Ivan Raikov

List of Publications by Year
in descending order

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68 papers	7,319 citations	87888 38 h-index	102487 66 g-index
79 all docs	79 docs citations	79 times ranked	6543 citing authors

#	Article	IF	Citations
1	On-demand optogenetic control of spontaneous seizures in temporal lobe epilepsy. Nature Communications, 2013, 4, 1376.	12.8	516
2	Persistently modified h-channels after complex febrile seizures convert the seizure-induced enhancement of inhibition to hyperexcitability. Nature Medicine, 2001, 7, 331-337.	30.7	395
3	Intracellular correlates of hippocampal theta rhythm in identified pyramidal cells, granule cells, and basket cells. Hippocampus, 1995, 5, 78-90.	1.9	362
4	Prolonged febrile seizures in the immature rat model enhance hippocampal excitability long term. Annals of Neurology, 2000, 47, 336-344.	5.3	336
5	Quantitative assessment of CA1 local circuits: Knowledge base for interneuron-pyramidal cell connectivity. Hippocampus, 2013, 23, 751-785.	1.9	310
6	Nonrandom connectivity of the epileptic dentate gyrus predicts a major role for neuronal hubs in seizures. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 6179-6184.	7.1	308
7	Febrile seizures in the developing brain result in persistent modification of neuronal excitability in limbic circuits. Nature Medicine, 1999, 5, 888-894.	30.7	286
8	Parvalbumin-Positive Basket Cells Differentiate among Hippocampal Pyramidal Cells. Neuron, 2014, 82, 1129-1144.	8.1	279
9	Role of Mossy Fiber Sprouting and Mossy Cell Loss in Hyperexcitability: A Network Model of the Dentate Gyrus Incorporating Cell Types and Axonal Topography. Journal of Neurophysiology, 2005, 93, 437-453.	1.8	240
10	CA1 pyramidal cell diversity enabling parallel information processing in the hippocampus. Nature Neuroscience, 2018, 21, 484-493.	14.8	221
11	Frequency-invariant temporal ordering of interneuronal discharges during hippocampal oscillations in awake mice. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, E2726-34.	7.1	217
12	Topological Determinants of Epileptogenesis in Large-Scale Structural and Functional Models of the Dentate Gyrus Derived From Experimental Data. Journal of Neurophysiology, 2007, 97, 1566-1587.	1.8	206
13	Cell-specific STORM super-resolution imaging reveals nanoscale organization of cannabinoid signaling. Nature Neuroscience, 2015, 18, 75-86.	14.8	205
14	Dentate gyrus mossy cells control spontaneous convulsive seizures and spatial memory. Science, 2018, 359, 787-790.	12.6	195
15	<i>In vivo</i> evaluation of the dentate gate theory in epilepsy. Journal of Physiology, 2015, 593, 2379-2388.	2.9	187
16	Cerebellar Directed Optogenetic Intervention Inhibits Spontaneous Hippocampal Seizures in a Mouse Model of Temporal Lobe Epilepsy. ENeuro, 2014, 1, ENEURO.0005-14.2014.	1.9	183
17	Target-selective GABAergic control of entorhinal cortex output. Nature Neuroscience, 2010, 13, 822-824.	14.8	182
18	Granule cell hyperexcitability in the early postâ€traumatic rat dentate gyrus: the â€˜irritable mossy cellâ€™ hypothesis. Journal of Physiology, 2000, 524, 117-134.	2.9	181

