Rishikesh Narayanan

List of Publications by Year
in descending order

50 papers	1,998 citations	279798 23 h-index	315739 38 g-index
69 all docs	69 docs citations	69 times ranked	986 citing authors

#	Article	IF	Citations
1	Active Dendrites and Local Field Potentials: Biophysical Mechanisms and Computational Explorations. Neuroscience, 2022, 489, 111-142.	2.3	16
2	Conjunctive changes in multiple ion channels mediate activity-dependent intrinsic plasticity in hippocampal granule cells. IScience, 2022, 25, 103922.	4.1	9
3	Dominant role of adult neurogenesisâ€induced structural heterogeneities in driving plasticity heterogeneity in dentate gyrus granule cells. Hippocampus, 2022, 32, 488-516.	1.9	8
4	Ion-channel regulation of response decorrelation in a heterogeneous multi-scale model of the dentate gyrus. Current Research in Neurobiology, 2021, 2, 100007.	2.3	17
5	Resonating neurons stabilize heterogeneous grid-cell networks. ELife, 2021, 10, .	6.0	8
6	Biomimetic FPGA-based spatial navigation model with grid cells and place cells. Neural Networks, 2021, 139, 45-63.	5.9	6
7	Ionâ€channel degeneracy: Multiple ion channels heterogeneously regulate intrinsic physiology of rat hippocampal granule cells. Physiological Reports, 2021, 9, e14963.	1.7	9
8	Spatial information transfer in hippocampal place cells depends on trial-to-trial variability, symmetry of place-field firing, and biophysical heterogeneities. Neural Networks, 2021, 142, 636-660.	5.9	12
9	Stable continual learning through structured multiscale plasticity manifolds. Current Opinion in Neurobiology, 2021, 70, 51-63.	4.2	20
10	Robust emergence of sharply tuned place-cell responses in hippocampal neurons with structural and biophysical heterogeneities. Brain Structure and Function, 2020, 225, 567-590.	2.3	15
11	Heterogeneities in intrinsic excitability and frequency-dependent response properties of granule cells across the blades of the rat dentate gyrus. Journal of Neurophysiology, 2020, 123, 755-772.	1.8	25
12	Unitary sources say: It is inhibition!. Journal of Physiology, 2020, 598, 3815-3816.	2.9	1
13	Degeneracy in the emergence of spike-triggered average of hippocampal pyramidal neurons. Scientific Reports, 2020, 10, 374.	3.3	20
14	Efficient phase coding in hippocampal place cells. Physical Review Research, 2020, 2, 033393.	3.6	17
15	Stores, Channels, Glue, and Trees: Active Glial and Active Dendritic Physiology. Molecular Neurobiology, 2019, 56, 2278-2299.	4.0	21
16	Degeneracy in robust spatial encoding. IBRO Reports, 2019, 6, S40.	0.3	0
17	Degeneracy in hippocampal physiology and plasticity. Hippocampus, 2019, 29, 980-1022.	1.9	62
18	Disparate forms of heterogeneities and interactions among them drive channel decorrelation in the dentate gyrus: Degeneracy and dominance. Hippocampus, 2019, 29, 378-403.	1.9	40

