Eilif B Muller

List of Publications by Year
in descending order

38 papers	4,255 citations	377584 21 h-index	388640 36 g-index
46 all docs	46 docs citations	46 times ranked	4590 citing authors

#	Article	IF	Citations
1	Informing deep neural networks by multiscale principles of neuromodulatory systems. Trends in Neurosciences, 2022, 45, 237-250.	4.2	21
2	A calcium-based plasticity model for predicting long-term potentiation and depression in the neocortex. Nature Communications, 2022, 13, .	5.8	30
3	HippoUnit: A software tool for the automated testing and systematic comparison of detailed models of hippocampal neurons based on electrophysiological data. PLoS Computational Biology, 2021, 17, e1008114.	1.5	12
4	In silico voltage-sensitive dye imaging reveals the emergent dynamics of cortical populations. Nature Communications, 2021, 12, 3630.	5.8	11
5	Dataâ€driven integration of hippocampal <scp>CA1</scp> synaptic physiology in silico. Hippocampus, 2020, 30, 1129-1145.	0.9	38
6	The SONATA data format for efficient description of large-scale network models. PLoS Computational Biology, 2020, 16, e1007696.	1.5	32
7	Cortical reliability amid noise and chaos. Nature Communications, 2019, 10, 3792.	5.8	34
8	Estimating the Readily-Releasable Vesicle Pool Size at Synaptic Connections in the Neocortex. Frontiers in Synaptic Neuroscience, 2019, 11, 29.	1.3	18
9	A null model of the mouse whole-neocortex micro-connectome. Nature Communications, 2019, 10, 3903.	5.8	27
10	The physiological variability of channel density in hippocampal CA1 pyramidal cells and interneurons explored using a unified data-driven modeling workflow. PLoS Computational Biology, 2018, 14, e1006423.	1.5	91
11	26th Annual Computational Neuroscience Meeting (CNS*2017): Part 3. BMC Neuroscience, 2017, 18, .	0.8	7
12	Timed Synaptic Inhibition Shapes NMDA Spikes, Influencing Local Dendritic Processing and Global I/O Properties of Cortical Neurons. Cell Reports, 2017, 21, 1550-1561.	2.9	62
13	Morphological Diversity Strongly Constrains Synaptic Connectivity and Plasticity. Cerebral Cortex, 2017, 27, 4570-4585.	1.6	43
14	Distinct Activity Profiles of Somatostatin-Expressing Interneurons in the Neocortex. Frontiers in Cellular Neuroscience, 2017, 11, 273.	1.8	3
15	Rich cell-type-specific network topology in neocortical microcircuitry. Nature Neuroscience, 2017, 20, 1004-1013.	7.1	113
16	BluePyOpt: Leveraging Open Source Software and Cloud Infrastructure to Optimise Model Parameters in Neuroscience. Frontiers in Neuroinformatics, 2016, 10, 17.	1.3	138
17	From Neuron Biophysics to Orientation Selectivity in Electrically Coupled Networks of Neocortical L2/3 Large Basket Cells. Cerebral Cortex, 2016, 26, 3655-3668.	1.6	27
18	Network-timing-dependent plasticity. Frontiers in Cellular Neuroscience, 2015, 9, 220.	1.8	14

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19	Cell-type specific modulation of neocortical UP and DOWN states. Frontiers in Cellular Neuroscience, 2015, 9, 370.	1.8	2
20	The neocortical microcircuit collaboration portal: a resource for rat somatosensory cortex. Frontiers in Neural Circuits, 2015, 9, 44.	1.4	138
21	An algorithm to predict the connectome of neural microcircuits. Frontiers in Computational Neuroscience, 2015, 9, 120.	1.2	98
22	Python in neuroscience. Frontiers in Neuroinformatics, 2015, 9, 11.	1.3	60
23	Reconstruction and Simulation of Neocortical Microcircuitry. Cell, 2015, 163, 456-492.	13.5	1,258
24	Cellular Adaptation Facilitates Sparse and Reliable Coding in Sensory Pathways. PLoS Computational Biology, 2013, 9, e1003251.	1.5	54
25	A comprehensive workflow for general-purpose neural modeling with highly configurable neuromorphic hardware systems. Biological Cybernetics, 2011, 104, 263-296.	0.6	72
26	NineML: the network interchange for ne uroscience modeling language. BMC Neuroscience, 2011, 12, .	0.8	27
27	Adaptation reduces variability of the neuronal population code. Physical Review E, 2011, 83, 050905.	0.8	40
28	Trends in programming languages for neuroscience simulations. Frontiers in Neuroscience, 2009, 3, 374-380.	1.4	38
29	NEURON and Python. Frontiers in Neuroinformatics, 2009, 3, 1.	1.3	331
30	Sequential sparsing by successive adapting neural populations. BMC Neuroscience, 2009, 10, .	0.8	3
31	Caring for the environment: the blooming "Python in Neuroscience" ecosystem. BMC Neuroscience, 2009, 10, .	0.8	0
32	Establishing a Novel Modeling Tool: A Python-based Interface for a Neuromorphic Hardware System. Frontiers in Neuroinformatics, 2009, 3, 17.	1.3	35
33	PyNN: a common interface for neuronal network simulators. Frontiers in Neuroinformatics, 2008, 2, 11.	1.3	409
34	PyNEST: A convenient interface to the NEST simulator. Frontiers in Neuroinformatics, 2008, 2, 12.	1.3	170
35	Spike-Frequency Adapting Neural Ensembles: Beyond Mean Adaptation and Renewal Theories. Neural Computation, 2007, 19, 2958-3010.	1.3	59
36	Simulation of networks of spiking neurons: A review of tools and strategies. Journal of Computational Neuroscience, 2007, 23, 349-398.	0.6	639

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37	Interoperability of Neuroscience Modeling Software: Current Status and Future Directions. Neuroinformatics, 2007, 5, 127-138.	1.5	68
38	The SONATA Data Format for Efficient Description of Large-Scale Network Models. SSRN Electronic Journal, 0, , .	0.4	6