

Gaute Tomas Einevoll

List of Publications by Year in descending order

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97
papers

6,146
citations

136740

32
h-index

98622

67
g-index

122
all docs

122
docs citations

122
times ranked

5781
citing authors

#	ARTICLE	IF	CITATIONS
1	Computing Extracellular Electric Potentials from Neuronal Simulations. <i>Advances in Experimental Medicine and Biology</i> , 2022, 1359, 179-199.	0.8	5
2	Extracellular Potentials, Forward Modeling of. , 2022, , 1375-1380.		0
3	LFPy: Multimodal Modeling of Extracellular Neuronal Recordings in Python. , 2022, , 1791-1800.		0
4	Lateral Geniculate Nucleus (LGN) Models. , 2022, , 1780-1786.		0
5	MEArc: A Fast and Customizable Testbench Simulator for Ground-truth Extracellular Spiking Activity. <i>Neuroinformatics</i> , 2021, 19, 185-204.	1.5	33
6	Biophysically detailed forward modeling of the neural origin of EEG and MEG signals. <i>NeuroImage</i> , 2021, 225, 117467.	2.1	37
7	RippleNet: a Recurrent Neural Network for Sharp Wave Ripple (SPW-R) Detection. <i>Neuroinformatics</i> , 2021, 19, 493-514.	1.5	9
8	Computation of the electroencephalogram (EEG) from network models of point neurons. <i>PLoS Computational Biology</i> , 2021, 17, e1008893.	1.5	20
9	Evidence for Reduced Long-Term Potentiation-Like Visual Cortical Plasticity in Schizophrenia and Bipolar Disorder. <i>Schizophrenia Bulletin</i> , 2021, 47, 1751-1760.	2.3	8
10	All-Optical Electrophysiology in hiPSC-Derived Neurons With Synthetic Voltage Sensors. <i>Frontiers in Cellular Neuroscience</i> , 2021, 15, 671549.	1.8	3
11	An electrodiffusive neuron-extracellular-glia model for exploring the genesis of slow potentials in the brain. <i>PLoS Computational Biology</i> , 2021, 17, e1008143.	1.5	15
12	Corticothalamic feedback sculpts visual spatial integration in mouse thalamus. <i>Nature Neuroscience</i> , 2021, 24, 1711-1720.	7.1	28
13	Multi-Linear Population Analysis (MLPA) of LFP Data Using Tensor Decompositions. <i>Frontiers in Applied Mathematics and Statistics</i> , 2020, 6, .	0.7	2
14	Experience-dependent modulation of the visual evoked potential: Testing effect sizes, retention over time, and associations with age in 415 healthy individuals. <i>NeuroImage</i> , 2020, 223, 117302.	2.1	12
15	Estimation of neural network model parameters from local field potentials (LFPs). <i>PLoS Computational Biology</i> , 2020, 16, e1007725.	1.5	18
16	An electrodiffusive, ion conserving Pinsky-Rinzel model with homeostatic mechanisms. <i>PLoS Computational Biology</i> , 2020, 16, e1007661.	1.5	24
17	Finite Element Simulation of Ionic Electrodiffusion in Cellular Geometries. <i>Frontiers in Neuroinformatics</i> , 2020, 14, 11.	1.3	29
18	Brain Modeling ToolKit: An open source software suite for multiscale modeling of brain circuits. <i>PLoS Computational Biology</i> , 2020, 16, e1008386.	1.5	34