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19	Interneuronal mechanisms of hippocampal theta oscillations in a full-scale model of the rodent CA1 circuit. ELife, 2016, 5, .	6.0	171
20	Spatially clustered neuronal assemblies comprise the microstructure of synchrony in chronically epileptic networks. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 3567-3572.	7.1	159
21	Different transmitter transients underlie presynaptic cell type specificity of GABA _{A,slow} and GABA _{A,fast}. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 14831-14836.	7.1	150
22	Weeding out bad waves: towards selective cannabinoid circuit control in epilepsy. Nature Reviews Neuroscience, 2015, 16, 264-277.	10.2	124
23	Closed-loop optogenetic intervention in mice. Nature Protocols, 2013, 8, 1475-1493.	12.0	122
24	Selective Depolarization of Interneurons in the Early Posttraumatic Dentate Gyrus: Involvement of the Na⁺/K⁺-ATPase. Journal of Neurophysiology, 2000, 83, 2916-2930.	1.8	119
25	Basket cell dichotomy in microcircuit function. Journal of Physiology, 2012, 590, 683-694.	2.9	118
26	Multiple Forms of Endocannabinoid and Endovanilloid Signaling Regulate the Tonic Control of GABA Release. Journal of Neuroscience, 2015, 35, 10039-10057.	3.6	113
27	Functional fission of parvalbumin interneuron classes during fast network events. ELife, 2014, 3, .	6.0	100
28	Distinct Endocannabinoid Control of GABA Release at Perisomatic and Dendritic Synapses in the Hippocampus. Journal of Neuroscience, 2010, 30, 7993-8000.	3.6	98
29	Beyond the hammer and the scalpel: selective circuit control for the epilepsies. Nature Neuroscience, 2015, 18, 331-338.	14.8	97
30	Neuroelectronics and Biooptics. JAMA Neurology, 2015, 72, 823.	9.0	84
31	Neurogliaform cells in the molecular layer of the dentate gyrus as feedâ€forward Î³â€aminobutyric acidergic modulators of entorhinalâ€“hippocampal interplay. Journal of Comparative Neurology, 2011, 519, 1476-1491.	1.6	83
32	Functional Specificity of Mossy Fiber Innervation of GABAergic Cells in the Hippocampus. Journal of Neuroscience, 2009, 29, 4239-4251.	3.6	74
33	Ivy and Neurogliaform Interneurons Are a Major Target of Î¼-Opioid Receptor Modulation. Journal of Neuroscience, 2011, 31, 14861-14870.	3.6	70
34	Future of Seizure Prediction and Intervention. Journal of Clinical Neurophysiology, 2015, 32, 194-206.	1.7	67
35	Long- and short-term plasticity at mossy fiber synapses on mossy cells in the rat dentate gyrus. Hippocampus, 2005, 15, 691-696.	1.9	54
36	Toward a full-scale computational model of the rat dentate gyrus. Frontiers in Neural Circuits, 2012, 6, 83.	2.8	52