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19	Active dendrites regulate the spatiotemporal spread of signaling microdomains. PLoS Computational Biology, 2018, 14, e1006485.	3.2	18
20	Spatially dispersed synapses yield sharplyâ€tuned place cell responses through dendritic spike initiation. Journal of Physiology, 2018, 596, 4173-4205.	2.9	29
21	Degeneracy in the robust expression of spectral selectivity, subthreshold oscillations, and intrinsic excitability of entorhinal stellate cells. Journal of Neurophysiology, 2018, 120, 576-600.	1.8	40
22	Degeneracy in the regulation of shortâ€term plasticity and synaptic filtering by presynaptic mechanisms. Journal of Physiology, 2017, 595, 2611-2637.	2.9	43
23	Theta-frequency selectivity in the somatic spike-triggered average of rat hippocampal pyramidal neurons is dependent on HCN channels. Journal of Neurophysiology, 2017, 118, 2251-2266.	1.8	40
24	Strings on a Violin: Location Dependence of Frequency Tuning in Active Dendrites. Frontiers in Cellular Neuroscience, 2017, 11, 72.	3.7	44
25	Active dendrites regulate the impact of gliotransmission on rat hippocampal pyramidal neurons. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, E3280-9.	7.1	28
26	Transient potassium channels augment degeneracy in hippocampal active dendritic spectral tuning. Scientific Reports, 2016, 6, 24678.	3.3	39
27	Active dendrites mediate stratified gammaâ€range coincidence detection in hippocampal model neurons. Journal of Physiology, 2015, 593, 3549-3576.	2.9	29
28	Variability in State-Dependent Plasticity of Intrinsic Properties during Cell-Autonomous Self-Regulation of Calcium Homeostasis in Hippocampal Model Neurons. ENeuro, 2015, 2, ENEURO.0053-15.2015.	1.9	34
29	High-conductance states and A-type K⁺ channels are potential regulators of the conductance-current balance triggered by HCN channels. Journal of Neurophysiology, 2015, 113, 23-43.	1.8	31
30	Activation of InsP3 receptors is sufficient for inducing graded intrinsic plasticity in rat hippocampal pyramidal neurons. Journal of Neurophysiology, 2015, 113, 2002-2013.	1.8	22
31	Analogous Synaptic Plasticity Profiles Emerge from Disparate Channel Combinations. Journal of Neuroscience, 2015, 35, 4691-4705.	3.6	56
32	HCN channels enhance spike phase coherence and regulate the phase of spikes and LFPs in the theta-frequency range. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, E2207-16.	7.1	57
33	Homeostasis of functional maps in active dendrites emerges in the absence of individual channelostasis. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, E1787-96.	7.1	79
34	Active Dendrites Regulate Spectral Selectivity in Location-Dependent Spike Initiation Dynamics of Hippocampal Model Neurons. Journal of Neuroscience, 2014, 34, 1195-1211.	3.6	40
35	Dendritic atrophy constricts functional maps in resonance and impedance properties of hippocampal model neurons. Frontiers in Cellular Neuroscience, 2014, 8, 456.	3.7	26
36	Quantitative interactions between the Aâ€type K⁺ current and inositol trisphosphate receptors regulate intraneuronal Ca²⁺ waves and synaptic plasticity. Journal of Physiology, 2013, 591, 1645-1669.	2.9	40

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37	A Calcium-Dependent Plasticity Rule for HCN Channels Maintains Activity Homeostasis and Stable Synaptic Learning. PLoS ONE, 2013, 8, e55590.	2.5	40
38	Synconset Waves and Chains: Spiking Onsets in Synchronous Populations Predict and Are Predicted by Network Structure. PLoS ONE, 2013, 8, e74910.	2.5	1
39	Functional maps within a single neuron. Journal of Neurophysiology, 2012, 108, 2343-2351.	1.8	65
40	Influence fields: a quantitative framework for representation and analysis of active dendrites. Journal of Neurophysiology, 2012, 107, 2313-2334.	1.8	30
41	Inactivating ion channels augment robustness of subthreshold intrinsic response dynamics to parametric variability in hippocampal model neurons. Journal of Physiology, 2012, 590, 5629-5652.	2.9	69
42	Computational Analysis of the Impact of Chronic Stress on Intrinsic and Synaptic Excitability in the Hippocampus. Journal of Neurophysiology, 2010, 103, 3070-3083.	1.8	30
43	The <i>h</i> Current Is a Candidate Mechanism for Regulating the Sliding Modification Threshold in a BCM-Like Synaptic Learning Rule. Journal of Neurophysiology, 2010, 104, 1020-1033.	1.8	87
44	Calcium Store Depletion Induces Persistent Perisomatic Increases in the Functional Density of h Channels in Hippocampal Pyramidal Neurons. Neuron, 2010, 68, 921-935.	8.1	78
45	The Ascent of Channels with Memory. Neuron, 2008, 60, 735-738.	8.1	10
46	Active dendrites: colorful wings of the mysterious butterflies. Trends in Neurosciences, 2008, 31, 309-316.	8.6	170
47	The h Channel Mediates Location Dependence and Plasticity of Intrinsic Phase Response in Rat Hippocampal Neurons. Journal of Neuroscience, 2008, 28, 5846-5860.	3.6	164
48	Long-Term Potentiation in Rat Hippocampal Neurons Is Accompanied by Spatially Widespread Changes in Intrinsic Oscillatory Dynamics and Excitability. Neuron, 2007, 56, 1061-1075.	8.1	234
49	A Probabilistic Framework for Region-Specific Remodeling of Dendrites in Three-Dimensional Neuronal Reconstructions. Neural Computation, 2005, 17, 75-96.	2.2	5
50	A computational model for the development of simple-cell receptive fields spanning the regimes before and after eye-opening. Neurocomputing, 2003, 50, 125-158.	5.9	2