Fred Wolf

List of Publications by Year
in descending order

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101 papers	4,286 citations	101543 36 h-index	133252 59 g-index
114 all docs	114 docs citations	114 times ranked	4185 citing authors

#	Article	IF	Citations
1	Ultrafast population coding and axo-somatic compartmentalization. PLoS Computational Biology, 2022, 18, e1009775.	3.2	42
2	Orientation Preference Maps in Microcebus murinus Reveal Size-Invariant Design Principles in Primate Visual Cortex. Current Biology, 2021, 31, 733-741.e7.	3.9	21
3	Spatial clustering of orientation preference in primary visual cortex of the large rodent agouti. IScience, 2021, 24, 101882.	4.1	10
4	Phagocyte-mediated synapse removal in cortical neuroinflammation is promoted by local calcium accumulation. Nature Neuroscience, 2021, 24, 355-367.	14.8	49
5	Theta activity paradoxically boosts gamma and ripple frequency sensitivity in prefrontal interneurons. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	4
6	Editorial overview: Evolution of brains and computation. Current Opinion in Neurobiology, 2021, 71, iii-viii.	4.2	0
7	Punctuated evolution of visual cortical circuits? Evidence from the large rodent Dasyprocta leporina, and the tiny primate Microcebus murinus. Current Opinion in Neurobiology, 2021, 71, 110-118.	4.2	6
8	Emergence and suppression of cooperation by action visibility in transparent games. PLoS Computational Biology, 2020, 16, e1007588.	3.2	7
9	Tipping the Scales: Peptide-Dependent Dysregulation of Neural Circuit Dynamics in Alzheimerâ€™s Disease. Neuron, 2020, 107, 417-435.	8.1	90
10	Distinct Mechanisms of Over-Representation of Landmarks and Rewards in the Hippocampus. Cell Reports, 2020, 32, 107864.	6.4	45
11	Dynamic Gain Analysis Reveals Encoding Deficiencies in Cortical Neurons That Recover from Hypoxia-Induced Spreading Depolarizations. Journal of Neuroscience, 2019, 39, 7790-7800.	3.6	12
12	Evolutionary Successful Strategies in a Transparent iterated Prisonerâ€™s Dilemma. Lecture Notes in Computer Science, 2019, , 204-219.	1.3	1
13	Statistical mechanics of spike events underlying phase space partitioning and sequence codes in large-scale models of neural circuits. Physical Review E, 2019, 99, 052402.	2.1	2
14	In vivo optochemical control of cell contractility at singleâ€cell resolution. EMBO Reports, 2019, 20, e47755.	4.5	22
15	Ultrafast optogenetic stimulation of the auditory pathway by targetingâ€optimized Chronos. EMBO Journal, 2018, 37, .	7.8	68
16	An axon initial segment is required for temporal precision in action potential encoding by neuronal populations. Science Advances, 2018, 4, eaau8621.	10.3	38
17	Using imaging photoplethysmography for heart rate estimation in non-human primates. PLoS ONE, 2018, 13, e0202581.	2.5	21
18	Role of sodium channel subtype in action potential generation by neocortical pyramidal neurons. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, E7184-E7192.	7.1	63

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19	Flexible information routing by transient synchrony. Nature Neuroscience, 2017, 20, 1014-1022.	14.8	232
20	Forces directing germ-band extension in Drosophila embryos. Mechanisms of Development, 2017, 144, 11-22.	1.7	62
21	Growing neuronal islands on multi-electrode arrays using an accurate positioning-Î¼CP device. Journal of Neuroscience Methods, 2016, 257, 194-203.	2.5	12
22	A reanalysis of â€œTwo types of asynchronous activity in networks of excitatory and inhibitory spiking neuronsâ€• F1000Research, 2016, 5, 2043.	1.6	15
23	Impact of membrane bistability on dynamical response of neuronal populations. Physical Review E, 2015, 92, 032726.	2.1	6
24	Characterizing Vocal Repertoiresâ€”Hard vs. Soft Classification Approaches. PLoS ONE, 2015, 10, e0125785.	2.5	56
25	Random Wiring, Ganglion Cell Mosaics, and the Functional Architecture of the Visual Cortex. PLoS Computational Biology, 2015, 11, e1004602.	3.2	15
26	Action potential initiation in a multi-compartmental model with cooperatively gating Na channels in the axon initial segment. Journal of Computational Neuroscience, 2015, 39, 63-75.	1.0	10
27	EF-hand protein Ca ²⁺ buffers regulate Ca ²⁺ influx and exocytosis in sensory hair cells. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, E1028-37.	7.1	88
28	Complete Firing-Rate Response of Neurons with Complex Intrinsic Dynamics. PLoS Computational Biology, 2015, 11, e1004636.	3.2	12
29	Can Retinal Ganglion Cell Dipoles Seed Iso-Orientation Domains in the Visual Cortex?. PLoS ONE, 2014, 9, e86139.	2.5	12
30	Developmental refinement of hair cell synapses tightens the coupling of Ca²⁺influx to exocytosis. EMBO Journal, 2014, 33, n/a-n/a.	7.8	127
31	Uniquantal Release through a Dynamic Fusion Pore Is a Candidate Mechanism of Hair Cell Exocytosis. Neuron, 2014, 83, 1389-1403.	8.1	81
32	Dynamical models of cortical circuits. Current Opinion in Neurobiology, 2014, 25, 228-236.	4.2	38
33	The glucosyltransferase Xiantuan of the endoplasmic reticulum specifically affects E-Cadherin expression and is required for gastrulation movements in Drosophila. Developmental Biology, 2014, 390, 208-220.	2.0	15
34	Dynamical entropy production in cortical circuits with different network topologies. BMC Neuroscience, 2013, 14, .	1.9	0
35	Modeling inner hair cell ribbon synapses: response heterogeneity and efficiency of sound encoding in an idealized biophysical model. BMC Neuroscience, 2013, 14, .	1.9	0
36	Fast Computations in Cortical Ensembles Require Rapid Initiation of Action Potentials. Journal of Neuroscience, 2013, 33, 2281-2292.	3.6	69

