Dietmar Plenz

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/2398399/publications.pdf

Version: 2024-02-01

81	10,332	66343	71685
papers	citations	42	76
		h-index	g-index

102	102	102	6419
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Neuronal Avalanches in Neocortical Circuits. Journal of Neuroscience, 2003, 23, 11167-11177.	3.6	1,757
2	A basal ganglia pacemaker formed by the subthalamic nucleus and external globus pallidus. Nature, 1999, 400, 677-682.	27.8	668
3	powerlaw: A Python Package for Analysis of Heavy-Tailed Distributions. PLoS ONE, 2014, 9, e85777.	2.5	627
4	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
5	Neuronal Avalanches Imply Maximum Dynamic Range in Cortical Networks at Criticality. Journal of Neuroscience, 2009, 29, 15595-15600.	3.6	495
6	Information Capacity and Transmission Are Maximized in Balanced Cortical Networks with Neuronal Avalanches. Journal of Neuroscience, 2011, 31, 55-63.	3.6	479
7	Spontaneous cortical activity in awake monkeys composed of neuronal avalanches. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 15921-15926.	7.1	469
8	The Functional Benefits of Criticality in the Cortex. Neuroscientist, 2013, 19, 88-100.	3.5	403
9	The organizing principles of neuronal avalanches: cell assemblies in the cortex?. Trends in Neurosciences, 2007, 30, 101-110.	8.6	350
10	Neuronal avalanches organize as nested theta- and beta/gamma-oscillations during development of cortical layer 2/3. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 7576-7581.	7.1	299
11	Neuronal Avalanches in the Resting MEG of the Human Brain. Journal of Neuroscience, 2013, 33, 7079-7090.	3.6	270
12	Up and Down States in Striatal Medium Spiny Neurons Simultaneously Recorded with Spontaneous Activity in Fast-Spiking Interneurons Studied in Cortexâ€“Striatumâ€“Substantia Nigra Organotypic Cultures. Journal of Neuroscience, 1998, 18, 266-283.	3.6	258
13	When inhibition goes incognito: feedback interaction between spiny projection neurons in striatal function. Trends in Neurosciences, 2003, 26, 436-443.	8.6	203
14	Statistical Analyses Support Power Law Distributions Found in Neuronal Avalanches. PLoS ONE, 2011, 6, e19779.	2.5	197
15	Higher-Order Interactions Characterized in Cortical Activity. Journal of Neuroscience, 2011, 31, 17514-17526.	3.6	181
16	Maximal Variability of Phase Synchrony in Cortical Networks with Neuronal Avalanches. Journal of Neuroscience, 2012, 32, 1061-1072.	3.6	180
17	Neuronal Avalanches in Spontaneous Activity In Vivo. Journal of Neurophysiology, 2010, 104, 3312-3322.	1.8	170
18	Nonlinear partial differential equations and applications: Fast synaptic transmission between striatal spiny projection neurons. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 15764-15769.	7.1	167

