Adrienne L Fairhall

List of Publications by Year
in descending order

62	4,674	147801 31	128289 60
papers	citations	h-index	g-index

68	68	68	3918
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Efficiency and ambiguity in an adaptive neural code. Nature, 2001, 412, 787-792.	27.8	728
2	Fractional differentiation by neocortical pyramidal neurons. Nature Neuroscience, 2008, 11, 1335-1342.	14.8	556
3	Sensory adaptation. Current Opinion in Neurobiology, 2007, 17, 423-429.	4.2	461
4	Mosquitoes Use Vision to Associate Odor Plumes with Thermal Targets. Current Biology, 2015, 25, 2123-2129.	3.9	235
5	Shifts in Coding Properties and Maintenance of Information Transmission during Adaptation in Barrel Cortex. PLoS Biology, 2007, 5, e19.	5.6	207
6	Timescales of Inference in Visual Adaptation. Neuron, 2009, 61, 750-761.	8.1	176
7	Selectivity for Multiple Stimulus Features in Retinal Ganglion Cells. Journal of Neurophysiology, 2006, 96, 2724-2738.	1.8	130
8	Computation in a Single Neuron: Hodgkin and Huxley Revisited. Neural Computation, 2003, 15, 1715-1749.	2.2	129
9	The Mind of a Mouse. Cell, 2020, 182, 1372-1376.	28.9	127
10	Reinforcement Learning With Modulated Spike Timingâ€“Dependent Synaptic Plasticity. Journal of Neurophysiology, 2007, 98, 3648-3665.	1.8	110
11	Gender bias in academia: A lifetime problem that needs solutions. Neuron, 2021, 109, 2047-2074.	8.1	106
12	What Causes a Neuron to Spike?. Neural Computation, 2003, 15, 1789-1807.	2.2	105
13	Encoding properties of haltere neurons enable motion feature detection in a biological gyroscope. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 3840-3845.	7.1	86
14	Two-Dimensional Time Coding in the Auditory Brainstem. Journal of Neuroscience, 2005, 25, 9978-9988.	3.6	80
15	Dimensionality reduction in neuroscience. Current Biology, 2016, 26, R656-R660.	3.9	72
16	Multiple Timescale Encoding of Slowly Varying Whisker Stimulus Envelope in Cortical and Thalamic NeuronsIn Vivo. Journal of Neuroscience, 2010, 30, 5071-5077.	3.6	71
17	Analysis of Neuronal Spike Trains, Deconstructed. Neuron, 2016, 91, 221-259.	8.1	71
18	Coding Principles in Adaptation. Annual Review of Vision Science, 2019, 5, 427-449.	4.4	67

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19	Visual-Olfactory Integration in the Human Disease Vector Mosquito Aedes aegypti. Current Biology, 2019, 29, 2509-2516.e5.	3.9	64
20	Cellular mechanisms for integral feedback in visually guided behavior. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 5700-5705.	7.1	63
21	Anomalous scaling in a model of passive scalar advection: Exact results. Physical Review E, 1996, 53, 3518-3535.	2.1	58
22	Context-dependent representations of movement in Drosophila dopaminergic reinforcement pathways. Nature Neuroscience, 2021, 24, 1555-1566.	14.8	54
23	Single Neuron Computation: From Dynamical System to Feature Detector. Neural Computation, 2007, 19, 3133-3172.	2.2	50
24	Sensitivity of firing rate to input fluctuations depends on time scale separation between fast and slow variables in single neurons. Journal of Computational Neuroscience, 2009, 27, 277-290.	1.0	50
25	Computational Neuroscience: Mathematical and Statistical Perspectives. Annual Review of Statistics and Its Application, 2018, 5, 183-214.	7.0	48
26	History dependence in insect flight decisions during odor tracking. PLoS Computational Biology, 2018, 14, e1005969.	3.2	47
27	Emergence of Adaptive Computation by Single Neurons in the Developing Cortex. Journal of Neuroscience, 2013, 33, 12154-12170.	3.6	46
28	Decoding Stimulus Variance from a Distributional Neural Code of Interspike Intervals. Journal of Neuroscience, 2006, 26, 9030-9037.	3.6	43
29	Multiplexed Spike Coding and Adaptation in the Thalamus. Cell Reports, 2017, 19, 1130-1140.	6.4	43
30	Constructing Precisely Computing Networks with Biophysical Spiking Neurons. Journal of Neuroscience, 2015, 35, 10112-10134.	3.6	41
31	Information theoretic approaches to understanding circuit function. Current Opinion in Neurobiology, 2012, 22, 653-659.	4.2	38
32	Factors Affecting Frequency Discrimination of Vibrotactile Stimuli: Implications for Cortical Encoding. PLoS ONE, 2006, 1, e100.	2.5	38
33	Two Computational Regimes of a Single-Compartment Neuron Separated by a Planar Boundary in Conductance Space. Neural Computation, 2008, 20, 1239-1260.	2.2	33
34	Intrinsic Gain Modulation and Adaptive Neural Coding. PLoS Computational Biology, 2008, 4, e1000119.	3.2	31
35	Tonotopic Tuning in a Sound Localization Circuit. Journal of Neurophysiology, 2010, 103, 2857-2875.	1.8	30
36	Anomalous scaling in fluid mechanics: The case of the passive scalar. Physical Review E, 1994, 50, 4684-4704.	2.1	29