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19	A unified computational model for cortical post-synaptic plasticity. <i>ELife</i> , 2020, 9, .	2.8	29
20	Spatially resolved estimation of metabolic oxygen consumption from optical measurements in cortex. <i>Neurophotonics</i> , 2020, 7, 035005.	1.7	4
21	Extracellular Potentials, Forward Modeling of. , 2020, , 1-6.		0
22	An electrodiffusive, ion conserving Pinsky-Rinzel model with homeostatic mechanisms. , 2020, 16, e1007661.		0
23	An electrodiffusive, ion conserving Pinsky-Rinzel model with homeostatic mechanisms. , 2020, 16, e1007661.		0
24	An electrodiffusive, ion conserving Pinsky-Rinzel model with homeostatic mechanisms. , 2020, 16, e1007661.		0
25	An electrodiffusive, ion conserving Pinsky-Rinzel model with homeostatic mechanisms. , 2020, 16, e1007661.		0
26	A computational model for gonadotropin releasing cells in the teleost fish medaka. <i>PLoS Computational Biology</i> , 2019, 15, e1006662.	1.5	5
27	Biophysical Psychiatry—How Computational Neuroscience Can Help to Understand the Complex Mechanisms of Mental Disorders. <i>Frontiers in Psychiatry</i> , 2019, 10, 534.	1.3	19
28	Computational Modeling of Genetic Contributions to Excitability and Neural Coding in Layer V Pyramidal Cells: Applications to Schizophrenia Pathology. <i>Frontiers in Computational Neuroscience</i> , 2019, 13, 66.	1.2	5
29	The Scientific Case for Brain Simulations. <i>Neuron</i> , 2019, 102, 735-744.	3.8	123
30	Astrocytic Ion Dynamics: Implications for Potassium Buffering and Liquid Flow. <i>Springer Series in Computational Neuroscience</i> , 2019, , 363-391.	0.3	10
31	Alterations in Schizophrenia-Associated Genes Can Lead to Increased Power in Delta Oscillations. <i>Cerebral Cortex</i> , 2019, 29, 875-891.	1.6	30
32	LFPy: Multimodal Modeling of Extracellular Neuronal Recordings in Python. , 2019, , 1-10.		3
33	A stepwise neuron model fitting procedure designed for recordings with high spatial resolution: Application to layer 5 pyramidal cells. <i>Journal of Neuroscience Methods</i> , 2018, 293, 264-283.	1.3	27
34	Multimodal Modeling of Neural Network Activity: Computing LFP, ECoG, EEG, and MEG Signals With LFPy 2.0. <i>Frontiers in Neuroinformatics</i> , 2018, 12, 92.	1.3	103
35	Neural timing of stimulus events with microsecond precision. <i>PLoS Biology</i> , 2018, 16, e2006422.	2.6	23
36	Independent Component Analysis for Fully Automated Multi-Electrode Array Spike Sorting. , 2018, 2018, 2627-2630.		9

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37	A Kirchhoff-Nernst-Planck framework for modeling large scale extracellular electrodiffusion surrounding morphologically detailed neurons. PLoS Computational Biology, 2018, 14, e1006510.	1.5	26
38	Firing-rate based network modeling of the dLGN circuit: Effects of cortical feedback on spatiotemporal response properties of relay cells. PLoS Computational Biology, 2018, 14, e1006156.	1.5	8
39	Uncertainpy: A Python Toolbox for Uncertainty Quantification and Sensitivity Analysis in Computational Neuroscience. Frontiers in Neuroinformatics, 2018, 12, 49.	1.3	66
40	Investigating large-scale brain dynamics using field potential recordings: analysis and interpretation. Nature Neuroscience, 2018, 21, 903-919.	7.1	299
41	Combining biophysical modeling and deep learning for multielectrode array neuron localization and classification. Journal of Neurophysiology, 2018, 120, 1212-1232.	0.9	33
42	Firing-rate models for neurons with a broad repertoire of spiking behaviors. Journal of Computational Neuroscience, 2018, 45, 103-132.	0.6	13
43	h-Type Membrane Current Shapes the Local Field Potential from Populations of Pyramidal Neurons. Journal of Neuroscience, 2018, 38, 6011-6024.	1.7	37
44	Biophysical network modeling of the dLGN circuit: Effects of cortical feedback on spatial response properties of relay cells. PLoS Computational Biology, 2018, 14, e1005930.	1.5	6
45	Lateral Geniculate Nucleus (LGN) Models. , 2018, , 1-7.		0
46	From Maxwell's equations to the theory of current-source density analysis. European Journal of Neuroscience, 2017, 45, 1013-1023.	1.2	30
47	Focal Local Field Potential Signature of the Single-Axon Monosynaptic Thalamocortical Connection. Journal of Neuroscience, 2017, 37, 5123-5143.	1.7	28
48	Ion diffusion may introduce spurious current sources in current-source density (CSD) analysis. Journal of Neurophysiology, 2017, 118, 114-120.	0.9	15
49	Pleiotropic effects of schizophrenia-associated genetic variants in neuron firing and cardiac pacemaking revealed by computational modeling. Translational Psychiatry, 2017, 7, 5.	2.4	24
50	An Evaluation of the Accuracy of Classical Models for Computing the Membrane Potential and Extracellular Potential for Neurons. Frontiers in Computational Neuroscience, 2017, 11, 27.	1.2	55
51	Corrected Four-Sphere Head Model for EEG Signals. Frontiers in Human Neuroscience, 2017, 11, 490.	1.0	29
52	Neuronify: An Educational Simulator for Neural Circuits. ENeuro, 2017, 4, ENEURO.0022-17.2017.	0.9	7
53	Impedance Spectrum in Cortical Tissue: Implications for Propagation of LFP Signals on the Microscopic Level. ENeuro, 2017, 4, ENEURO.0291-16.2016.	0.9	61
54	Generalized Lamina Population Analysis (gLPA) for Interpretation of Multielectrode Data from Cortex. Frontiers in Neuroinformatics, 2016, 10, 1.	1.3	76

