Andrew Mugler

List of Publications by Year
in descending order

43 papers	1,317 citations	430874 18 h-index	395702 33 g-index
47 all docs	47 docs citations	47 times ranked	1395 citing authors

#	Article	IF	Citations
1	Intermediate adhesion maximizes migration velocity of multicellular clusters. Physical Review E, 2021, 103, 032410.	2.1	5
2	Temporally regulated cell migration is sensitive to variation in body size. Development (Cambridge), 2021, 148, .	2.5	3
3	Precision of Protein Thermometry. Physical Review Letters, 2021, 127, 098102.	7.8	5
4	Signal processing capacity of the cellular sensory machinery regulates the accuracy of chemotaxis under complex cues. IScience, 2021, 24, 103242.	4.1	7
5	Cell-to-Cell Information at a Feedback-Induced Bifurcation Point. Physical Review Letters, 2020, 125, 048103.	7.8	8
6	Temporal precision of molecular events with regulation and feedback. Physical Review E, 2020, 101, 062420.	2.1	10
7	Multicellular sensing at a feedback-induced critical point. Physical Review E, 2020, 102, 052411.	2.1	3
8	Spiral Wave Propagation in Communities with Spatially Correlated Heterogeneity. Biophysical Journal, 2020, 118, 1721-1732.	0.5	3
9	Precision of Flow Sensing by Self-Communicating Cells. Physical Review Letters, 2020, 124, 168101.	7.8	7
10	Diffusion vs. direct transport in the precision of morphogen readout. ELife, 2020, 9, .	6.0	8
11	Highly Polyvalent DNA Motors Generate 100+ pN of Force via Autochemophoresis. Nano Letters, 2019, 19, 6977-6986.	9.1	41
12	Critical slowing down in biochemical networks with feedback. Physical Review E, 2019, 100, 022415.	2.1	8
13	Physical constraints on accuracy and persistence during breast cancer cell chemotaxis. PLoS Computational Biology, 2019, 15, e1006961.	3.2	16
14	Universality of biochemical feedback and its application to immune cells. Physical Review E, 2019, 99, 022422.	2.1	10
15	Statistics of correlated percolation in a bacterial community. PLoS Computational Biology, 2019, 15, e1007508.	3.2	5
16	Modeling of cytometry data in logarithmic space: When is a bimodal distribution not bimodal?. Cytometry Part A: the Journal of the International Society for Analytical Cytology, 2018, 93, 611-619.	1.5	8
17	Temporal precision of regulated gene expression. PLoS Computational Biology, 2018, 14, e1006201.	3.2	25
18	Special issue on emergent collective behaviour from groups of cells. Physical Biology, 2018, 15, 060202.	1.8	1

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19	Signal Percolation within a Bacterial Community. Cell Systems, 2018, 7, 137-145.e3.	6.2	77
20	Fundamental Limits to Collective Concentration Sensing in Cell Populations. Physical Review Letters, 2017, 118, 078101.	7.8	37
21	Dynamic Sampling and Information Encoding in Biochemical Networks. Biophysical Journal, 2017, 112, 795-804.	0.5	25
22	Emergent versus Individual-Based Multicellular Chemotaxis. Physical Review Letters, 2017, 119, 188101.	7.8	20
23	Growth of bacteria in 3-d colonies. PLoS Computational Biology, 2017, 13, e1005679.	3.2	38
24	Noise Expands the Response Range of the Bacillus subtilis Competence Circuit. PLoS Computational Biology, 2016, 12, e1004793.	3.2	20
25	Role of spatial averaging in multicellular gradient sensing. Physical Biology, 2016, 13, 035004.	1.8	7
26	Cooperative Clustering Digitizes Biochemical Signaling and Enhances its Fidelity. Biophysical Journal, 2016, 110, 1661-1669.	0.5	27
27	Collective Chemotaxis through Noisy Multicellular Gradient Sensing. Biophysical Journal, 2016, 111, 640-649.	0.5	24
28	Communication shapes sensory response in multicellular networks. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 10334-10339.	7.1	15
29	Cellâ€“cell communication enhances the capacity of cell ensembles to sense shallow gradients during morphogenesis. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, E679-88.	7.1	126
30	Limits to the precision of gradient sensing with spatial communication and temporal integration. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, E689-95.	7.1	67
31	Sense and Sensitivity: Physical Limits to Multicellular Sensing, Migration, and Drug Response. Molecular Pharmaceutics, 2016, 13, 2224-2232.	4.6	18
32	Fundamental Limits to Cellular Sensing. Journal of Statistical Physics, 2016, 162, 1395-1424.	1.2	74
33	High-speed DNA-based rolling motors powered by RNase H. Nature Nanotechnology, 2016, 11, 184-190.	31.5	178
34	Optimal Prediction by Cellular Signaling Networks. Physical Review Letters, 2015, 115, 258103.	7.8	53
35	Positive feedback can lead to dynamic nanometer-scale clustering on cell membranes. Journal of Chemical Physics, 2014, 141, 205102.	3.0	12
36	Circuit topology of self-interacting chains: implications for folding and unfolding dynamics. Physical Chemistry Chemical Physics, 2014, 16, 22537-22544.	2.8	31

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37	Spatial partitioning improves the reliability of biochemical signaling. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 5927-5932.	7.1	55
38	Analytic Methods for Modeling Stochastic Regulatory Networks. Methods in Molecular Biology, 2012, 880, 273-322.	0.9	35
39	Membrane Clustering and the Role of Rebinding in Biochemical Signaling. Biophysical Journal, 2012, 102, 1069-1078.	0.5	61
40	Statistical method for revealing form-function relations in biological networks. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 446-451.	7.1	5
41	Information-Optimal Transcriptional Response to Oscillatory Driving. Physical Review Letters, 2010, 105, 058101.	7.8	16
42	A stochastic spectral analysis of transcriptional regulatory cascades. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 6529-6534.	7.1	52
43	Spectral solutions to stochastic models of gene expression with bursts and regulation. Physical Review E, 2009, 80, 041921.	2.1	71