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37	Local topographic influences on vision restoration hot spots after brain damage. Restorative Neurology and Neuroscience, 2013, 31, 787-803.	0.7	17
38	Controlling the oscillation phase through precisely timed closed-loop optogenetic stimulation: a computational study. Frontiers in Neural Circuits, 2013, 7, 49.	2.8	48
39	Optogenetic stimulation effectively enhances intrinsically generated network synchrony. Frontiers in Neural Circuits, 2013, 7, 167.	2.8	13
40	Dynamic Effective Connectivity of Inter-Areal Brain Circuits. PLoS Computational Biology, 2012, 8, e1002438.	3.2	133
41	Coordinated Optimization of Visual Cortical Maps (II) Numerical Studies. PLoS Computational Biology, 2012, 8, e1002756.	3.2	8
42	Coordinated Optimization of Visual Cortical Maps (I) Symmetry-based Analysis. PLoS Computational Biology, 2012, 8, e1002466.	3.2	13
43	Response to Comment on â€œUniversality in the Evolution of Orientation Columns in the Visual Cortexâ€œ. Science, 2012, 336, 413-413.	12.6	30
44	Dynamic Flux Tubes Form Reservoirs of Stability in Neuronal Circuits. Physical Review X, 2012, 2, .	8.9	39
45	A Small Fraction of Strongly Cooperative Sodium Channels Boosts Neuronal Encoding of High Frequencies. PLoS ONE, 2012, 7, e37629.	2.5	34
46	Der Einfluss weitreichender Netzwerke auf die PlastizitÃt der GroÃŸhirnrinde. E-Neuroforum, 2012, 18, 214-221.	0.1	0
47	Network influences on cortical plasticity. E-Neuroforum, 2012, 18, .	0.1	4
48	Features of chaotic activity in a balanced network of Type II neuronal oscillators. BMC Neuroscience, 2012, 13, .	1.9	1
49	Ultrafast Population Encoding by Cortical Neurons. Journal of Neuroscience, 2011, 31, 12171-12179.	3.6	87
50	Spike Correlations â€“ What Can They Tell About Synchrony?. Frontiers in Neuroscience, 2011, 5, 68.	2.8	25
51	Coverage, continuity, and visual cortical architecture. Neural Systems & Circuits, 2011, 1, 17.	1.8	15
52	Single cell dynamics determine strength of chaos in collective network dynamics. BMC Neuroscience, 2011, 12, .	1.9	2
53	Representation of dynamical stimuli in threshold neuron models. BMC Neuroscience, 2011, 12, .	1.9	0
54	Spike Onset Dynamics and Response Speed in Neuronal Populations. Physical Review Letters, 2011, 106, 088102.	7.8	29

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55	Representation of Dynamical Stimuli in Populations of Threshold Neurons. PLoS Computational Biology, 2011, 7, e1002239.	3.2	18
56	Correlations and Synchrony in Threshold Neuron Models. Physical Review Letters, 2010, 104, 058102.	7.8	73
57	Signatures of synchrony in pairwise count correlations. Frontiers in Computational Neuroscience, 2010, 4, 1.	2.1	91
58	Dynamical Entropy Production in Spiking Neuron Networks in the Balanced State. Physical Review Letters, 2010, 105, 268104.	7.8	83
59	Olfactory Coding with Patterns of Response Latencies. Neuron, 2010, 67, 872-884.	8.1	116
60	The determinants of the onset dynamics of action potentials in a computational model. Neuroscience, 2010, 167, 1070-1090.	2.3	19
61	Universality in the Evolution of Orientation Columns in the Visual Cortex. Science, 2010, 330, 1113-1116.	12.6	174
62	Pinwheel Stabilization by Ocular Dominance Segregation. Physical Review Letters, 2009, 102, 208101.	7.8	9
63	Complexin-I Is Required for High-Fidelity Transmission at the Endbulb of Held Auditory Synapse. Journal of Neuroscience, 2009, 29, 7991-8004.	3.6	96
64	Interareal coordination of columnar architectures during visual cortical development. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 17205-17210.	7.1	20
65	Pinwheel crystallization in a dimension reduction model of visual cortical development. BMC Neuroscience, 2009, 10, .	1.9	0
66	Pattern selection, pinwheel stability and the geometry of visual space. BMC Neuroscience, 2009, 10, .	1.9	3
67	Logic gates come to life. Nature Physics, 2008, 4, 905-906.	16.7	9
68	Erythropoietin enhances hippocampal long-term potentiation and memory. BMC Biology, 2008, 6, 37.	3.8	129
69	Imaging Astrocyte Activity. Science, 2008, 320, 1597-1599.	12.6	27
70	The simplest problem in the collective dynamics of neural networks: is synchrony stable?. Nonlinearity, 2008, 21, 1579-1599.	1.4	57
71	Self-organization and the selection of pinwheel density in visual cortical development. New Journal of Physics, 2008, 10, 015009.	2.9	21
72	Onset Dynamics of Action Potentials in Rat Neocortical Neurons and Identified Snail Neurons: Quantification of the Difference. PLoS ONE, 2008, 3, e1962.	2.5	15

