John Cunningham

List of Publications by Year
in descending order

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38 papers	4,919 citations	304743 22 h-index	414414 32 g-index
44 all docs	44 docs citations	44 times ranked	3474 citing authors

#	Article	IF	Citations
1	Neural population dynamics during reaching. Nature, 2012, 487, 51-56.	27.8	1,195
2	Dimensionality reduction for large-scale neural recordings. Nature Neuroscience, 2014, 17, 1500-1509.	14.8	860
3	Gaussian-Process Factor Analysis for Low-Dimensional Single-Trial Analysis of Neural Population Activity. Journal of Neurophysiology, 2009, 102, 614-635.	1.8	461
4	Cortical Preparatory Activity: Representation ofÂMovement or First Cog in a Dynamical Machine?. Neuron, 2010, 68, 387-400.	8.1	406
5	Reorganization between preparatory and movement population responses in motor cortex. Nature Communications, 2016, 7, 13239.	12.8	273
6	Motor Cortex Embeds Muscle-like Commands in an Untangled Population Response. Neuron, 2018, 97, 953-966.e8.	8.1	216
7	Towards the neural population doctrine. Current Opinion in Neurobiology, 2019, 55, 103-111.	4.2	186
8	Single-trial dynamics of motor cortex and their applications to brain-machine interfaces. Nature Communications, 2015, 6, 7759.	12.8	148
9	A closed-loop human simulator for investigating the role of feedback control in brain-machine interfaces. Journal of Neurophysiology, 2011, 105, 1932-1949.	1.8	141
10	Structure in neural population recordings: an expected byproduct of simpler phenomena?. Nature Neuroscience, 2017, 20, 1310-1318.	14.8	134
11	Behaviorally Selective Engagement of Short-Latency Effector Pathways by Motor Cortex. Neuron, 2017, 95, 683-696.e11.	8.1	123
12	Neural Trajectories in the Supplementary Motor Area and Motor Cortex Exhibit Distinct Geometries, Compatible with Different Classes of Computation. Neuron, 2020, 107, 745-758.e6.	8.1	90
13	Conservation of preparatory neural events in monkey motor cortex regardless of how movement is initiated. ELife, 2018, 7, .	6.0	80
14	Different population dynamics in the supplementary motor area and motor cortex during reaching. Nature Communications, 2018, 9, 2754.	12.8	77
15	Methods for estimating neural firing rates, and their application to brainâ€“machine interfaces. Neural Networks, 2009, 22, 1235-1246.	5.9	74
16	Neural data science: accelerating the experiment-analysis-theory cycle in large-scale neuroscience. Current Opinion in Neurobiology, 2018, 50, 232-241.	4.2	68
17	Tensor Analysis Reveals Distinct Population Structure that Parallels the Different Computational Roles of Areas M1 and V1. PLoS Computational Biology, 2016, 12, e1005164.	3.2	46
18	Electrical stimulus artifact cancellation and neural spike detection on large multi-electrode arrays. PLoS Computational Biology, 2017, 13, e1005842.	3.2	44

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19	Predicting post-operative right ventricular failure using video-based deep learning. Nature Communications, 2021, 12, 5192.	12.8	32
20	Designing clinically translatable artificial intelligence systems for high-dimensional medical imaging. Nature Machine Intelligence, 2021, 3, 929-935.	16.0	29
21	Motor cortex activity across movement speeds is predicted by network-level strategies for generating muscle activity. ELife, 0, 11, .	6.0	27
22	A Dynamical Basis Set for Generating Reaches. Cold Spring Harbor Symposia on Quantitative Biology, 2014, 79, 67-80.	1.1	26
23	Toward Optimal Target Placement for Neural Prosthetic Devices. Journal of Neurophysiology, 2008, 100, 3445-3457.	1.8	24
24	Encoder-Decoder Optimization for Brain-Computer Interfaces. PLoS Computational Biology, 2015, 11, e1004288.	3.2	23
25	Partitioning variability in animal behavioral videos using semi-supervised variational autoencoders. PLoS Computational Biology, 2021, 17, e1009439.	3.2	21
26	Scaling Multidimensional Inference for Structured Gaussian Processes. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2015, 37, 424-436.	13.9	20
27	Value and choice as separable and stable representations in orbitofrontal cortex. Nature Communications, 2020, 11, 3466.	12.8	17
28	Interrogating theoretical models of neural computation with emergent property inference. ELife, 2021, 10, .	6.0	16
29	Learning sparse log-ratios for high-throughput sequencing data. Bioinformatics, 2021, 38, 157-163.	4.1	16
30	A Novel Method for Curvefitting the Stretched Exponential Function to Experimental Data. Biomedical Engineering Research, 2013, 2, 153-158.	0.2	8
31	Analyzing neural data at huge scale. Nature Methods, 2014, 11, 911-912.	19.0	4
32	Sparse probit linear mixed model. Machine Learning, 2017, 106, 1621-1642.	5.4	4
33	The Posterior Predictive Null. Bayesian Analysis, 2023, 18, .	3.0	2
34	Optimal Target Placement for Neural Communication Prostheses. Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 2006, , .	0.5	0
35	Localized semi-nonnegative matrix factorization (LocaNMF) of widefield calcium imaging data. , 2020, 16, e1007791.		0
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37	Localized semi-nonnegative matrix factorization (LocaNMF) of widefield calcium imaging data. , 2020, 16, e1007791.		0
38	Localized semi-nonnegative matrix factorization (LocaNMF) of widefield calcium imaging data. , 2020, 16, e1007791.		0