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37	Temporal Patterns and Depolarizing Actions of Spontaneous GABA_A Receptor Activation in Granule Cells of the Early Postnatal Dentate Gyrus. Journal of Neurophysiology, 1998, 80, 2340-2351.	1.8	49
38	Brain State Is a Major Factor in Preseizure Hippocampal Network Activity and Influences Success of Seizure Intervention. Journal of Neuroscience, 2015, 35, 15635-15648.	3.6	49
39	Differential expression of cytoskeletal proteins in the dendrites of parvalbumin-positive interneurons versus granule cells in the adult rat dentate gyrus. Hippocampus, 2000, 10, 162-168.	1.9	46
40	Extended Interneuronal Network of the Dentate Gyrus. Cell Reports, 2017, 20, 1262-1268.	6.4	43
41	Resolving the Micro-Macro Disconnect to Address Core Features of Seizure Networks. Neuron, 2019, 101, 1016-1028.	8.1	43
42	Spatiotemporal network coding of physiological mossy fiber inputs by the cerebellar granular layer. PLoS Computational Biology, 2017, 13, e1005754.	3.2	37
43	The direct perforant path input to CA1: Excitatory or inhibitory?. Hippocampus, 1995, 5, 101-103.	1.9	33
44	Maximally selective single-cell target for circuit control in epilepsy models. Neuron, 2021, 109, 2556-2572.e6.	8.1	31
45	Targetâ€selectivity of parvalbuminâ€positive interneurons in layer II of medial entorhinal cortex in normal and epileptic animals. Hippocampus, 2016, 26, 779-793.	1.9	28
46	Brief history of cortico-hippocampal time with a special reference to the direct entorhinal input to CA1. Hippocampus, 1995, 5, 120-124.	1.9	25
47	Enhanced bursts of IPSCs in dentate granule cells in mice with regionally inhibited longâ€“term potentiation. Proceedings of the Royal Society B: Biological Sciences, 1998, 265, 63-69.	2.6	25
48	Single Bursts of Individual Granule Cells Functionally Rearrange Feedforward Inhibition. Journal of Neuroscience, 2018, 38, 1711-1724.	3.6	25
49	Linking Macroscopic with Microscopic Neuroanatomy Using Synthetic Neuronal Populations. PLoS Computational Biology, 2014, 10, e1003921.	3.2	22
50	Microcircuits in Epilepsy: Heterogeneity and Hub Cells in Network Synchronization. Cold Spring Harbor Perspectives in Medicine, 2015, 5, a022855.	6.2	19
51	Prolonged febrile seizures in the immature rat model enhance hippocampal excitability long term. Annals of Neurology, 2000, 47, 336-344.	5.3	18
52	Evidence for Functional Diversity between the Voltage-Gated Proton Channel Hv1 and Its Closest Related Protein HVRP1. PLoS ONE, 2014, 9, e105926.	2.5	14
53	The Layer-Oriented Approach to Declarative Languages for Biological Modeling. PLoS Computational Biology, 2012, 8, e1002521.	3.2	9
54	Regulation of gammaâ€frequency oscillation by feedforward inhibition: A computational modeling study. Hippocampus, 2019, 29, 957-970.	1.9	9

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55	High times for memory: cannabis disrupts temporal coordination among hippocampal neurons. Nature Neuroscience, 2006, 9, 1461-1463.	14.8	7
56	Resolution revolution: epilepsy dynamics at the microscale. Current Opinion in Neurobiology, 2015, 31, 239-243.	4.2	6
57	Sensor for Stiffness Measurements Within the Adult Rat Hippocampus. IEEE Sensors Journal, 2008, 8, 1894-1899.	4.7	4
58	Computer modeling of epilepsy. Epilepsia, 2010, 51, 29-29.	5.1	3
59	The Promise and Shortcomings of XML as an Interchange Format for Computational Models of Biology. Neuroinformatics, 2012, 10, 1-3.	2.8	3
60	Entorhinal mismatch: A model of self-supervised learning in the hippocampus. IScience, 2021, 24, 102364.	4.1	3
61	A NineML-based domain-specific language for computational exploration of connectivity in the cerebellar granular layer. BMC Neuroscience, 2014, 15, .	1.9	2
62	Epistemic Autonomy: Self-supervised Learning in the Mammalian Hippocampus. Trends in Cognitive Sciences, 2021, 25, 582-595.	7.8	2
63	The Brain Prize 2011. Trends in Neurosciences, 2011, 34, 501-503.	8.6	1
64	A Master Plan for the Epilepsies? toward a General Theory of Seizure Dynamics. Epilepsy Currents, 2015, 15, 133-135.	0.8	1
65	Differential expression of cytoskeletal proteins in the dendrites of parvalbumin-positive interneurons versus granule cells in the adult rat dentate gyrus. Hippocampus, 2000, 10, 162.	1.9	1
66	Network Models of Epilepsy-Related Pathological Structural and Functional Alterations in the Dentate Gyrus. , 2017, , 485-503.		0
67	Hippocampal In Silico Models of Seizures and Epilepsy. , 2017, , 219-232.		0
68	Data-Driven Modeling of Normal and Pathological Oscillations in the Hippocampus. Springer Series in Cognitive and Neural Systems, 2019, , 185-192.	0.1	0