Nested Gamma Oscillations Induced by Optogenetic Theta Frequency Stimulation. <i>Journal of Neuroscience</i> , <b>2016</b> , 36, 4155-69	6.6	35
51	Distinct mechanisms of spike timing-dependent LTD at vertical and horizontal inputs onto L2/3 pyramidal neurons in mouse barrel cortex. <i>Physiological Reports</i> , <b>2014</b> , 2, e00271	2.6	33

50	Properties of horizontal axo-axonic cells in stratum oriens of the hippocampal CA1 area of rats in vitro. <i>Hippocampus</i> , <b>2004</b> , 14, 232-43	3.5	33
49	Synaptic Plasticity and Memory: New Insights from Hippocampal Left-Right Asymmetries. <i>Neuroscientist</i> , <b>2015</b> , 21, 490-502	7.6	32
48	Development of dendritic tonic GABAergic inhibition regulates excitability and plasticity in CA1 pyramidal neurons. <i>Journal of Neurophysiology</i> , <b>2014</b> , 112, 287-99	3.2	31
47	Ramping single unit activity in the medial prefrontal cortex and ventral striatum reflects the onset of waiting but not imminent impulsive actions. <i>European Journal of Neuroscience</i> , <b>2015</b> , 41, 1524-37	3.5	29
46	Quantal properties of spontaneous EPSCs in neurones of the guinea-pig dorsal lateral geniculate nucleus. <i>Journal of Physiology</i> , <b>1996</b> , 496 ( Pt 3), 759-72	3.9	29
45	Neuronal oscillations and the rate-to-phase transform: mechanism, model and mutual information. <i>Journal of Physiology</i> , <b>2009</b> , 587, 769-85	3.9	28
44	Failure to induce long-term depression by an anti-correlation procedure in area CA1 of the rat hippocampal slice. <i>European Journal of Neuroscience</i> , <b>1993</b> , 5, 1241-6	3.5	26
43	Hippocampal network oscillations - recent insights from in vitro experiments. <i>Current Opinion in Neurobiology</i> , <b>2015</b> , 31, 40-4	7.6	23
42	Hippocampal mossy fiber long-term depression in Grm2/3 double knockout mice. <i>Synapse</i> , <b>2011</b> , 65, 945-54	2.4	22
41	Cortical Up states induce the selective weakening of subthreshold synaptic inputs. <i>Nature Communications</i> , <b>2017</b> , 8, 665	17.4	21
40	Basal Forebrain and Brainstem Cholinergic Neurons Differentially Impact Amygdala Circuits and Learning-Related Behavior. <i>Current Biology</i> , <b>2018</b> , 28, 2557-2569.e4	6.3	21
39	Gating of NMDA receptor-mediated hippocampal spike timing-dependent potentiation by mGluR5. <i>Neuropharmacology</i> , <b>2012</b> , 63, 701-9	5.5	17
38	Neuregulin 1 Type I Overexpression Is Associated with Reduced NMDA Receptor-Mediated Synaptic Signaling in Hippocampal Interneurons Expressing PV or CCK. <i>ENeuro</i> , <b>2018</b> , 5,	3.9	17
37	Dopamine suppresses persistent network activity via D(1) -like dopamine receptors in rat medial entorhinal cortex. <i>European Journal of Neuroscience</i> , <b>2013</b> , 37, 1242-7	3.5	16
36	Neuronal Cx3cr1 Deficiency Protects against Amyloid $\beta$ -Induced Neurotoxicity. <i>PLoS ONE</i> , <b>2015</b> , 10, e0127730	7.3	16
35	Stochastic and deterministic dynamics of intrinsically irregular firing in cortical inhibitory interneurons. <i>ELife</i> , <b>2016</b> , 5,	8.9	15
34	The many tunes of perisomatic targeting interneurons in the hippocampal network. <i>Frontiers in Cellular Neuroscience</i> , <b>2010</b> , 4,	6.1	14
33	Thalamocortical maturation in mice is influenced by body weight. <i>Journal of Comparative Neurology</i> , <b>2008</b> , 511, 415-20	3.4	14

