

Olivier Marre

List of Publications by Year in descending order

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Version: 2024-02-01

56
papers

2,768
citations

218677

26
h-index

214800

47
g-index

76
all docs

76
docs citations

76
times ranked

2656
citing authors

#	ARTICLE	IF	CITATIONS
1	Inferring the function performed by a recurrent neural network. PLoS ONE, 2021, 16, e0248940.	2.5	4
2	Predicting synchronous firing of large neural populations from sequential recordings. PLoS Computational Biology, 2021, 17, e1008501.	3.2	8
3	Optogenetic therapy: high spatiotemporal resolution and pattern discrimination compatible with vision restoration in non-human primates. Communications Biology, 2021, 4, 125.	4.4	65
4	Towards optogenetic vision restoration with high resolution. PLoS Computational Biology, 2020, 16, e1007857.	3.2	20
5	Towards optogenetic vision restoration with high resolution. , 2020, 16, e1007857.		0
6	Towards optogenetic vision restoration with high resolution. , 2020, 16, e1007857.		0
7	Towards optogenetic vision restoration with high resolution. , 2020, 16, e1007857.		0
8	Towards optogenetic vision restoration with high resolution. , 2020, 16, e1007857.		0
9	Towards optogenetic vision restoration with high resolution. , 2020, 16, e1007857.		0
10	Towards optogenetic vision restoration with high resolution. , 2020, 16, e1007857.		0
11	A biophysical model explains the spontaneous bursting behavior in the developing retina. Scientific Reports, 2019, 9, 1859.	3.3	9
12	Modeling the Correlated Activity of Neural Populations: A Review. Neural Computation, 2019, 31, 233-269.	2.2	12
13	Toward a unified theory of efficient, predictive, and sparse coding. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 186-191.	7.1	124
14	Blindfold learning of an accurate neural metric. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 3267-3272.	7.1	9
15	Nonlinear decoding of a complex movie from the mammalian retina. PLoS Computational Biology, 2018, 14, e1006057.	3.2	35
16	Separating intrinsic interactions from extrinsic correlations in a network of sensory neurons. Physical Review E, 2018, 98, .	2.1	15
17	A Simple Model for Low Variability in Neural Spike Trains. Neural Computation, 2018, 30, 3009-3036.	2.2	11
18	A spike sorting toolbox for up to thousands of electrodes validated with ground truth recordings in vitro and in vivo. ELife, 2018, 7, .	6.0	251

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19	Maximum-entropy models reveal the excitatory and inhibitory correlation structures in cortical neuronal activity. <i>Physical Review E</i> , 2018, 98, 012402.	2.1	29
20	A New Promoter Allows Optogenetic Vision Restoration with Enhanced Sensitivity in Macaque Retina. <i>Molecular Therapy</i> , 2017, 25, 2546-2560.	8.2	131
21	Multiplexed computations in retinal ganglion cells of a single type. <i>Nature Communications</i> , 2017, 8, 1964.	12.8	47
22	26th Annual Computational Neuroscience Meeting (CNS*2017): Part 1. <i>BMC Neuroscience</i> , 2017, 18, .	1.9	0
23	Pairwise Ising Model Analysis of Human Cortical Neuron Recordings. <i>Lecture Notes in Computer Science</i> , 2017, , 257-264.	1.3	5
24	Closed-Loop Estimation of Retinal Network Sensitivity by Local Empirical Linearization. <i>ENeuro</i> , 2017, 4, ENEURO.0166-17.2017.	1.9	4
25	Error-Robust Modes of the Retinal Population Code. <i>PLoS Computational Biology</i> , 2016, 12, e1005148.	3.2	24
26	Recent progress in multi-electrode spike sorting methods. <i>Journal of Physiology (Paris)</i> , 2016, 110, 327-335.	2.1	50
27	Red-shifted channelrhodopsin stimulation restores light responses in blind mice, macaque retina, and human retina. <i>EMBO Molecular Medicine</i> , 2016, 8, 1248-1264.	6.9	139
28	A Tractable Method for Describing Complex Couplings between Neurons and Population Rate. <i>ENeuro</i> , 2016, 3, ENEURO.0160-15.2016.	1.9	18
29	High Accuracy Decoding of Dynamical Motion from a Large Retinal Population. <i>PLoS Computational Biology</i> , 2015, 11, e1004304.	3.2	49
30	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.	7.1	174
31	What Can Neuromorphic Event-Driven Precise Timing Add to Spike-Based Pattern Recognition?. <i>Neural Computation</i> , 2015, 27, 561-593.	2.2	35
32	Dynamical Criticality in the Collective Activity of a Population of Retinal Neurons. <i>Physical Review Letters</i> , 2015, 114, 078105.	7.8	57
33	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.	7.1	169
34	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.	8.2	166
35	Searching for Collective Behavior in a Large Network of Sensory Neurons. <i>PLoS Computational Biology</i> , 2014, 10, e1003408.	3.2	190
36	Hidden Complexity of Synaptic Receptive Fields in Cat V1. <i>Journal of Neuroscience</i> , 2014, 34, 5515-5528.	3.6	36

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37	A simple method for estimating the entropy of neural activity. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2013, 2013, P03015.	2.3	8
38	The simplest maximum entropy model for collective behavior in a neural network. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2013, 2013, P03011.	2.3	89
39	Neural stimulation for visual rehabilitation: Advances and challenges. <i>Journal of Physiology (Paris)</i> , 2013, 107, 421-431.	2.1	45
40	Alert Response to Motion Onset in the Retina. <i>Journal of Neuroscience</i> , 2013, 33, 120-132.	3.6	38
41	Learning Quadratic Receptive Fields from Neural Responses to Natural Stimuli. <i>Neural Computation</i> , 2013, 25, 1661-1692.	2.2	31
42	Correction: Chen et al., Alert Response to Motion Onset in the Retina. <i>Journal of Neuroscience</i> , 2013, 33, 2728-2728.	3.6	0
43	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.	2.3	23
44	Exploring the Neural Manifold. <i>Physics Magazine</i> , 2013, 6, .	0.1	0
45	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.	2.8	41
46	Analysis of retinal and cortical response to electrical stimulation by subretinal implant in rodent. <i>Acta Ophthalmologica</i> , 2013, 91, 0-0.	1.1	0
47	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.	3.5	46
48	Mapping a Complete Neural Population in the Retina. <i>Journal of Neuroscience</i> , 2012, 32, 14859-14873.	3.6	140
49	Gibbs distribution analysis of temporal correlations structure in retina ganglion cells. <i>Journal of Physiology (Paris)</i> , 2012, 106, 120-127.	2.1	38
50	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.	2.5	65
51	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.	2.5	32
52	Prediction of Spatiotemporal Patterns of Neural Activity from Pairwise Correlations. <i>Physical Review Letters</i> , 2009, 102, 138101.	7.8	107
53	Reliable Recall of Spontaneous Activity Patterns in Cortical Networks. <i>Journal of Neuroscience</i> , 2009, 29, 14596-14606.	3.6	30
54	Network-State Modulation of Power-Law Frequency-Scaling in Visual Cortical Neurons. <i>PLoS Computational Biology</i> , 2009, 5, e1000519.	3.2	70

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55	Spatial organization of evoked neuronal dynamics in 2D recurrent networks, with or without structured stimulation. BMC Neuroscience, 2009, 10, .	1.9	1
56	Multiscale Functional Imaging in V1 and Cortical Correlates of Apparent Motion. , 2009, , 73-93.		7