Felix SchÃ¼rmann

List of Publications by Year
in descending order

44 papers	3,511 citations	279701 23 h-index	265120 42 g-index
48 all docs	48 docs citations	48 times ranked	3207 citing authors

#	Article	IF	Citations
1	Reconstruction and Simulation of Neocortical Microcircuitry. Cell, 2015, 163, 456-492.	13.5	1,258
2	Models of Neocortical Layer 5b Pyramidal Cells Capturing aÂWide Range of Dendritic and Perisomatic Active Properties. PLoS Computational Biology, 2011, 7, e1002107.	1.5	313
3	A novel multiple objective optimization framework for constraining conductance-based neuron models by experimental data. Frontiers in Neuroscience, 2007, 1, 7-18.	1.4	260
4	Statistical connectivity provides a sufficient foundation for specific functional connectivity in neocortical neural microcircuits. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, E2885-94.	3.3	178
5	The neocortical microcircuit collaboration portal: a resource for rat somatosensory cortex. Frontiers in Neural Circuits, 2015, 9, 44.	1.4	138
6	BluePyOpt: Leveraging Open Source Software and Cloud Infrastructure to Optimise Model Parameters in Neuroscience. Frontiers in Neuroinformatics, 2016, 10, 17.	1.3	138
7	The Scientific Case for Brain Simulations. Neuron, 2019, 102, 735-744.	3.8	123
8	The quantitative single-neuron modeling competition. Biological Cybernetics, 2008, 99, 417-426.	0.6	103
9	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
10	Fully implicit parallel simulation of single neurons. Journal of Computational Neuroscience, 2008, 25, 439-448.	0.6	76
11	Channelpedia: An Integrative and Interactive Database for Ion Channels. Frontiers in Neuroinformatics, 2011, 5, 36.	1.3	65
12	Preserving axosomatic spiking features despite diverse dendritic morphology. Journal of Neurophysiology, 2013, 109, 2972-2981.	0.9	64
13	CoreNEURON : An Optimized Compute Engine for the NEURON Simulator. Frontiers in Neuroinformatics, 2019, 13, 63.	1.3	58
14	Evaluating automated parameter constraining procedures of neuron models by experimental and surrogate data. Biological Cybernetics, 2008, 99, 371-379.	0.6	53
15	Effective Stimuli for Constructing Reliable Neuron Models. PLoS Computational Biology, 2011, 7, e1002133.	1.5	49
16	An Exclusion Zone for Ca2+ Channels around Docked Vesicles Explains Release Control by Multiple Channels at a CNS Synapse. PLoS Computational Biology, 2015, 11, e1004253.	1.5	49
17	Neuron splitting in compute-bound parallel network simulations enables runtime scaling with twice as many processors. Journal of Computational Neuroscience, 2008, 25, 203-210.	0.6	47
18	Norepinephrine stimulates glycogenolysis in astrocytes to fuel neurons with lactate. PLoS Computational Biology, 2018, 14, e1006392.	1.5	47

#	Article	IF	Citations
19	Intrinsic morphological diversity of thickâ€tufted layer 5 pyramidal neurons ensures robust and invariant properties of in silico synaptic connections. Journal of Physiology, 2012, 590, 737-752.	1.3	44
20	NeuroMorphoVis: a collaborative framework for analysis and visualization of neuronal morphology skeletons reconstructed from microscopy stacks. Bioinformatics, 2018, 34, i574-i582.	1.8	43
21	Comparison of neuronal spike exchange methods on a Blue Gene/P supercomputer. Frontiers in Computational Neuroscience, 2011, 5, 49.	1.2	42
22	Simulation Neurotechnologies for Advancing Brain Research: Parallelizing Large Networks in NEURON. Neural Computation, 2016, 28, 2063-2090.	1.3	40
23	Single Neuron Optimization as a Basis for Accurate Biophysical Modeling: The Case of Cerebellar Granule Cells. Frontiers in Cellular Neuroscience, 2017, 11, 71.	1.8	36
24	An efficient analytical reduction of detailed nonlinear neuron models. Nature Communications, 2020, 11, 288.	5.8	22
25	A Component-Based Extension Framework for Large-Scale Parallel Simulations in NEURON. Frontiers in Neuroinformatics, 2009, 3, 10.	1.3	18
26	A Mixed-Mode Analog Neural Network Using Current-Steering Synapses. Analog Integrated Circuits and Signal Processing, 2004, 38, 233-244.	0.9	17
27	Modernizing the NEURON Simulator for Sustainability, Portability, and Performance. Frontiers in Neuroinformatics, 0, 16, .	1.3	16
28	Combinatorial Expression Rules of Ion Channel Genes in Juvenile Rat (Rattus norvegicus) Neocortical Neurons. PLoS ONE, 2012, 7, e34786.	1.1	14
29	Bio-physically plausible visualization of highly scattering fluorescent neocortical models for in silico experimentation. BMC Bioinformatics, 2017, 18, 62.	1.2	14
30	Special issue on quantitative neuron modeling. Biological Cybernetics, 2008, 99, 237-239.	0.6	12
31	Performance evaluation of the IBM POWER8 architecture to support computational neuroscientific application using morphologically detailed neurons. , 2015, , .		10
32	Reconstruction of the Hippocampus. Advances in Experimental Medicine and Biology, 2022, 1359, 261-283.	0.8	10
33	Reconstruction and visualization of large-scale volumetric models of neocortical circuits for physically-plausible in silico optical studies. BMC Bioinformatics, 2017, 18, 402.	1.2	9
34	Analytic performance modeling and analysis of detailed neuron simulations. International Journal of High Performance Computing Applications, 2020, 34, 428-449.	2.4	9
35	Understanding Computational Costs of Cellular-Level Brain Tissue Simulations Through Analytical Performance Models. Neuroinformatics, 2020, 18, 407-428.	1.5	8
36	Metaball skinning of synthetic astroglial morphologies into realistic mesh models for in silico simulations and visual analytics. Bioinformatics, 2021, 37, i426-i433.	1.8	6

#	Article	IF	Citations
37	An Optimizing Multi-platform Source-to-source Compiler Framework for the NEURON MODeling Language. Lecture Notes in Computer Science, 2020, , 45-58.	1.0	5
38	Asynchronous Branch-Parallel Simulation of Detailed Neuron Models. Frontiers in Neuroinformatics, 2019, 13, 54.	1.3	4
39	Excitation states of metabolic networks predict dose-response fingerprinting and ligand pulse phase signalling. Journal of Theoretical Biology, 2020, 487, 110123.	0.8	3
40	Fully-Asynchronous Cache-Efficient Simulation of Detailed Neural Networks. Lecture Notes in Computer Science, 2019, , 421-434.	1.0	2
41	Representing stimulus information in an energy metabolism pathway. Journal of Theoretical Biology, 2022, 540, 111090.	0.8	2
42	Computational Concepts for Reconstructing and Simulating Brain Tissue. Advances in Experimental Medicine and Biology, 2022, 1359, 237-259.	0.8	2
43	Fully implicit parallel simulation of single neurons. BMC Neuroscience, 2007, 8, .	0.8	1
44	Die Welt im Meer. WerkstattGeschichte, 2021, 83, 69-84.	0.0	0