#	Article	IF	Citations
19	Irregular spiking of pyramidal neurons organizes as scale-invariant neuronal avalanches in the awake state. ELife, 2015, 4, e07224.	6.0	131
20	Inverted-U Profile of Dopamine-NMDA-Mediated Spontaneous Avalanche Recurrence in Superficial Layers of Rat Prefrontal Cortex. Journal of Neuroscience, 2006, 26, 8148-8159.	3.6	122
21	Balance between Excitation and Inhibition Controls the Temporal Organization of Neuronal Avalanches. Physical Review Letters, 2012, 108, 228703.	7.8	113
22	Intrinsic excitability measures track antiepileptic drug action and uncover increasing/decreasing excitability over the wake/sleep cycle. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 14694-14699.	7.1	105
23	Efficient Network Reconstruction from Dynamical Cascades Identifies Small-World Topology of Neuronal Avalanches. PLoS Computational Biology, 2009, 5, e1000271.	3.2	95
24	Criticality as a signature of healthy neural systems. Frontiers in Systems Neuroscience, 2015, 9, 22.	2.5	93
25	Direct magnetic resonance detection of neuronal electrical activity. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 16015-16020.	7.1	92
26	Organotypic cortex-striatum-mesencephalon cultures: the nigrostriatal pathway. Neuroscience Letters, 1996, 209, 177-180.	2.1	82
27	A Comparative Voltage and Current-Clamp Analysis of Feedback and Feedforward Synaptic Transmission in the Striatal Microcircuit In Vitro. Journal of Neurophysiology, 2006, 95, 737-752.	1.8	78
28	Generation of high-frequency oscillations in local circuits of rat somatosensory cortex cultures. Journal of Neurophysiology, 1996, 76, 4180-4184.	1.8	75
29	Dendritic Calcium Encodes Striatal Neuron Output during Up-States. Journal of Neuroscience, 2002, 22, 1499-1512.	3.6	74
30	Neuronal avalanches and coherence potentials. European Physical Journal: Special Topics, 2012, 205, 259-301.	2.6	67
31	Homeostasis of neuronal avalanches during postnatal cortex development in vitro. Journal of Neuroscience Methods, 2008, 169, 405-416.	2.5	66
32	Action Potential Timing Determines Dendritic Calcium during Striatal Up-States. Journal of Neuroscience, 2004, 24, 877-885.	3.6	65
33	Quantitative Estimate of Synaptic Inputs to Striatal Neurons during Up and Down StatesIn Vitro. Journal of Neuroscience, 2003, 23, 9123-9132.	3.6	62
34	Maintained avalanche dynamics during task-induced changes of neuronal activity in nonhuman primates. ELife, 2017, 6, .	6.0	62
35	Self-Organized Criticality in the Brain. Frontiers in Physics, 2021, 9, .	2.1	61
36	The organization of strong links in complexÂnetworks. Nature Physics, 2012, 8, 429-436.	16.7	57

#	Article	IF	Citations
37	Synaptic Plasticity Enables Adaptive Self-Tuning Critical Networks. PLoS Computational Biology, 2015, 11, e1004043.	3.2	57
38	Critical Slowing Down Governs the Transition to Neuron Spiking. PLoS Computational Biology, 2015, 11, e1004097.	3.2	53
39	Decline of long-range temporal correlations in the human brain during sustained wakefulness. Scientific Reports, 2017, 7, 11825.	3.3	53
40	Neutral Theory and Scale-Free Neural Dynamics. Physical Review X, 2017, 7, .	8.9	53
41	Angiogenic Factors Stimulate Growth of Adult Neural Stem Cells. PLoS ONE, 2010, 5, e9414.	2.5	52
42	Scale-Invariant Neuronal Avalanche Dynamics and the Cut-Off in Size Distributions. PLoS ONE, 2014, 9, e99761.	2.5	52
43	Universal organization of resting brain activity at the thermodynamic critical point. Frontiers in Systems Neuroscience, 2013, 7, 42.	2.5	49
44	Regulation of the Nigrostriatal Pathway by Metabotropic Glutamate Receptors during Development. Journal of Neuroscience, 1998, 18, 4133-4144.	3.6	48
45	On the temporal organization of neuronal avalanches. Frontiers in Systems Neuroscience, 2014, 8, 204.	2.5	47
46	Fast, Na⁺/K⁺ pump driven, steadyâ€state transcytolemmal water exchange in neuronal tissue: A study of rat brain cortical cultures. Magnetic Resonance in Medicine, 2018, 79, 3207-3217.	3.0	47
47	The scale-invariant, temporal profile of neuronal avalanches in relation to cortical Î³â€“oscillations. Scientific Reports, 2019, 9, 16403.	3.3	44
48	Simultaneous multi-electrode array recording and two-photon calcium imaging of neural activity. Journal of Neuroscience Methods, 2010, 192, 75-82.	2.5	43
49	Coherence Potentials: Loss-Less, All-or-None Network Events in the Cortex. PLoS Biology, 2010, 8, e1000278.	5.6	40
50	The Interplay between Long- and Short-Range Temporal Correlations Shapes Cortex Dynamics across Vigilance States. Journal of Neuroscience, 2017, 37, 10114-10124.	3.6	39
51	Assessing the sensitivity of diffusion MRI to detect neuronal activity directly. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, E1728-37.	7.1	35
52	Altered avalanche dynamics in a developmental NMDAR hypofunction model of cognitive impairment. Translational Psychiatry, 2018, 8, 3.	4.8	32
53	Quantifying antiepileptic drug effects using intrinsic excitability measures. Epilepsia, 2016, 57, e210-e215.	5.1	28
54	Morphological organization of the globus pallidus-subthalamic nucleus system studied in organotypic cultures. , 1998, 397, 437-457.		27

