Arvind Kumar

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/6245250/publications.pdf

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65	2,135	361413	276875
papers	citations	20 h-index	41 g-index

91	91	91	2352
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Spiking activity propagation in neuronal networks: reconciling different perspectives on neural coding. Nature Reviews Neuroscience, 2010, 11, 615-627.	10.2	395
2	Conditions for Propagating Synchronous Spiking and Asynchronous Firing Rates in a Cortical Network Model. Journal of Neuroscience, 2008, 28, 5268-5280.	3.6	182
3	The High-Conductance State of Cortical Networks. Neural Computation, 2008, 20, 1-43.	2.2	180
4	Portraits of communication in neuronal networks. Nature Reviews Neuroscience, 2019, 20, 117-127.	10.2	126
5	The Role of Inhibition in Generating and Controlling Parkinson?s Disease Oscillations in the Basal Ganglia. Frontiers in Systems Neuroscience, 2011, 5, 86.	2.5	116
6	Gating of Signal Propagation in Spiking Neural Networks by Balanced and Correlated Excitation and Inhibition. Journal of Neuroscience, 2010, 30, 15760-15768.	3.6	109
7	Spontaneous cortical activity is transiently poised close to criticality. PLoS Computational Biology, 2017, 13, e1005543.	3.2	88
8	Communication through Resonance in Spiking Neuronal Networks. PLoS Computational Biology, 2014, 10, e1003811.	3.2	78
9	Intraglomerular Lateral Inhibition Promotes Spike Timing Variability in Principal Neurons of the Olfactory Bulb. Journal of Neuroscience, 2015, 35, 4319-4331.	3.6	52
10	Context-Dependent Encoding of Fear and Extinction Memories in a Large-Scale Network Model of the Basal Amygdala. PLoS Computational Biology, 2011, 7, e1001104.	3.2	50
11	Physiology and Impact of Horizontal Connections in Rat Neocortex. Cerebral Cortex, 2015, 25, 3818-3835.	2.9	46
12	Frequency-Dependent Changes in NMDAR-Dependent Synaptic Plasticity. Frontiers in Computational Neuroscience, 2011, 5, 38.	2.1	43
13	Existence and Control of Go/No-Go Decision Transition Threshold in the Striatum. PLoS Computational Biology, 2015, 11, e1004233.	3.2	42
14	Challenges of understanding brain function by selective modulation of neuronal subpopulations. Trends in Neurosciences, 2013, 36, 579-586.	8.6	41
15	Sensorimotor Processing in the Basal Ganglia Leads to Transient Beta Oscillations during Behavior. Journal of Neuroscience, 2017, 37, 11220-11232.	3.6	40
16	Significance of Input Correlations in Striatal Function. PLoS Computational Biology, 2011, 7, e1002254.	3.2	34
17	Basal Ganglia Neuromodulation Over Multiple Temporal and Structural Scalesâ€"Simulations of Direct Pathway MSNs Investigate the Fast Onset of Dopaminergic Effects and Predict the Role of Kv4.2. Frontiers in Neural Circuits, 2018, 12, 3.	2.8	34
18	Altered theta coupling between medial entorhinal cortex and dentate gyrus in temporal lobe epilepsy. Epilepsia, 2012, 53, 1937-1947.	5.1	29

