

Richard Naud

List of Publications by Year in descending order

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Version: 2024-02-01

62
papers

3,236
citations

430442

18
h-index

500791

28
g-index

84
all docs

84
docs citations

84
times ranked

2998
citing authors

#	ARTICLE	IF	CITATIONS
1	A deep learning framework for neuroscience. <i>Nature Neuroscience</i> , 2019, 22, 1761-1770.	7.1	563
2	Firing patterns in the adaptive exponential integrate-and-fire model. <i>Biological Cybernetics</i> , 2008, 99, 335-347.	0.6	250
3	How Good Are Neuron Models?. <i>Science</i> , 2009, 326, 379-380.	6.0	220
4	Temporal whitening by power-law adaptation in neocortical neurons. <i>Nature Neuroscience</i> , 2013, 16, 942-948.	7.1	164
5	A benchmark test for a quantitative assessment of simple neuron models. <i>Journal of Neuroscience Methods</i> , 2008, 169, 417-424.	1.3	121
6	Burst-dependent synaptic plasticity can coordinate learning in hierarchical circuits. <i>Nature Neuroscience</i> , 2021, 24, 1010-1019.	7.1	114
7	The quantitative single-neuron modeling competition. <i>Biological Cybernetics</i> , 2008, 99, 417-426.	0.6	103
8	Sparse bursts optimize information transmission in a multiplexed neural code. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018, 115, E6329-E6338.	3.3	99
9	Parameter extraction and classification of three cortical neuron types reveals two distinct adaptation mechanisms. <i>Journal of Neurophysiology</i> , 2012, 107, 1756-1775.	0.9	91
10	Perirhinal input to neocortical layer 1 controls learning. <i>Science</i> , 2020, 370, .	6.0	81
11	Automated High-Throughput Characterization of Single Neurons by Means of Simplified Spiking Models. <i>PLoS Computational Biology</i> , 2015, 11, e1004275.	1.5	68
12	Classes of dendritic information processing. <i>Current Opinion in Neurobiology</i> , 2019, 58, 78-85.	2.0	44
13	Coding and Decoding with Adapting Neurons: A Population Approach to the Peri-Stimulus Time Histogram. <i>PLoS Computational Biology</i> , 2012, 8, e1002711.	1.5	42
14	Improved Similarity Measures for Small Sets of Spike Trains. <i>Neural Computation</i> , 2011, 23, 3016-3069.	1.3	37
15	Fluctuations and information filtering in coupled populations of spiking neurons with adaptation. <i>Physical Review E</i> , 2014, 90, 062704.	0.8	32
16	Visualizing a joint future of neuroscience and neuromorphic engineering. <i>Neuron</i> , 2021, 109, 571-575.	3.8	31
17	Spike-timing prediction in cortical neurons with active dendrites. <i>Frontiers in Computational Neuroscience</i> , 2014, 8, 90.	1.2	30
18	Speed-invariant encoding of looming object distance requires power law spike rate adaptation. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2013, 110, 13624-13629.	3.3	26