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37	Intrinsic Neuronal Properties Switch the Mode of Information Transmission in Networks. PLoS Computational Biology, 2014, 10, e1003962.	3.2	29
38	Dopaminergic modulation of basal ganglia output through coupled excitationâ€“inhibition. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 5713-5718.	7.1	29
39	The role of adaptation in neural coding. Current Opinion in Neurobiology, 2019, 58, 135-140.	4.2	29
40	Direct Numerical Simulations of the Kraichnan Model: Scaling Exponents and Fusion Rules. Physical Review Letters, 1997, 79, 4166-4169.	7.8	26
41	Feature Selection in Simple Neurons: How Coding Depends on Spiking Dynamics. Neural Computation, 2010, 22, 581-598.	2.2	24
42	The receptive field is dead. Long live the receptive field?. Current Opinion in Neurobiology, 2014, 25, ix-xii.	4.2	24
43	Fusion Rules in Navier-Stokes Turbulence: First Experimental Tests. Physical Review Letters, 1997, 79, 3174-3177.	7.8	20
44	Tracking calcium dynamics from individual neurons in behaving animals. PLoS Computational Biology, 2021, 17, e1009432.	3.2	17
45	Dopamine neurons evaluate natural fluctuations in performance quality. Cell Reports, 2022, 38, 110574.	6.4	14
46	Dual Dimensionality Reduction Reveals Independent Encoding of Motor Features in a Muscle Synergy for Insect Flight Control. PLoS Computational Biology, 2015, 11, e1004168.	3.2	13
47	Context-dependent coding in single neurons. Journal of Computational Neuroscience, 2014, 37, 459-480.	1.0	12
48	Variation in sequence dynamics improves maintenance of stereotyped behavior in an example from bird song. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 9592-9597.	7.1	12
49	Relationship between individual neuron and network spontaneous activity in developing mouse cortex. Journal of Neurophysiology, 2014, 112, 3033-3045.	1.8	11
50	Fast and flexible sequence induction in spiking neural networks via rapid excitability changes. ELife, 2019, 8, .	6.0	11
51	Temporal dynamics in fMRI resting-state activity. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 5263-5264.	7.1	9
52	Acknowledging female voices. Nature Neuroscience, 2020, 23, 904-905.	14.8	8
53	Correlation-based model of artificially induced plasticity in motor cortex by a bidirectional brain-computer interface. PLoS Computational Biology, 2017, 13, e1005343.	3.2	8
54	Reconfiguring Motor Circuits for a Joint Manual and BCI Task. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2020, 28, 248-257.	4.9	7

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55	Capturing Multiple Timescales of Adaptation to Second-Order Statistics With Generalized Linear Models: Gain Scaling and Fractional Differentiation. Frontiers in Systems Neuroscience, 2020, 14, 60.	2.5	6
56	Editorial overview: Theoretical and computational neuroscience. Current Opinion in Neurobiology, 2014, 25, v-viii.	4.2	5
57	Editorial overview: Computational neuroscience. Current Opinion in Neurobiology, 2017, 46, A1-A5.	4.2	4
58	Whither variability?. Nature Neuroscience, 2019, 22, 329-330.	14.8	4
59	In Silico: Where Next?. ENeuro, 2021, 8, ENEURO.0131-21.2021.	1.9	4
60	Archaeology of type. Nature, 2001, 411, 997-997.	27.8	3
61	Let Music Sound while She Doth Make Her Choice. Neuron, 2015, 87, 1126-1128.	8.1	0
62	Teaching Computation in Neuroscience: Notes on the 2019 Society for Neuroscience Professional Development Workshop on Teaching. Journal of Undergraduate Neuroscience Education: JUNE: A Publication of FUN, Faculty for Undergraduate Neuroscience, 2021, 19, A185-A191.	0.0	0