John M Beggs

List of Publications by Year
in descending order

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	Revealing the Dynamics of Neural Information Processing with Multivariate Information Decomposition. Entropy, 2022, 24, 930.	2.2	9
2	Evidence for Quasicritical Brain Dynamics. Physical Review Letters, 2021, 126, 098101.	7.8	52
3	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
4	Correlated activity favors synergistic processing in local cortical networks in vitro at synaptically relevant timescales. Network Neuroscience, 2020, 4, 678-697.	2.6	12
5	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
6	One-Stop Microfluidic Assembly of Human Brain Organoids To Model Prenatal Cannabis Exposure. Analytical Chemistry, 2020, 92, 4630-4638.	6.5	91
7	Network structure of cascading neural systems predicts stimulus propagation and recovery. Journal of Neural Engineering, 2020, 17, 056045.	3.5	6
8	Differential effects of propofol and ketamine on critical brain dynamics. PLoS Computational Biology, 2020, 16, e1008418.	3.2	26
9	Differential effects of propofol and ketamine on critical brain dynamics. , 2020, 16, e1008418.		0
10	Differential effects of propofol and ketamine on critical brain dynamics. , 2020, 16, e1008418.		0
11	Differential effects of propofol and ketamine on critical brain dynamics. , 2020, 16, e1008418.		0
12	Differential effects of propofol and ketamine on critical brain dynamics. , 2020, 16, e1008418.		0
13	Computation is concentrated in rich clubs of local cortical networks. Network Neuroscience, 2019, 3, 384-404.	2.6	34
14	High-Degree Neurons Feed Cortical Computations. PLoS Computational Biology, 2016, 12, e1004858.	3.2	78
15	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
16	Criticality Maximizes Complexity in Neural Tissue. Frontiers in Physiology, 2016, 7, 425.	2.8	57
17	Rich-Club Organization in Effective Connectivity among Cortical Neurons. Journal of Neuroscience, 2016, 36, 670-684.	3.6	155
18	Editorial: Can There Be a Physics of the Brain?. Physical Review Letters, 2015, 114, 220001.	7.8	14

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19	Functional Clusters, Hubs, and Communities in the Cortical Microconnectome. Cerebral Cortex, 2015, 25, 3743-3757.	2.9	101
20	Behavior Modulates Effective Connectivity between Cortex and Striatum. PLoS ONE, 2014, 9, e89443.	2.5	26
21	Large-Scale, High-Resolution Multielectrode-Array Recording Depicts Functional Network Differences of Cortical and Hippocampal Cultures. PLoS ONE, 2014, 9, e105324.	2.5	52
22	Quasicritical brain dynamics on a nonequilibrium Widom line. Physical Review E, 2014, 90, 062714.	2.1	66
23	Synergy, redundancy, and multivariate information measures: an experimentalist's perspective. Journal of Computational Neuroscience, 2014, 36, 119-140.	1.0	170
24	Multiplex Networks of Cortical and Hippocampal Neurons Revealed at Different Timescales. PLoS ONE, 2014, 9, e115764.	2.5	44
25	Focus amidst the noise. Nature Physics, 2013, 9, 533-534.	16.7	1
26	Being Critical of Criticality in the Brain. Frontiers in Physiology, 2012, 3, 163.	2.8	358
27	Universal Critical Dynamics in High Resolution Neuronal Avalanche Data. Physical Review Letters, 2012, 108, 208102.	7.8	359
28	Partial information decomposition as a spatiotemporal filter. Chaos, 2011, 21, 037104.	2.5	21
29	Maximum Entropy Approaches to Living Neural Networks. Entropy, 2010, 12, 89-106.	2.2	47
30	An open hypothesis: Is epilepsy learned, and can it be unlearned?. Epilepsy and Behavior, 2008, 13, 511-522.	1.7	35
31	A Maximum Entropy Model Applied to Spatial and Temporal Correlations from Cortical Networks<i>In Vitro</i>. Journal of Neuroscience, 2008, 28, 505-518.	3.6	249
32	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
33	How to build a critical mind. Nature Physics, 2007, 3, 835-835.	16.7	4
34	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
35	Neuronal Avalanches in Neocortical Circuits. Journal of Neuroscience, 2003, 23, 11167-11177.	3.6	1,757
36	A Statistical Theory of Long-Term Potentiation and Depression. Neural Computation, 2001, 13, 87-111.	2.2	12

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37	Self-organization of in vitro neuronal assemblies drives to complex network topology. ELife, 0, 11, .	6.0	19