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55	Cell type specificity of neurovascular coupling in cerebral cortex. <i>ELife</i> , 2016, 5, .	2.8	176
56	Active subthreshold dendritic conductances shape the local field potential. <i>Journal of Physiology</i> , 2016, 594, 3809-3825.	1.3	69
57	Hybrid Scheme for Modeling Local Field Potentials from Point-Neuron Networks. <i>Cerebral Cortex</i> , 2016, 26, 4461-4496.	1.6	89
58	The roadmap for estimation of cell-type-specific neuronal activity from non-invasive measurements. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , 2016, 371, 20150356.	1.8	41
59	Functional Effects of Schizophrenia-Linked Genetic Variants on Intrinsic Single-Neuron Excitability: A Modeling Study. <i>Biological Psychiatry: Cognitive Neuroscience and Neuroimaging</i> , 2016, 1, 49-59.	1.1	21
60	Biophysical Network Modelling of the dLGN Circuit: Different Effects of Triadic and Axonal Inhibition on Visual Responses of Relay Cells. <i>PLoS Computational Biology</i> , 2016, 12, e1004929.	1.5	12
61	Effect of Ionic Diffusion on Extracellular Potentials in Neural Tissue. <i>PLoS Computational Biology</i> , 2016, 12, e1005193.	1.5	58
62	Computing the Local Field Potential (LFP) from Integrate-and-Fire Network Models. <i>PLoS Computational Biology</i> , 2015, 11, e1004584.	1.5	391
63	ViSAPy: A Python tool for biophysics-based generation of virtual spiking activity for evaluation of spike-sorting algorithms. <i>Journal of Neuroscience Methods</i> , 2015, 245, 182-204.	1.3	45
64	Modelling and Analysis of Electrical Potentials Recorded in Microelectrode Arrays (MEAs). <i>Neuroinformatics</i> , 2015, 13, 403-426.	1.5	81
65	Modelling and Analysis of Electrical Potentials Recorded in Microelectrode Arrays (MEAs). , 2015, 13, 403.		1
66	The Subcellular Distribution of T-Type Ca ²⁺ Channels in Interneurons of the Lateral Geniculate Nucleus. <i>PLoS ONE</i> , 2014, 9, e107780.	1.1	9
67	Dynamics of self-sustained asynchronous-irregular activity in random networks of spiking neurons with strong synapses. <i>Frontiers in Computational Neuroscience</i> , 2014, 8, 136.	1.2	38
68	Power Laws from Linear Neuronal Cable Theory: Power Spectral Densities of the Soma Potential, Soma Membrane Current and Single-Neuron Contribution to the EEG. <i>PLoS Computational Biology</i> , 2014, 10, e1003928.	1.5	38
69	<i>In vivo</i> Stimulus-Induced Vasodilation Occurs without IP ₃ Receptor Activation and May Precede Astrocytic Calcium Increase. <i>Journal of Neuroscience</i> , 2013, 33, 8411-8422.	1.7	191
70	The Challenge of Connecting the Dots in the B.R.A.I.N.. <i>Neuron</i> , 2013, 80, 270-274.	3.8	73
71	Modelling and analysis of local field potentials for studying the function of cortical circuits. <i>Nature Reviews Neuroscience</i> , 2013, 14, 770-785.	4.9	693
72	Firing-rate models capture essential response dynamics of LGN relay cells. <i>Journal of Computational Neuroscience</i> , 2013, 35, 359-375.	0.6	16

