John M Beggs

List of Publications by Year
in descending order

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37 papers	4,839 citations	331670 21 h-index	414414 32 g-index
42 all docs	42 docs citations	42 times ranked	3508 citing authors

#	Article	IF	Citations
1	Neuronal Avalanches in Neocortical Circuits. Journal of Neuroscience, 2003, 23, 11167-11177.	3.6	1,757
2	Neuronal Avalanches Are Diverse and Precise Activity Patterns That Are Stable for Many Hours in Cortical Slice Cultures. Journal of Neuroscience, 2004, 24, 5216-5229.	3.6	521
3	Universal Critical Dynamics in High Resolution Neuronal Avalanche Data. Physical Review Letters, 2012, 108, 208102.	7.8	359
4	Being Critical of Criticality in the Brain. Frontiers in Physiology, 2012, 3, 163.	2.8	358
5	The criticality hypothesis: how local cortical networks might optimize information processing. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2008, 366, 329-343.	3.4	344
6	A Maximum Entropy Model Applied to Spatial and Temporal Correlations from Cortical NetworksIn Vitro. Journal of Neuroscience, 2008, 28, 505-518.	3.6	249
7	Synergy, redundancy, and multivariate information measures: an experimentalistâ€™s perspective. Journal of Computational Neuroscience, 2014, 36, 119-140.	1.0	170
8	Rich-Club Organization in Effective Connectivity among Cortical Neurons. Journal of Neuroscience, 2016, 36, 670-684.	3.6	155
9	Functional Clusters, Hubs, and Communities in the Cortical Microconnectome. Cerebral Cortex, 2015, 25, 3743-3757.	2.9	101
10	One-Stop Microfluidic Assembly of Human Brain Organoids To Model Prenatal Cannabis Exposure. Analytical Chemistry, 2020, 92, 4630-4638.	6.5	91
11	Analysis of Power Laws, Shape Collapses, and Neural Complexity: New Techniques and MATLAB Support via the NCC Toolbox. Frontiers in Physiology, 2016, 7, 250.	2.8	85
12	High-Degree Neurons Feed Cortical Computations. PLoS Computational Biology, 2016, 12, e1004858.	3.2	78
13	Quasicritical brain dynamics on a nonequilibrium Widom line. Physical Review E, 2014, 90, 062714.	2.1	66
14	Criticality Maximizes Complexity in Neural Tissue. Frontiers in Physiology, 2016, 7, 425.	2.8	57
15	Large-Scale, High-Resolution Multielectrode-Array Recording Depicts Functional Network Differences of Cortical and Hippocampal Cultures. PLoS ONE, 2014, 9, e105324.	2.5	52
16	Evidence for Quasicritical Brain Dynamics. Physical Review Letters, 2021, 126, 098101.	7.8	52
17	Maximum Entropy Approaches to Living Neural Networks. Entropy, 2010, 12, 89-106.	2.2	47
18	Multiplex Networks of Cortical and Hippocampal Neurons Revealed at Different Timescales. PLoS ONE, 2014, 9, e115764.	2.5	44

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19	An open hypothesis: Is epilepsy learned, and can it be unlearned?. Epilepsy and Behavior, 2008, 13, 511-522.	1.7	35
20	Computation is concentrated in rich clubs of local cortical networks. Network Neuroscience, 2019, 3, 384-404.	2.6	34
21	Behavior Modulates Effective Connectivity between Cortex and Striatum. PLoS ONE, 2014, 9, e89443.	2.5	26
22	Differential effects of propofol and ketamine on critical brain dynamics. PLoS Computational Biology, 2020, 16, e1008418.	3.2	26
23	Partial information decomposition as a spatiotemporal filter. Chaos, 2011, 21, 037104.	2.5	21
24	Self-organization of in vitro neuronal assemblies drives to complex network topology. ELife, 0, 11, .	6.0	19
25	Editorial: Can There Be a Physics of the Brain?. Physical Review Letters, 2015, 114, 220001.	7.8	14
26	Model-based detection of putative synaptic connections from spike recordings with latency and type constraints. Journal of Neurophysiology, 2020, 124, 1588-1604.	1.8	13
27	Partial information decomposition reveals that synergistic neural integration is greater downstream of recurrent information flow in organotypic cortical cultures. PLoS Computational Biology, 2021, 17, e1009196.	3.2	13
28	A Statistical Theory of Long-Term Potentiation and Depression. Neural Computation, 2001, 13, 87-111.	2.2	12
29	Correlated activity favors synergistic processing in local cortical networks in vitro at synaptically relevant timescales. Network Neuroscience, 2020, 4, 678-697.	2.6	12
30	Revealing the Dynamics of Neural Information Processing with Multivariate Information Decomposition. Entropy, 2022, 24, 930.	2.2	9
31	Network structure of cascading neural systems predicts stimulus propagation and recovery. Journal of Neural Engineering, 2020, 17, 056045.	3.5	6
32	How to build a critical mind. Nature Physics, 2007, 3, 835-835.	16.7	4
33	Focus amidst the noise. Nature Physics, 2013, 9, 533-534.	16.7	1
34	Differential effects of propofol and ketamine on critical brain dynamics. , 2020, 16, e1008418.		0
35	Differential effects of propofol and ketamine on critical brain dynamics. , 2020, 16, e1008418.		0
36	Differential effects of propofol and ketamine on critical brain dynamics. , 2020, 16, e1008418.		0

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37	Differential effects of propofol and ketamine on critical brain dynamics. , 2020, 16, e1008418.		0