William Bialek

List of Publications by Year
in descending order

31 papers	4,727 citations	304743 22 h-index	454955 30 g-index
32 all docs	32 docs citations	32 times ranked	4463 citing authors

#	Article	IF	Citations
1	On the dimensionality of behavior. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, e2021860119.	7.1	25
2	Optimal Local Estimates of Visual Motion in a Natural Environment. Physical Review Letters, 2021, 126, 018101.	7.8	2
3	Trading bits in the readout from a genetic network. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	11
4	Coarse Graining, Fixed Points, and Scaling in a Large Population of Neurons. Physical Review Letters, 2019, 123, 178103.	7.8	61
5	Optimal Decoding of Cellular Identities in a Genetic Network. Cell, 2019, 176, 844-855.e15.	28.9	132
6	Searching for collective behavior in a small brain. Physical Review E, 2019, 99, 052418.	2.1	34
7	Perspectives on theory at the interface of physics and biology. Reports on Progress in Physics, 2018, 81, 012601.	20.1	30
8	Collective Behavior of Place and Non-place Neurons in the Hippocampal Network. Neuron, 2017, 96, 1178-1191.e4.	8.1	107
9	Predictability and hierarchy in <i>Drosophila</i> behavior. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 11943-11948.	7.1	160
10	Extending the dynamic range of transcription factor action by translational regulation. Physical Review E, 2016, 93, 022404.	2.1	6
11	Entropic effects in a nonequilibrium system: Flocks of birds. Physical Review E, 2016, 93, 052416.	2.1	7
12	Information Processing in Living Systems. Annual Review of Condensed Matter Physics, 2016, 7, 89-117.	14.5	116
13	Statistical Mechanics of the US Supreme Court. Journal of Statistical Physics, 2015, 160, 275-301.	1.2	41
14	Thermodynamics and signatures of criticality in a network of neurons. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 11508-11513.	7.1	169
15	Social interactions dominate speed control in poising natural flocks near criticality. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 7212-7217.	7.1	145
16	Searching for Collective Behavior in a Large Network of Sensory Neurons. PLoS Computational Biology, 2014, 10, e1003408.	3.2	190
17	Inverse Spin Glass and Related Maximum Entropy Problems. Physical Review Letters, 2014, 113, 117204.	7.8	13
18	Mapping the stereotyped behaviour of freely moving fruit flies. Journal of the Royal Society Interface, 2014, 11, 20140672.	3.4	405

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19	The Neural Code for Motor Control in the Cerebellum and Oculomotor Brainstem. ENeuro, 2014, 1, ENEURO.0004-14.2014.	1.9	17
20	The simplest maximum entropy model for collective behavior in a neural network. Journal of Statistical Mechanics: Theory and Experiment, 2013, 2013, P03011.	2.3	89
21	Statistical mechanics for natural flocks of birds. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 4786-4791.	7.1	519
22	Are Biological Systems Poised at Criticality?. Journal of Statistical Physics, 2011, 144, 268-302.	1.2	537
23	The Neural Basis for Combinatorial Coding in a Cortical Population Response. Journal of Neuroscience, 2008, 28, 13522-13531.	3.6	132
24	Cooperativity, Sensitivity, and Noise in Biochemical Signaling. Physical Review Letters, 2008, 100, 258101.	7.8	76
25	Efficient representation as a design principle for neural coding and computation. , 2006, , .		46
26	A sensory source for motor variation. Nature, 2005, 437, 412-416.	27.8	267
27	Physical limits to biochemical signaling. Proceedings of the National Academy of Sciences of the United States of America, 2005, 102, 10040-10045.	7.1	368
28	Time Course of Information about Motion Direction in Visual Area MT of Macaque Monkeys. Journal of Neuroscience, 2004, 24, 3210-3222.	3.6	130
29	Introductory Science and Mathematics Education for 21st-Century Biologists. Science, 2004, 303, 788-790.	12.6	208
30	Predictability, Complexity, and Learning. Neural Computation, 2001, 13, 2409-2463.	2.2	375
31	Synergy in a Neural Code. Neural Computation, 2000, 12, 1531-1552.	2.2	307