Richard Naud

List of Publications by Year
in descending order

62	3,236	430442 18	500791 28
papers	citations	h-index	g-index

84	84	84	2998
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Parallel and Recurrent Cascade Models as a Unifying Force for Understanding Subcellular Computation. Neuroscience, 2022, 489, 200-215.	1.1	6
2	Overwriting the past with supervised plasticity. ELife, 2022, 11, .	2.8	0
3	Cell-type-specific responses to associative learning in the primary motor cortex. ELife, 2022, 11, .	2.8	11
4	Neuromatch Academy: a 3-week, online summer school in computational neuroscience. The Journal of Open Source Education, 2022, 5, 118.	0.2	0
5	A Userâ€™s Guide to Generalized Integrate-and-Fire Models. Advances in Experimental Medicine and Biology, 2022, 1359, 69-86.	0.8	2
6	Neuronal Model Reduction. , 2022, , 2387-2390.		0
7	Visualizing a joint future of neuroscience and neuromorphic engineering. Neuron, 2021, 109, 571-575.	3.8	31
8	Linear-nonlinear cascades capture synaptic dynamics. PLoS Computational Biology, 2021, 17, e1008013.	1.5	14
9	Burst-dependent synaptic plasticity can coordinate learning in hierarchical circuits. Nature Neuroscience, 2021, 24, 1010-1019.	7.1	114
10	Neural burst codes disguised as rate codes. Scientific Reports, 2021, 11, 15910.	1.6	8
11	Self-organization of a doubly asynchronous irregular network state for spikes and bursts. PLoS Computational Biology, 2021, 17, e1009478.	1.5	5
12	A Synthetic Likelihood Solution to the Silent Synapse Estimation Problem. Cell Reports, 2020, 32, 107916.	2.9	1
13	Capsule Deep Generative Model That Forms Parse Trees. , 2020, , .		1
14	Accurate Silent Synapse Estimation from Simulator-Corrected Electrophysiological Data Using the SilentMLE Python Package. STAR Protocols, 2020, 1, 100176.	0.5	0
15	Perirhinal input to neocortical layer 1 controls learning. Science, 2020, 370, .	6.0	81
16	Classes of dendritic information processing. Current Opinion in Neurobiology, 2019, 58, 78-85.	2.0	44
17	Linking demyelination to compound action potential dispersion with a spike-diffuse-spike approach. Journal of Mathematical Neuroscience, 2019, 9, 3.	2.4	8
18	A deep learning framework for neuroscience. Nature Neuroscience, 2019, 22, 1761-1770.	7.1	563

#	Article	IF	Citations
19	Parsing Out the Variability of Transmission at Central Synapses Using Optical Quantal Analysis. Frontiers in Synaptic Neuroscience, 2019, 11, 22.	1.3	18
20	Sparse bursts optimize information transmission in a multiplexed neural code. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, E6329-E6338.	3.3	99
21	Noise Gated by Dendrosomatic Interactions Increases Information Transmission. Physical Review X, 2017, 7, .	2.8	7
22	Automated High-Throughput Characterization of Single Neurons by Means of Simplified Spiking Models. PLoS Computational Biology, 2015, 11, e1004275.	1.5	68
23	Counting on dis-inhibition: a circuit motif for interval counting and selectivity in the anuran auditory system. Journal of Neurophysiology, 2015, 114, 2804-2815.	0.9	19
24	Spike-timing prediction in cortical neurons with active dendrites. Frontiers in Computational Neuroscience, 2014, 8, 90.	1.2	30
25	Fluctuations and information filtering in coupled populations of spiking neurons with adaptation. Physical Review E, 2014, 90, 062704.	0.8	32
26	Modeling sound pulse counting in inferior colliculus. BMC Neuroscience, 2014, 15, .	0.8	0
27	Neural coding strategies for extracting motion estimates from electrosensory contrast. BMC Neuroscience, 2014, 15, .	0.8	0
28	Temporal whitening by power-law adaptation in neocortical neurons. Nature Neuroscience, 2013, 16, 942-948.	7.1	164
29	Speed-invariant encoding of looming object distance requires power law spike rate adaptation. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 13624-13629.	3.3	26
30	Coding and Decoding with Adapting Neurons: A Population Approach to the Peri-Stimulus Time Histogram. PLoS Computational Biology, 2012, 8, e1002711.	1.5	42
31	The Performance (and Limits) of Simple Neuron Models: Generalizations of the Leaky Integrate-and-Fire Model. , 2012, , 163-192.		7
32	Parameter extraction and classification of three cortical neuron types reveals two distinct adaptation mechanisms. Journal of Neurophysiology, 2012, 107, 1756-1775.	0.9	91
33	Improved Similarity Measures for Small Sets of Spike Trains. Neural Computation, 2011, 23, 3016-3069.	1.3	37
34	Automatic characterization of three cortical neuron types reveals two distinct adaptation mechanisms. BMC Neuroscience, 2011, 12, .	0.8	0
35	Spike-timing prediction in a neuron model with active dendrites. BMC Neuroscience, 2009, 10, .	0.8	0
36	How Good Are Neuron Models?. Science, 2009, 326, 379-380.	6.0	220

#	Article	IF	Citations
37	The quantitative single-neuron modeling competition. Biological Cybernetics, 2008, 99, 417-426.	0.6	103
38	Firing patterns in the adaptive exponential integrate-and-fire model. Biological Cybernetics, 2008, 99, 335-347.	0.6	250
39	A benchmark test for a quantitative assessment of simple neuron models. Journal of Neuroscience Methods, 2008, 169, 417-424.	1.3	121
40	Adaptation and firing patterns. , 0, , 136-167.		0
41	Nonlinear integrate-and-fire models. , 0, , 119-135.		2
42	GENERALIZED INTEGRATE-AND-FIRE NEURONS. , 0, , 115-118.		2
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 Fokkerâ€“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	Competing populations and decision making. , 0, , 421-441.		1
54	Memory and attractor dynamics. , 0, , 442-466.		1

#	Article	IF	Citations
55	Cortical field models for perception. , 0, , 467-490.		0
56	Synaptic plasticity and learning. , 0, , 491-523.		1
57	Outlook: dynamics in plastic networks. , 0, , 524-546.		0
58	Introduction: neurons and mathematics. , 0, , 3-27.		1
59	Ion channels and the Hodgkinâ€“Huxley model. , 0, , 28-57.		1
60	Dendrites and synapses. , 0, , 58-80.		0
61	Dimensionality reduction and phase plane analysis. , 0, , 81-114.		0
62	Quantitative Single-Neuron Modeling: Competition 2009. Frontiers in Neuroinformatics, 0, 3, .	1.3	3