

Olivier Marre

List of Publications by Year in descending order

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Version: 2024-02-01

56
papers

2,768
citations

218381

26
h-index

214527

47
g-index

76
all docs

76
docs citations

76
times ranked

2656
citing authors

#	ARTICLE	IF	CITATIONS
1	A spike sorting toolbox for up to thousands of electrodes validated with ground truth recordings in vitro and in vivo. <i>ELife</i> , 2018, 7, .	2.8	251
2	Searching for Collective Behavior in a Large Network of Sensory Neurons. <i>PLoS Computational Biology</i> , 2014, 10, e1003408.	1.5	190
3	Predictive information in a sensory population. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015, 112, 6908-6913.	3.3	174
4	Thermodynamics and signatures of criticality in a network of neurons. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015, 112, 11508-11513.	3.3	169
5	Targeting Channelrhodopsin-2 to ON-bipolar Cells With Vitreally Administered AAV Restores ON and OFF Visual Responses in Blind Mice. <i>Molecular Therapy</i> , 2015, 23, 7-16.	3.7	166
6	Mapping a Complete Neural Population in the Retina. <i>Journal of Neuroscience</i> , 2012, 32, 14859-14873.	1.7	140
7	Red-shifted channelrhodopsin stimulation restores light responses in blind mice, macaque retina, and human retina. <i>EMBO Molecular Medicine</i> , 2016, 8, 1248-1264.	3.3	139
8	A New Promoter Allows Optogenetic Vision Restoration with Enhanced Sensitivity in Macaque Retina. <i>Molecular Therapy</i> , 2017, 25, 2546-2560.	3.7	131
9	Toward a unified theory of efficient, predictive, and sparse coding. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018, 115, 186-191.	3.3	124
10	Prediction of Spatiotemporal Patterns of Neural Activity from Pairwise Correlations. <i>Physical Review Letters</i> , 2009, 102, 138101.	2.9	107
11	The simplest maximum entropy model for collective behavior in a neural network. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2013, 2013, P03011.	0.9	89
12	Network-State Modulation of Power-Law Frequency-Scaling in Visual Cortical Neurons. <i>PLoS Computational Biology</i> , 2009, 5, e1000519.	1.5	70
13	Optogenetic therapy: high spatiotemporal resolution and pattern discrimination compatible with vision restoration in non-human primates. <i>Communications Biology</i> , 2021, 4, 125.	2.0	65
14	Dissecting the Contribution of Individual Receptor Subunits to the Enhancement of N-methyl-d-Aspartate Currents by Dopamine D1 Receptor Activation in Striatum. <i>Frontiers in Systems Neuroscience</i> , 2011, 5, 4.	1.2	65
15	Dynamical Criticality in the Collective Activity of a Population of Retinal Neurons. <i>Physical Review Letters</i> , 2015, 114, 078105.	2.9	57
16	Recent progress in multi-electrode spike sorting methods. <i>Journal of Physiology (Paris)</i> , 2016, 110, 327-335.	2.1	50
17	High Accuracy Decoding of Dynamical Motion from a Large Retinal Population. <i>PLoS Computational Biology</i> , 2015, 11, e1004304.	1.5	49
18	Multiplexed computations in retinal ganglion cells of a single type. <i>Nature Communications</i> , 2017, 8, 1964.	5.8	47