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19	Abundance Compensates Kinetics: Similar Effect of Dopamine Signals on D1 and D2 Receptor Populations. Journal of Neuroscience, 2020, 40, 2868-2881.	3.6	28
20	CA2 beyond social memory: Evidence for a fundamental role in hippocampal information processing. Neuroscience and Biobehavioral Reviews, 2021, 126, 398-412.	6.1	27
21	Differential Coding Strategies in Glutamatergic and GABAergic Neurons in the Medial Cerebellar Nucleus. Journal of Neuroscience, 2020, 40, 159-170.	3.6	26
22	Role of Input Correlations in Shaping the Variability and Noise Correlations of Evoked Activity in the Neocortex. Journal of Neuroscience, 2015, 35, 8611-8625.	3.6	25
23	Perturbing low dimensional activity manifolds in spiking neuronal networks. PLoS Computational Biology, 2019, 15, e1007074.	3.2	24
24	Beyond Statistical Significance: Implications of Network Structure on Neuronal Activity. PLoS Computational Biology, 2012, 8, e1002311.	3.2	23
25	Dynamical state of the network determines the efficacy of single neuron properties in shaping the network activity. Scientific Reports, 2016, 6, 26029.	3.3	22
26	Short-Term Plasticity Combines with Excitationâ€“Inhibition Balance to Expand Cerebellar Purkinje Cell Dynamic Range. Journal of Neuroscience, 2018, 38, 5153-5167.	3.6	22
27	Effect of edge pruning on structural controllability and observability of complex networks. Scientific Reports, 2015, 5, 18145.	3.3	21
28	From space to time: Spatial inhomogeneities lead to the emergence of spatiotemporal sequences in spiking neuronal networks. PLoS Computational Biology, 2019, 15, e1007432.	3.2	20
29	Facilitating the propagation of spiking activity in feedforward networks by including feedback. PLoS Computational Biology, 2020, 16, e1008033.	3.2	18
30	Selective neuromodulation and mutual inhibition within the <scp>CA3â€“CA2</scp> system can prioritize sequences for replay. Hippocampus, 2020, 30, 1228-1238.	1.9	16
31	Uncoupling the roles of firing rates and spike bursts in shaping the STN-GPe beta band oscillations. PLoS Computational Biology, 2020, 16, e1007748.	3.2	16
32	Activity Dynamics and Signal Representation in a Striatal Network Model with Distance-Dependent Connectivity. ENeuro, 2017, 4, ENEURO.0348-16.2017.	1.9	15
33	Emergence of population synchrony in a layered network of the cat visual cortex. Neurocomputing, 2007, 70, 2069-2073.	5.9	14
34	Homologous Basal Ganglia Network Models in Physiological and Parkinsonian Conditions. Frontiers in Computational Neuroscience, 2017, 11, 79.	2.1	14
35	Direct pathway neurons in mouse dorsolateral striatum in vivo receive stronger synaptic input than indirect pathway neurons. Journal of Neurophysiology, 2019, 122, 2294-2303.	1.8	14
36	Bursts with High and Low Load of Epileptiform Spikes Show Context-Dependent Correlations in Epileptic Mice. ENeuro, 2019, 6, ENEURO.0299-18.2019.	1.9	13

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37	Short-Term Synaptic Plasticity Makes Neurons Sensitive to the Distribution of Presynaptic Population Firing Rates. ENeuro, 2021, 8, ENEURO.0297-20.2021.	1.9	12
38	Impact of correlated inputs to neurons: modeling observations from in vivo intracellular recordings. Journal of Computational Neuroscience, 2014, 37, 293-304.	1.0	10
39	Interplay between periodic stimulation and GABAergic inhibition in striatal network oscillations. PLoS ONE, 2017, 12, e0175135.	2.5	10
40	Electrophysiological properties and projections of lateral hypothalamic parvalbumin positive neurons. PLoS ONE, 2018, 13, e0198991.	2.5	10
41	Recovery of Dynamics and Function in Spiking Neural Networks with Closed-Loop Control. PLoS Computational Biology, 2016, 12, e1004720.	3.2	10
42	Transient Response of Basal Ganglia Network in Healthy and Low-Dopamine State. ENeuro, 2022, 9, ENEURO.0376-21.2022.	1.9	8
43	Neural system prediction and identification challenge. Frontiers in Neuroinformatics, 2013, 7, 43.	2.5	6
44	Reactivation in Ventral Striatum during Hippocampal Ripples: Evidence for the Binding of Reward and Spatial Memories?. Journal of Neuroscience, 2008, 28, 9895-9897.	3.6	3
45	Recommendations for repositories and scientific gateways from a neuroscience perspective. Scientific Data, 2022, 9, 212.	5.3	3
46	Dynamics of multiple interacting excitatory and inhibitory populations with delays. Physical Review E, 2020, 102, 022308.	2.1	2
47	Correlated inputs to striatal population drive subthalamic nucleus hyper-synchronization. , 2021, , .		2
48	Information homeostasis as a fundamental principle governing the cell division and death. Medical Hypotheses, 2011, 77, 318-322.	1.5	1
49	Information homeostasis as a fundamental principle governing the cell division and death. Nature Precedings, 2011, , .	0.1	1
50	Synfire chains and gamma oscillations: two complementary modes of information transmission in cortical networks. BMC Neuroscience, 2013, 14, P226.	1.9	1
51	Design and simulation of D-latch and multiplexer using vMOS. , 2010, , .		0
52	Title is missing!. , 2019, 15, e1007432.		0
53	Title is missing!. , 2019, 15, e1007432.		0
54	Title is missing!. , 2019, 15, e1007432.		0

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55	Title is missing!. , 2019, 15, e1007432.		0
56	Facilitating the propagation of spiking activity in feedforward networks by including feedback. , 2020, 16, e1008033.		0
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60	Uncoupling the roles of firing rates and spike bursts in shaping the STN-GPe beta band oscillations. , 2020, 16, e1007748.		0
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