Roger D Traub

List of Publications by Year
in descending order

65 papers	9,462 citations	94433 37 h-index	118850 62 g-index
68 all docs	68 docs citations	68 times ranked	6297 citing authors

#	Article	IF	Citations
1	Synchronized oscillations in interneuron networks driven by metabotropic glutamate receptor activation. Nature, 1995, 373, 612-615.	27.8	1,534
2	A mechanism for generation of long-range synchronous fast oscillations in the cortex. Nature, 1996, 383, 621-624.	27.8	692
3	Recruitment of Parvalbumin-Positive Interneurons Determines Hippocampal Function and Associated Behavior. Neuron, 2007, 53, 591-604.	8.1	462
4	Single-Column Thalamocortical Network Model Exhibiting Gamma Oscillations, Sleep Spindles, and Epileptogenic Bursts. Journal of Neurophysiology, 2005, 93, 2194-2232.	1.8	428
5	Axo-Axonal Coupling. Neuron, 2001, 31, 831-840.	8.1	390
6	CELLULAR MECHANISMS OF NEURONAL POPULATION OSCILLATIONS IN THE HIPPOCAMPUS IN VITRO. Annual Review of Neuroscience, 2004, 27, 247-278.	10.7	314
7	Gap Junctions between Interneuron Dendrites Can Enhance Synchrony of Gamma Oscillations in Distributed Networks. Journal of Neuroscience, 2001, 21, 9478-9486.	3.6	310
8	A Possible Role for Gap Junctions in Generation of Very Fast EEG Oscillations Preceding the Onset of, and Perhaps Initiating,â€ƒSeizures. Epilepsia, 2008, 42, 153-170.	5.1	308
9	A beta2-frequency (20-30 Hz) oscillation in nonsynaptic networks of somatosensory cortex. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 15646-15650.	7.1	291
10	A model of gamma-frequency network oscillations induced in the rat CA3 region by carbachol in vitro. European Journal of Neuroscience, 2000, 12, 4093-4106.	2.6	256
11	Multiple origins of the cortical gamma rhythm. Developmental Neurobiology, 2011, 71, 92-106.	3.0	224
12	Distinct Roles for the Kainate Receptor Subunits GluR5 and GluR6 in Kainate-Induced Hippocampal Gamma Oscillations. Journal of Neuroscience, 2004, 24, 9658-9668.	3.6	215
13	Spatiotemporal patterns of Î³ frequency oscillations tetanically induced in the rat hippocampal slice. Journal of Physiology, 1997, 502, 591-607.	2.9	212
14	Fast Oscillations in Cortical Circuits. , 1999, , .		211
15	Axonal Gap Junctions Between Principal Neurons: A Novel Source of Network Oscillations, and Perhaps Epileptogenesis. Reviews in the Neurosciences, 2002, 13, 1-30.	2.9	207
16	A Model of High-Frequency Ripples in the Hippocampus Based on Synaptic Coupling Plus Axonâ€“Axon Gap Junctions between Pyramidal Neurons. Journal of Neuroscience, 2000, 20, 2086-2093.	3.6	206
17	A role for fast rhythmic bursting neurons in cortical gamma oscillations in vitro. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 7152-7157.	7.1	185
18	Fast Rhythmic Bursting Can Be Induced in Layer 2/3 Cortical Neurons by Enhancing Persistent Na+ Conductance or by Blocking BK Channels. Journal of Neurophysiology, 2003, 89, 909-921.	1.8	158