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19	Artificial retina: the multichannel processing of the mammalian retina achieved with a neuromorphic asynchronous light acquisition device. <i>Journal of Neural Engineering</i> , 2012, 9, 066004.	1.8	46
20	Neural stimulation for visual rehabilitation: Advances and challenges. <i>Journal of Physiology (Paris)</i> , 2013, 107, 421-431.	2.1	45
21	Animation of natural scene by virtual eye-movements evokes high precision and low noise in V1 neurons. <i>Frontiers in Neural Circuits</i> , 2013, 7, 206.	1.4	41
22	Gibbs distribution analysis of temporal correlations structure in retina ganglion cells. <i>Journal of Physiology (Paris)</i> , 2012, 106, 120-127.	2.1	38
23	Alert Response to Motion Onset in the Retina. <i>Journal of Neuroscience</i> , 2013, 33, 120-132.	1.7	38
24	Hidden Complexity of Synaptic Receptive Fields in Cat V1. <i>Journal of Neuroscience</i> , 2014, 34, 5515-5528.	1.7	36
25	What Can Neuromorphic Event-Driven Precise Timing Add to Spike-Based Pattern Recognition?. <i>Neural Computation</i> , 2015, 27, 561-593.	1.3	35
26	Nonlinear decoding of a complex movie from the mammalian retina. <i>PLoS Computational Biology</i> , 2018, 14, e1006057.	1.5	35
27	A Re-Examination of Hebbian-Covariance Rules and Spike Timing-Dependent Plasticity in Cat Visual Cortex in vivo. <i>Frontiers in Synaptic Neuroscience</i> , 2010, 2, 147.	1.3	32
28	Learning Quadratic Receptive Fields from Neural Responses to Natural Stimuli. <i>Neural Computation</i> , 2013, 25, 1661-1692.	1.3	31
29	Reliable Recall of Spontaneous Activity Patterns in Cortical Networks. <i>Journal of Neuroscience</i> , 2009, 29, 14596-14606.	1.7	30
30	Maximum-entropy models reveal the excitatory and inhibitory correlation structures in cortical neuronal activity. <i>Physical Review E</i> , 2018, 98, 012402.	0.8	29
31	Error-Robust Modes of the Retinal Population Code. <i>PLoS Computational Biology</i> , 2016, 12, e1005148.	1.5	24
32	Spatio-temporal spike train analysis for large scale networks using the maximum entropy principle and Monte Carlo method. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2013, 2013, P03006.	0.9	23
33	Towards optogenetic vision restoration with high resolution. <i>PLoS Computational Biology</i> , 2020, 16, e1007857.	1.5	20
34	A Tractable Method for Describing Complex Couplings between Neurons and Population Rate. <i>ENeuro</i> , 2016, 3, ENEURO.0160-15.2016.	0.9	18
35	Separating intrinsic interactions from extrinsic correlations in a network of sensory neurons. <i>Physical Review E</i> , 2018, 98, .	0.8	15
36	Modeling the Correlated Activity of Neural Populations: A Review. <i>Neural Computation</i> , 2019, 31, 233-269.	1.3	12

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37	A Simple Model for Low Variability in Neural Spike Trains. <i>Neural Computation</i> , 2018, 30, 3009-3036.	1.3	11
38	Blindfold learning of an accurate neural metric. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018, 115, 3267-3272.	3.3	9
39	A biophysical model explains the spontaneous bursting behavior in the developing retina. <i>Scientific Reports</i> , 2019, 9, 1859.	1.6	9
40	A simple method for estimating the entropy of neural activity. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2013, 2013, P03015.	0.9	8
41	Predicting synchronous firing of large neural populations from sequential recordings. <i>PLoS Computational Biology</i> , 2021, 17, e1008501.	1.5	8
42	Multiscale Functional Imaging in V1 and Cortical Correlates of Apparent Motion. , 2009, , 73-93.		7
43	Pairwise Ising Model Analysis of Human Cortical Neuron Recordings. <i>Lecture Notes in Computer Science</i> , 2017, , 257-264.	1.0	5
44	Inferring the function performed by a recurrent neural network. <i>PLoS ONE</i> , 2021, 16, e0248940.	1.1	4
45	Closed-Loop Estimation of Retinal Network Sensitivity by Local Empirical Linearization. <i>ENeuro</i> , 2017, 4, ENEURO.0166-17.2017.	0.9	4
46	Spatial organization of evoked neuronal dynamics in 2D recurrent networks, with or without structured stimulation. <i>BMC Neuroscience</i> , 2009, 10, .	0.8	1
47	Correction: Chen et al., Alert Response to Motion Onset in the Retina. <i>Journal of Neuroscience</i> , 2013, 33, 2728-2728.	1.7	0
48	Exploring the Neural Manifold. <i>Physics Magazine</i> , 2013, 6, .	0.1	0
49	26th Annual Computational Neuroscience Meeting (CNS*2017): Part 1. <i>BMC Neuroscience</i> , 2017, 18, .	0.8	0
50	Analysis of retinal and cortical response to electrical stimulation by subretinal implant in rodent. <i>Acta Ophthalmologica</i> , 2013, 91, 0-0.	0.6	0
51	Towards optogenetic vision restoration with high resolution. , 2020, 16, e1007857.		0
52	Towards optogenetic vision restoration with high resolution. , 2020, 16, e1007857.		0
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