32	From invertebrate olfaction to human cognition: emerging computational functions of synchronized oscillatory activity. <i>Journal of Neuroscience</i> , <b>2006</b> , 26, 1661-2	6.6	14
31	Comparison of three gamma oscillations in the mouse entorhinal-hippocampal system. <i>European Journal of Neuroscience</i> , <b>2018</b> , 48, 2795-2806	3.5	12
30	Acetylcholine-modulated plasticity in reward-driven navigation: a computational study. <i>Scientific Reports</i> , <b>2018</b> , 8, 9486	4.9	12
29	Local field potential oscillations as a cortical soliloquy. <i>Neuron</i> , <b>2010</b> , 67, 3-5	13.9	12
28	Caged intracellular NMDA receptor blockers for the study of subcellular ion channel function. <i>Communicative and Integrative Biology</i> , <b>2012</b> , 5, 240-2	1.7	12
27	Wild-Type, but Not Mutant N296H, Human Tau Restores A $\beta$ -Mediated Inhibition of LTP in mice. <i>Frontiers in Neuroscience</i> , <b>2017</b> , 11, 201	5.1	11
26	Bidirectional control of spike timing by GABA(A) receptor-mediated inhibition during theta oscillation in CA1 pyramidal neurons. <i>NeuroReport</i> , <b>2009</b> , 20, 1209-13	1.7	11
25	An emergent neural coactivity code for dynamic memory. <i>Nature Neuroscience</i> , <b>2021</b> , 24, 694-704	25.5	11
24	Frequency dependence of CA3 spike phase response arising from h-current properties. <i>Frontiers in Cellular Neuroscience</i> , <b>2013</b> , 7, 263	6.1	10
23	Human ALS/FTD brain organoid slice cultures display distinct early astrocyte and targetable neuronal pathology. <i>Nature Neuroscience</i> , <b>2021</b> , 24, 1542-1554	25.5	10
22	Distinct mechanisms of Up state maintenance in the medial entorhinal cortex and neocortex. <i>Neuropharmacology</i> , <b>2017</b> , 113, 543-555	5.5	9
21	Phase of firing as a local window for efficient neuronal computation: tonic and phasic mechanisms in the control of theta spike phase. <i>Frontiers in Human Neuroscience</i> , <b>2011</b> , 5, 3	3.3	9
20	Cortical songs revisited: a lesson in statistics. <i>Neuron</i> , <b>2007</b> , 53, 319-21	13.9	9
19	Keeping inhibition timely. <i>Neuron</i> , <b>2006</b> , 49, 8-9	13.9	9
18	Thalamus mediates neocortical Down state transition via GABA-receptor-targeting interneurons. <i>Neuron</i> , <b>2021</b> , 109, 2682-2690.e5	13.9	6
17	Association between the low threshold calcium spike and activation of NMDA receptors in guinea-pig substantia nigra pars compacta neurons. <i>European Journal of Neuroscience</i> , <b>1998</b> , 10, 2009-15	3.5	5
16	An endoscopic drainage procedure for afferent loop occlusion. <i>Gastrointestinal Endoscopy</i> , <b>1987</b> , 33, 125-6	5.2	5
15	Genes Involved in the Formation of the Earliest Cortical Circuits. <i>Novartis Foundation Symposium</i> , 212-229		4

14	Impaired spatial learning and suppression of sharp wave ripples by cholinergic activation at the goal location. <i>ELife</i> , <b>2021</b> , 10,	8.9	3
13	Partial restoration of physiological UP-state activity by GABA pathway modulation in an acute brain slice model of epilepsy. <i>Neuropharmacology</i> , <b>2019</b> , 148, 394-405	5.5	3
12	The hippocampal cacophony: multiple layers of communication. <i>Neuron</i> , <b>2014</b> , 84, 251-3	13.9	2
11	Exploring Fast Hippocampal Network Oscillations: Combining Multi-Electrode Recordings with Optical Imaging and Patch-Clamp Techniques <b>2006</b> , 454-469		2
10	Author response: Retroactive modulation of spike timing-dependent plasticity by dopamine <b>2015</b> ,		2
9	Modulation of hippocampal plasticity in learning and memory. <i>Current Opinion in Neurobiology</i> , <b>2022</b> , 75, 102558	7.6	2
8	Currents in space: understanding inhibitory field potentials. <i>Journal of Physiology</i> , <b>2010</b> , 588, 2015-6	3.9	1
7	Different encoding of reward location in dorsal and intermediate hippocampus.. <i>Current Biology</i> , <b>2022</b> ,	6.3	1
6	Cerebral organoids at the air-liquid interface generate diverse nerve tracts with functional output		1
5	Cholinergic modulation of Up-Down states in the mouse medial entorhinal cortex in vitro. <i>European Journal of Neuroscience</i> , <b>2021</b> , 53, 1378-1393	3.5	1
4	The functional role of sequentially neuromodulated synaptic plasticity in behavioural learning. <i>PLoS Computational Biology</i> , <b>2021</b> , 17, e1009017	5	0
3	Cellular mechanisms underlying network synchrony in the medial temporal lobe21-48		
2	Optogenetic Methods to Study Lateralized Synaptic Function. <i>Neuromethods</i> , <b>2017</b> , 331-365	0.4	
1	Differential vulnerability of hippocampal CA3-CA1 synapses to A $\beta$ <i>Acta Neuropathologica Communications</i> , <b>2022</b> , 10, 45	7.3	