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19	On the Structure of Ictal Events in Vitro. Epilepsia, 1996, 37, 879-891.	5.1	155
20	High-Frequency Network Oscillations in Cerebellar Cortex. Neuron, 2008, 58, 763-774.	8.1	142
21	Contrasting roles of axonal (pyramidal cell) and dendritic (interneuron) electrical coupling in the generation of neuronal network oscillations. Proceedings of the National Academy of Sciences of the United States of America, 2003, 100, 1370-1374.	7.1	139
22	Gap junctions on hippocampal mossy fiber axons demonstrated by thin-section electron microscopy and freezeâ€“fracture replica immunogold labeling. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 12548-12553.	7.1	137
23	Rates and Rhythms: A Synergistic View of Frequency and Temporal Coding in Neuronal Networks. Neuron, 2012, 75, 572-583.	8.1	133
24	Sharp Wave-Like Activity in the Hippocampus In Vitro in Mice Lacking the Gap Junction Protein Connexin 36. Journal of Neurophysiology, 2003, 89, 2046-2054.	1.8	110
25	Cellular correlate of assembly formation in oscillating hippocampal networks in vitro. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, E607-16.	7.1	105
26	A Neocortical Delta Rhythm Facilitates Reciprocal Interlaminar Interactions via Nested Theta Rhythms. Journal of Neuroscience, 2013, 33, 10750-10761.	3.6	96
27	Aberrant Network Activity in Schizophrenia. Trends in Neurosciences, 2017, 40, 371-382.	8.6	90
28	Fast network oscillations induced by potassium transients in the rat hippocampus in vitro. Journal of Physiology, 2002, 542, 167-179.	2.9	89
29	A nonsynaptic mechanism underlying interictal discharges in human epileptic neocortex. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 338-343.	7.1	87
30	Synaptic and Nonsynaptic Contributions to Giant IPSPs and Ectopic Spikes Induced by 4-Aminopyridine in the Hippocampus In Vitro. Journal of Neurophysiology, 2001, 85, 1246-1256.	1.8	78
31	Transient Depression of Excitatory Synapses on Interneurons Contributes to Epileptiform Bursts During Gamma Oscillations in the Mouse Hippocampal Slice. Journal of Neurophysiology, 2005, 94, 1225-1235.	1.8	70
32	Coexistence of gamma and high-frequency oscillations in rat medial entorhinal cortexin vitro. Journal of Physiology, 2004, 559, 347-353.	2.9	67
33	Cholinergic neuromodulation controls directed temporal communication in neocortex in vitro. Frontiers in Neural Circuits, 2010, 4, 8.	2.8	66
34	Spatiotemporal patterns of electrocorticographic very fast oscillations (>80â€ƒHz) consistent with a network model based on electrical coupling between principal neurons. Epilepsia, 2010, 51, 1587-1597.	5.1	65
35	Model of very fast (>â€ƒ75â€ƒHz) network oscillations generated by electrical coupling between the proximal axons of cerebellar Purkinje cells. European Journal of Neuroscience, 2008, 28, 1603-1616.	2.6	62
36	Persistent gamma oscillations in superficial layers of rat auditory neocortex: experiment and model. Journal of Physiology, 2005, 562, 3-8.	2.9	55

