

# William Bialek

## List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/6139330/publications.pdf>

Version: 2024-02-01

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  | Are Biological Systems Poised at Criticality?. Journal of Statistical Physics, 2011, 144, 268-302.  | 1.2  | 537       |
| 2  | 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       |
| 3  | Mapping the stereotyped behaviour of freely moving fruit flies. Journal of the Royal Society Interface, 2014, 11, 20140672.   | 3.4  | 405       |
| 4  | Predictability, Complexity, and Learning. Neural Computation, 2001, 13, 2409-2463.  | 2.2  | 375       |
| 5  | 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       |
| 6  | Synergy in a Neural Code. Neural Computation, 2000, 12, 1531-1552.  | 2.2  | 307       |
| 7  | A sensory source for motor variation. Nature, 2005, 437, 412-416.   | 27.8 | 267       |
| 8  | Introductory Science and Mathematics Education for 21st-Century Biologists. Science, 2004, 303, 788-790.  | 12.6 | 208       |
| 9  | Searching for Collective Behavior in a Large Network of Sensory Neurons. PLoS Computational Biology, 2014, 10, e1003408.  | 3.2  | 190       |
| 10 | 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       |
| 11 | 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       |
| 12 | 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       |
| 13 | The Neural Basis for Combinatorial Coding in a Cortical Population Response. Journal of Neuroscience, 2008, 28, 13522-13531.  | 3.6  | 132       |
| 14 | Optimal Decoding of Cellular Identities in a Genetic Network. Cell, 2019, 176, 844-855.e15.   | 28.9 | 132       |
| 15 | Time Course of Information about Motion Direction in Visual Area MT of Macaque Monkeys. Journal of Neuroscience, 2004, 24, 3210-3222.   | 3.6  | 130       |
| 16 | Information Processing in Living Systems. Annual Review of Condensed Matter Physics, 2016, 7, 89-117.   | 14.5 | 116       |
| 17 | Collective Behavior of Place and Non-place Neurons in the Hippocampal Network. Neuron, 2017, 96, 1178-1191.e4.  | 8.1  | 107       |
| 18 | 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        |

| #  | ARTICLE   | IF   | CITATIONS |
|----|---|------|-----------|
| 19 | Cooperativity, Sensitivity, and Noise in Biochemical Signaling. <i>Physical Review Letters</i> , 2008, 100, 258101.                                       | 7.8  | 76        |
| 20 | Coarse Graining, Fixed Points, and Scaling in a Large Population of Neurons. <i>Physical Review Letters</i> , 2019, 123, 178103.                          | 7.8  | 61        |
| 21 | Efficient representation as a design principle for neural coding and computation. , 2006, , .   |      | 46        |
| 22 | Statistical Mechanics of the US Supreme Court. <i>Journal of Statistical Physics</i> , 2015, 160, 275-301.  | 1.2  | 41        |
| 23 | Searching for collective behavior in a small brain. <i>Physical Review E</i> , 2019, 99, 052418.  | 2.1  | 34        |
| 24 | Perspectives on theory at the interface of physics and biology. <i>Reports on Progress in Physics</i> , 2018, 81, 012601.                                 | 20.1 | 30        |
| 25 | On the dimensionality of behavior. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2022, 119, e2021860119.       | 7.1  | 25        |
| 26 | The Neural Code for Motor Control in the Cerebellum and Oculomotor Brainstem. <i>ENeuro</i> , 2014, 1, ENEURO.0004-14.2014.                               | 1.9  | 17        |
| 27 | Inverse Spin Glass and Related Maximum Entropy Problems. <i>Physical Review Letters</i> , 2014, 113, 117204.  | 7.8  | 13        |
| 28 | Trading bits in the readout from a genetic network. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2021, 118, . | 7.1  | 11        |
| 29 | Entropic effects in a nonequilibrium system: Flocks of birds. <i>Physical Review E</i> , 2016, 93, 052416.  | 2.1  | 7         |
| 30 | Extending the dynamic range of transcription factor action by translational regulation. <i>Physical Review E</i> , 2016, 93, 022404.                      | 2.1  | 6         |
| 31 | Optimal Local Estimates of Visual Motion in a Natural Environment. <i>Physical Review Letters</i> , 2021, 126, 018101.                                    | 7.8  | 2         |