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73	Frequency Dependence of Signal Power and Spatial Reach of the Local Field Potential. PLoS Computational Biology, 2013, 9, e1003137.	1.5	133
74	Electrodiffusive Model for Astrocytic and Neuronal Ion Concentration Dynamics. PLoS Computational Biology, 2013, 9, e1003386.	1.5	51
75	Pitfalls in the interpretation of multielectrode data: on the infeasibility of the neuronal current-source monopoles. Journal of Neurophysiology, 2013, 109, 1681-1682.	0.9	21
76	How pattern formation in ring networks of excitatory and inhibitory spiking neurons depends on the input current regime. Frontiers in Computational Neuroscience, 2013, 7, 187.	1.2	35
77	LFPy: a tool for biophysical simulation of extracellular potentials generated by detailed model neurons. Frontiers in Neuroinformatics, 2013, 7, 41.	1.3	147
78	Extended difference-of-Gaussians model incorporating cortical feedback for relay cells in the lateral geniculate nucleus of cat. Cognitive Neurodynamics, 2012, 6, 307-324.	2.3	21
79	A minimal mechanistic model for temporal signal processing in the lateral geniculate nucleus. Cognitive Neurodynamics, 2012, 6, 259-281.	2.3	12
80	Towards reliable spike-train recordings from thousands of neurons with multielectrodes. Current Opinion in Neurobiology, 2012, 22, 11-17.	2.0	184
81	Dependence of spontaneous neuronal firing and depolarisation block on astroglial membrane transport mechanisms. Journal of Computational Neuroscience, 2012, 32, 147-165.	0.6	64
82	Decorrelation of Neural-Network Activity by Inhibitory Feedback. PLoS Computational Biology, 2012, 8, e1002596.	1.5	159
83	Modeling the Spatial Reach of the LFP. Neuron, 2011, 72, 859-872.	3.8	393
84	On the Estimation of Population-Specific Synaptic Currents from Laminar Multielectrode Recordings. Frontiers in Neuroinformatics, 2011, 5, 32.	1.3	28
85	Inverse Current Source Density Method in Two Dimensions: Inferring Neural Activation from Multielectrode Recordings. Neuroinformatics, 2011, 9, 401-425.	1.5	56
86	A Multi-Compartment Model for Interneurons in the Dorsal Lateral Geniculate Nucleus. PLoS Computational Biology, 2011, 7, e1002160.	1.5	36
87	Coarse-to-Fine Changes of Receptive Fields in Lateral Geniculate Nucleus Have a Transient and a Sustained Component That Depend on Distinct Mechanisms. PLoS ONE, 2011, 6, e24523.	1.1	14
88	Intrinsic dendritic filtering gives low-pass power spectra of local field potentials. Journal of Computational Neuroscience, 2010, 29, 423-444.	0.6	208
89	An automated online positioning system and simulation environment for multi-electrodes in extracellular recordings. , 2010, 2010, 593-7.		10
90	Sharing with Python. Frontiers in Neuroscience, 2009, 3, 334-335.	1.4	3

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91	Estimation of Thalamocortical and Intracortical Network Models from Joint Thalamic Single-Electrode and Cortical Laminar-Electrode Recordings in the Rat Barrel System. PLoS Computational Biology, 2009, 5, e1000328.	1.5	30
92	Astrocytic Mechanisms Explaining Neural-Activity-Induced Shrinkage of Extraneuronal Space. PLoS Computational Biology, 2009, 5, e1000272.	1.5	107
93	Amplitude Variability and Extracellular Low-Pass Filtering of Neuronal Spikes. Biophysical Journal, 2008, 94, 784-802.	0.2	217
94	Estimation of population firing rates and current source densities from laminar electrode recordings. Journal of Computational Neuroscience, 2008, 24, 291-313.	0.6	103
95	Laminar Population Analysis: Estimating Firing Rates and Evoked Synaptic Activity From Multielectrode Recordings in Rat Barrel Cortex. Journal of Neurophysiology, 2007, 97, 2174-2190.	0.9	148
96	Current-source density estimation based on inversion of electrostatic forward solution: Effects of finite extent of neuronal activity and conductivity discontinuities. Journal of Neuroscience Methods, 2006, 154, 116-133.	1.3	325
97	Extracellular spikes and CSD. , 0, , 92-135.		55