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73	Focus on Heart and Mind. New Journal of Physics, 2008, 10, 015002.	2.9	2
74	Probing the Mechanism of Exocytosis at the Hair Cell Ribbon Synapse. Journal of Neuroscience, 2007, 27, 12933-12944.	3.6	66
75	Hodgkin and Huxley model â€" still standing? (Reply). Nature, 2007, 445, E2-E3.	27.8	18
76	Random waves in the brain: Symmetries and defect generation in the visual cortex. European Physical Journal: Special Topics, 2007, 145, 137-157.	2.6	10
77	Unique features of action potential initiation in cortical neurons. Nature, 2006, 440, 1060-1063.	27.8	321
78	Speed of synchronization in complex networks of neural oscillators: Analytic results based on Random Matrix Theory. Chaos, 2006, 16, 015108.	2.5	39
79	Dynamical response properties of a canonical model for type-I membranes. Neurocomputing, 2005, 65-66, 421-428.	5.9	9
80	Action Potential Onset Dynamics and the Response Speed of Neuronal Populations. Journal of Computational Neuroscience, 2005, 18, 297-309.	1.0	60
81	Symmetry, Multistability, and Long-Range Interactions in Brain Development. Physical Review Letters, 2005, 95, 208701.	7.8	54
82	Topological Speed Limits to Network Synchronization. Physical Review Letters, 2004, 92, 074101.	7.8	100
83	Breaking Synchrony by Heterogeneity in Complex Networks. Physical Review Letters, 2004, 92, 074103.	7.8	75
84	Long Chaotic Transients in Complex Networks. Physical Review Letters, 2004, 93, 244103.	7.8	72
85	Universality in visual cortical pattern formation. Journal of Physiology (Paris), 2003, 97, 253-264.	2.1	17
86	Sehen Verwandte die Welt Ähnlich?. Biologie in Unserer Zeit, 2003, 33, 218-218.	0.2	0
87	The pattern of ocular dominance columns in cat primary visual cortex: intra- and interindividual variability of column spacing and its dependence on genetic background. European Journal of Neuroscience, 2003, 18, 3251-3266.	2.6	39
88	Unstable attractors induce perpetual synchronization and desynchronization. Chaos, 2003, 13, 377-387.	2.5	42
89	Coexistence of Regular and Irregular Dynamics in Complex Networks of Pulse-Coupled Oscillators. Physical Review Letters, 2002, 89, 258701.	7.8	116
90	Prevalence of Unstable Attractors in Networks of Pulse-Coupled Oscillators. Physical Review Letters, 2002, 89, 154105.	7.8	98

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91	Genetic Influence on Quantitative Features of Neocortical Architecture. Journal of Neuroscience, 2002, 22, 7206-7217.	3.6	61
92	The prevalence of colinear contours in the real world. Neurocomputing, 2001, 38-40, 1335-1339.	5.9	9
93	Quantifying the variability of patterns of orientation domains in the visual cortex of cats. Neurocomputing, 2000, 32-33, 415-423.	5.9	4
94	Pattern formation in the developing visual cortex. , 1999, , 1-29.		0
95	Theory of ocular dominance pattern formation. Physical Review E, 1999, 59, 6977-6993.	2.1	10
96	Theory of non-classical receptive field phenomena in the visual cortex. Neurocomputing, 1999, 26-27, 367-374.	5.9	4
97	Spontaneous pinwheel annihilation during visual development. Nature, 1998, 395, 73-78.	27.8	112
98	The layout of orientation and ocular dominance domains in area 17 of strabismic cats. European Journal of Neuroscience, 1998, 10, 2629-2643.	2.6	54
99	Geometry of orientation preference map determines nonclassical receptive field properties. Lecture Notes in Computer Science, 1997, , 231-236.	1.3	2
100	Organization of the visual cortex. Nature, 1996, 382, 306-306.	27.8	30
101	Formation of field discontinuities and islands in visual cortical maps. Biological Cybernetics, 1994, 70, 525-531.	1.3	26