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37	Gap junction networks can generate both rippleâ€like and fast rippleâ€like oscillations. European Journal of Neuroscience, 2014, 39, 46-60.	2.6	53
38	Gap Junctions, Fast Oscillations and the Initiation of Seizures. Advances in Experimental Medicine and Biology, 2004, 548, 110-122.	1.6	41
39	Mixed Electricalâ€“Chemical Synapses in Adult Rat Hippocampus are Primarily Glutamatergic and Coupled by Connexin-36. Frontiers in Neuroanatomy, 2012, 6, 13.	1.7	35
40	Mixed electricalâ€“chemical transmission between hippocampal mossy fibers and pyramidal cells. European Journal of Neuroscience, 2012, 35, 76-82.	2.6	35
41	Combined experimental/simulation studies of cellular and network mechanisms of epileptogenesis in vitro and in vivo. Journal of Clinical Neurophysiology, 2005, 22, 330-42.	1.7	34
42	Functional organization of the hippocampal CA3 region: implications for epilepsy, brain waves and spatial behaviour. Network: Computation in Neural Systems, 1992, 3, 465-488.	3.6	31
43	Simulations of epileptiform activity in the hippocampal CA3 region in vitro. Hippocampus, 1994, 4, 281-285.	1.9	29
44	Axonal properties determine somatic firing in a model of <i>in vitro</i> CA1 hippocampal sharp wave/ripples and persistent gamma oscillations. European Journal of Neuroscience, 2012, 36, 2650-2660.	2.6	29
45	Glissandi: transient fast electrocorticographic oscillations of steadily increasing frequency, explained by temporally increasing gap junction conductance. Epilepsia, 2012, 53, 1205-1214.	5.1	27
46	Electrical coupling between hippocampal neurons: contrasting roles of principal cell gap junctions and interneuron gap junctions. Cell and Tissue Research, 2018, 373, 671-691.	2.9	24
47	Synaptic gating at axonal branches, and sharpâ€wave ripples with replay: a simulation study. European Journal of Neuroscience, 2013, 38, 3435-3447.	2.6	22
48	Shortest Loops are Pacemakers in Random Networks of Electrically Coupled Axons. Frontiers in Computational Neuroscience, 2012, 6, 17.	2.1	20
49	Chemical synaptic and gap junctional interactions between principal neurons: Partners in epileptogenesis. Neural Networks, 2011, 24, 515-525.	5.9	18
50	Could electrical coupling contribute to the formation of cell assemblies?. Reviews in the Neurosciences, 2020, 31, 121-141.	2.9	14
51	Layer 4 pyramidal neuron dendritic bursting underlies a post-stimulus visual cortical alpha rhythm. Communications Biology, 2020, 3, 230.	4.4	12
52	Seizure initiation in infantile spasms vs. focal seizures: proposed common cellular mechanisms. Reviews in the Neurosciences, 2020, 31, 181-200.	2.9	9
53	Wave Speed in Excitable Random Networks with Spatially Constrained Connections. PLoS ONE, 2011, 6, e20536.	2.5	9
54	Processing of cell assemblies in the lateral entorhinal cortex. Reviews in the Neurosciences, 2022, 33, 829-847.	2.9	6

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55	Alkaline brain pH shift in rodent lithium-pilocarpine model of epilepsy with chronic seizures. Brain Research, 2021, 1758, 147345.	2.2	5
56	Functional organization of the hippocampal CA3 region: implications for epilepsy, brain waves and spatial behaviour. Network: Computation in Neural Systems, 1992, 3, 465-488.	3.6	5
57	Cell assembly formation and structure in a piriform cortex model. Reviews in the Neurosciences, 2022, 33, 111-132.	2.9	4
58	Epileptic fast oscillations and synchrony in vitro. Epilepsia, 2010, 51, 28-28.	5.1	3
59	What Is a Seizure Network? Very Fast Oscillations at the Interface Between Normal and Epileptic Brain. Advances in Experimental Medicine and Biology, 2014, 813, 71-80.	1.6	3
60	Electrographic Waveform Structure Predicts Laminar Focus Location in a Model of Temporal Lobe Seizures In Vitro. PLoS ONE, 2015, 10, e0121676.	2.5	3
61	Does Epileptiform Activity Represent a Failure of Neuromodulation to Control Central Pattern Generator-Like Neocortical Behavior?. Frontiers in Neural Circuits, 2017, 11, 78.	2.8	3
62	Connexin36 localization along axon initial segments in the mammalian CNS. International Journal of Physiology, Pathophysiology and Pharmacology, 2020, 12, 153-165.	0.8	3
63	A hypothesis concerning distinct schemes of olfactory activation evoked by perceived versus nonperceived input. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, e2120093119.	7.1	2
64	Fast oscillations in activated neocortical brain slices: an in vitro continuation of the pioneering in vivo studies of Mircea Steriade and colleagues. Thalamus & Related Systems, 2008, 4, .	0.5	0
65	Epileptic Activity Intrinsically Generated in the Human Cerebellum. Annals of Neurology, 2020, 88, 418-422.	5.3	0