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19	Counting on dis-inhibition: a circuit motif for interval counting and selectivity in the anuran auditory system. <i>Journal of Neurophysiology</i> , 2015, 114, 2804-2815.	0.9	19
20	Parsing Out the Variability of Transmission at Central Synapses Using Optical Quantal Analysis. <i>Frontiers in Synaptic Neuroscience</i> , 2019, 11, 22.	1.3	18
21	Linear-nonlinear cascades capture synaptic dynamics. <i>PLoS Computational Biology</i> , 2021, 17, e1008013.	1.5	14
22	Cell-type-specific responses to associative learning in the primary motor cortex. <i>ELife</i> , 2022, 11, .	2.8	11
23	Linking demyelination to compound action potential dispersion with a spike-diffuse-spike approach. <i>Journal of Mathematical Neuroscience</i> , 2019, 9, 3.	2.4	8
24	Neural burst codes disguised as rate codes. <i>Scientific Reports</i> , 2021, 11, 15910.	1.6	8
25	The Performance (and Limits) of Simple Neuron Models: Generalizations of the Leaky Integrate-and-Fire Model. , 2012, , 163-192.		7
26	Noise Gated by Dendrosomatic Interactions Increases Information Transmission. <i>Physical Review X</i> , 2017, 7, .	2.8	7
27	Parallel and Recurrent Cascade Models as a Unifying Force for Understanding Subcellular Computation. <i>Neuroscience</i> , 2022, 489, 200-215.	1.1	6
28	Self-organization of a doubly asynchronous irregular network state for spikes and bursts. <i>PLoS Computational Biology</i> , 2021, 17, e1009478.	1.5	5
29	Quantitative Single-Neuron Modeling: Competition 2009. <i>Frontiers in Neuroinformatics</i> , 0, 3, .	1.3	3
30	Nonlinear integrate-and-fire models. , 0, , 119-135.		2
31	GENERALIZED INTEGRATE-AND-FIRE NEURONS. , 0, , 115-118.		2
32	A User's Guide to Generalized Integrate-and-Fire Models. <i>Advances in Experimental Medicine and Biology</i> , 2022, 1359, 69-86.	0.8	2
33	Competing populations and decision making. , 0, , 421-441.		1
34	Memory and attractor dynamics. , 0, , 442-466.		1
35	Synaptic plasticity and learning. , 0, , 491-523.		1
36	Introduction: neurons and mathematics. , 0, , 3-27.		1

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37	Ion channels and the Hodgkin-Huxley model. , 0, , 28-57.		1
38	A Synthetic Likelihood Solution to the Silent Synapse Estimation Problem. Cell Reports, 2020, 32, 107916.	2.9	1
39	Capsule Deep Generative Model That Forms Parse Trees. , 2020, , .		1
40	Spike-timing prediction in a neuron model with active dendrites. BMC Neuroscience, 2009, 10, .	0.8	0
41	Automatic characterization of three cortical neuron types reveals two distinct adaptation mechanisms. BMC Neuroscience, 2011, 12, .	0.8	0
42	Adaptation and firing patterns. , 0, , 136-167.		0
43	Variability of spike trains and neural codes. , 0, , 168-201.		0
44	Noisy input models: barrage of spike arrivals. , 0, , 202-223.		0
45	Noisy output: escape rate and soft threshold. , 0, , 224-242.		0
46	Estimating parameters of probabilistic neuron models. , 0, , 243-266.		0
47	Encoding and decoding with stochastic neuron models. , 0, , 267-286.		0
48	NETWORKS OF NEURONS AND POPULATION ACTIVITY. , 0, , 287-290.		0
49	Continuity equation and the Fokker-Planck approach. , 0, , 325-356.		0
50	Quasi-renewal theory and the integral-equation approach. , 0, , 357-394.		0
51	Fast transients and rate models. , 0, , 395-416.		0
52	DYNAMICS OF COGNITION. , 0, , 417-420.		0
53	Cortical field models for perception. , 0, , 467-490.		0
54	Outlook: dynamics in plastic networks. , 0, , 524-546.		0

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55	Dendrites and synapses. , 0, , 58-80.		0
56	Dimensionality reduction and phase plane analysis. , 0, , 81-114.		0
57	Modeling sound pulse counting in inferior colliculus. BMC Neuroscience, 2014, 15, .	0.8	0
58	Neural coding strategies for extracting motion estimates from electrosensory contrast. BMC Neuroscience, 2014, 15, .	0.8	0
59	Accurate Silent Synapse Estimation from Simulator-Corrected Electrophysiological Data Using the SilentMLE Python Package. STAR Protocols, 2020, 1, 100176.	0.5	0
60	Overwriting the past with supervised plasticity. ELife, 2022, 11, .	2.8	0
61	Neuromatch Academy: a 3-week, online summer school in computational neuroscience. The Journal of Open Source Education, 2022, 5, 118.	0.2	0
62	Neuronal Model Reduction. , 2022, , 2387-2390.		0