#	Article	IF	Citations
55	Current Source Density Profiles of Optical Recording Maps: a New Approach to the Analysis of Spatio-temporal Neural Activity Patterns. European Journal of Neuroscience, 1993, 5, 437-448.	2.6	26
56	Hierarchical Interaction Structure of Neural Activities in Cortical Slice Cultures. Journal of Neuroscience, 2010, 30, 8720-8733.	3.6	25
57	Controlling a complex system near its critical point via temporal correlations. Scientific Reports, 2020, 10, 12145.	3.3	23
58	Neuronal Avalanches in Input and Associative Layers of Auditory Cortex. Frontiers in Systems Neuroscience, 2019, 13, 45.	2.5	22
59	Brain active transmembrane water cycling measured by MR isÂassociated with neuronal activity. Magnetic Resonance in Medicine, 2019, 81, 1280-1295.	3.0	21
60	Using Potassium Currents to Solve Signal-to-Noise Problems in Inhibitory Feedforward Networks of the Striatum. Journal of Neurophysiology, 2006, 95, 331-341.	1.8	20
61	Stability of neuronal avalanches and long-range temporal correlations during the first year of life in human infants. Brain Structure and Function, 2020, 225, 1169-1183.	2.3	20
62	Multi-electrode Array Recordings of Neuronal Avalanches in Organotypic Cultures. Journal of Visualized Experiments, 2011, , .	0.3	19
63	A Low-Correlation Resting State of the Striatum during Cortical Avalanches and Its Role in Movement Suppression. PLoS Biology, 2016, 14, e1002582.	5.6	19
64	Simultaneous calcium fluorescence imaging and MR ofex vivoorganotypic cortical cultures: a new test bed for functional MRI. NMR in Biomedicine, 2015, 28, 1726-1738.	2.8	17
65	The Critical Brain. Physics Magazine, 0, 6, .	0.1	13
66	Scale-Free Dynamics in Animal Groups and Brain Networks. Frontiers in Systems Neuroscience, 2020, 14, 591210.	2.5	12
67	Preparation and Maintenance of Organotypic Cultures for Multiâ€Electrode Array Recordings. Current Protocols in Neuroscience, 2002, 19, Unit 6.15.	2.6	11
68	Box scaling as a proxy of finite size correlations. Scientific Reports, 2021, 11, 15937.	3.3	11
69	Selective Participation of Single Cortical Neurons in Neuronal Avalanches. Frontiers in Neural Circuits, 2020, 14, 620052.	2.8	11
70	Opening bottlenecks on weighted networks by local adaptation to cascade failures. Journal of Complex Networks, 2015, 3, 552-565.	1.8	8
71	Comment on â€œCritical Branching Captures Activity in Living Neural Networks and Maximizes the Number of Metastable Statesâ€• Physical Review Letters, 2005, 95, 219801; author reply 219802.	7.8	6
72	The Striatal Skeleton. Handbook of Behavioral Neuroscience, 2010, , 99-112.	0.7	4

#	Article	IF	Citations
73	Neuronal avalanches and the cortico-striatal network. BMC Neuroscience, 2012, 13, .	1.9	4
74	Long-term stability of avalanche scaling and integrative network organization in prefrontal and premotor cortex. Network Neuroscience, 2021, 5, 1-22.	2.6	4
75	Mapping of Cortical Avalanches to the Striatum. Advances in Cognitive Neurodynamics, 2015, , 291-297.	0.1	3
76	A leak-proof model. Nature Physics, 2010, 6, 717-718.	16.7	2
77	The role of background synaptic noise in striatal fast spiking interneurons. Neurocomputing, 2005, 65-66, 727-732.	5.9	1
78	Fine spatio-temporal interactions in multielectrode LFP signals. Neuroscience Research, 2007, 58, S185.	1.9	0
79	Impact of inhibition in striatal decorrelation of cortical neuronal avalanches. BMC Neuroscience, 2013, 14, .	1.9	0
80	Neuronal Avalanches. , 2018, , 1-8.		0
81	Neuronal Avalanches. , 2022, , 2361-2368.		0