Matthew R Bennett

List of Publications by Year
in descending order

68	4,428	186265 28	114465 63
papers	citations	h-index	g-index

76	76	76	4280
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	A fast, robust and tunable synthetic gene oscillator. Nature, 2008, 456, 516-519.	27.8	1,079
2	Huygens's clocks. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2002, 458, 563-579.	2.1	368
3	Metabolic gene regulation in a dynamically changing environment. Nature, 2008, 454, 1119-1122.	27.8	274
4	Emergent genetic oscillations in a synthetic microbial consortium. Science, 2015, 349, 986-989.	12.6	272
5	Microfluidic devices for measuring gene network dynamics in single cells. Nature Reviews Genetics, 2009, 10, 628-638.	16.3	224
6	Biochar and Microbial Signaling: Production Conditions Determine Effects on Microbial Communication. Environmental Science & Technology, 2013, 47, 11496-11503.	10.0	174
7	Delay-Induced Degrade-and-Fire Oscillations in Small Genetic Circuits. Physical Review Letters, 2009, 102, 068105.	7.8	130
8	Library of synthetic transcriptional AND gates built with split T7 RNA polymerase mutants. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 5028-5033.	7.1	123
9	Tuning the dynamic range of bacterial promoters regulated by ligand-inducible transcription factors. Nature Communications, 2018, 9, 64.	12.8	121
10	Mapping the Environmental Fitness Landscape of a Synthetic Gene Circuit. PLoS Computational Biology, 2012, 8, e1002480.	3.2	118
11	A synthetic gene network for tuning protein degradation in Saccharomyces cerevisiae. Molecular Systems Biology, 2007, 3, 127.	7.2	89
12	Modular, Multi-Input Transcriptional Logic Gating with Orthogonal LacI/GalR Family Chimeras. ACS Synthetic Biology, 2014, 3, 645-651.	3.8	79
13	Stochastic Delay Accelerates Signaling in Gene Networks. PLoS Computational Biology, 2011, 7, e1002264.	3.2	71
14	Engineered temperature compensation in a synthetic genetic clock. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 972-977.	7.1	70
15	Transient Dynamics of Genetic Regulatory Networks. Biophysical Journal, 2007, 92, 3501-3512.	0.5	64
16	The Validity of Quasi-Steady-State Approximations in Discrete Stochastic Simulations. Biophysical Journal, 2014, 107, 783-793.	0.5	64
17	Transcriptional Delay Stabilizes Bistable Gene Networks. Physical Review Letters, 2013, 111, 058104.	7.8	60
18	Modeling synthetic gene oscillators. Mathematical Biosciences, 2012, 236, 1-15.	1.9	55

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19	Spatiotemporal Dynamics of Synthetic Microbial Consortia in Microfluidic Devices. ACS Synthetic Biology, 2019, 8, 2051-2058.	3.8	54
20	Majority sensing in synthetic microbial consortia. Nature Communications, 2020, 11, 3659.	12.8	47
21	Long-range temporal coordination of gene expression in synthetic microbial consortia. Nature Chemical Biology, 2019, 15, 1102-1109.	8.0	44
22	The relationship between stochastic and deterministic quasi-steady state approximations. BMC Systems Biology, 2015, 9, 87.	3.0	43
23	Molecular Mechanisms that Regulate the Coupled Period of the Mammalian Circadian Clock. Biophysical Journal, 2014, 106, 2071-2081.	0.5	41
24	Control of synthetic microbial consortia in time, space, and composition. Trends in Microbiology, 2021, 29, 1095-1105.	7.7	40
25	Phenotypic variability of growing cellular populations. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 18982-18987.	7.1	39
26	Evolutionary fates within a microbial population highlight an essential role for protein folding during natural selection. Molecular Systems Biology, 2010, 6, 387.	7.2	38
27	Synthetic Biology and the Gut Microbiome. Biotechnology Journal, 2018, 13, e1700159.	3.5	35
28	Surviving the Bottleneck: Transmission Mutants and the Evolution of Microbial Populations. Genetics, 2008, 180, 2193-2200.	2.9	31
29	Modeling mechanical interactions in growing populations of rod-shaped bacteria. Physical Biology, 2017, 14, 055001.	1.8	31
30	Antagonistic gene transcripts regulate adaptation to new growth environments. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 21087-21092.	7.1	30
31	The Timing of Transcriptional Regulation in Synthetic Gene Circuits. ACS Synthetic Biology, 2017, 6, 1996-2002.	3.8	30
32	A synthetic system for asymmetric cell division in Escherichia coli. Nature Chemical Biology, 2019, 15, 917-924.	8.0	29
33	Bistability and oscillations in coâ€repressive synthetic microbial consortia. Quantitative Biology, 2017, 5, 55-66.	0.5	28
34	Bayesian inference of distributed time delay in transcriptional and translational regulation. Bioinformatics, 2020, 36, 586-593.	4.1	27
35	Modeling delay in genetic networks: From delay birth-death processes to delay stochastic differential equations. Journal of Chemical Physics, 2014, 140, 204108.	3.0	26
36	Synthetic biology: the many facets of T7 RNA polymerase. Molecular Systems Biology, 2014, 10, 745.	7.2	25

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37	Dynamics of Bacterial Gene Regulatory Networks. Annual Review of Biophysics, 2018, 47, 447-467.	10.0	20
38	Emergent spatiotemporal population dynamics with cell-length control of synthetic microbial consortia. PLoS Computational Biology, 2021, 17, e1009381.	3.2	20
39	Potential energy landscape and finite-state models of array-enhanced stochastic resonance. Physical Review E, 2006, 73, 031107.	2.1	18
40	AlloRep: A Repository of Sequence, Structural and Mutagenesis Data for the LacI/GalR Transcription Regulators. Journal of Molecular Biology, 2016, 428, 671-678.	4.2	18
41	Stochastic resonance in the mechanoelectrical transduction of hair cells. Physical Review E, 2005, 72, 051911.	2.1	17
42	Measuring Competitive Fitness in Dynamic Environments. Journal of Physical Chemistry B, 2013, 117, 13175-13181.	2.6	17
43	A suppressor tRNA-mediated feedforward loop eliminates leaky gene expression in bacteria. Nucleic Acids Research, 2021, 49, e25-e25.	14.5	17
44	Strategies for Improving Small-Molecule Biosensors in Bacteria. Biosensors, 2022, 12, 64.	4.7	17
45	Predicting Transcriptional Output of Synthetic Multi-input Promoters. ACS Synthetic Biology, 2018, 7, 1834-1843.	3.8	16
46	Sources of Variability in a Synthetic Gene Oscillator. PLoS Computational Biology, 2015, 11, e1004674.	3.2	16
47	Stable Maintenance of Multiple Plasmids in E. coli Using a Single Selective Marker. ACS Synthetic Biology, 2012, 1, 445-450.	3.8	14
48	Moran model of spatial alignment in microbial colonies. Physica D: Nonlinear Phenomena, 2019, 395, 1-6.	2.8	14
49	Macrolide Biosensor Optimization through Cellular Substrate Sequestration. ACS Synthetic Biology, 2021, 10, 258-264.	3.8	14
50	A DNA methylationâ€“based switch generates bistable gene expression. Nature Genetics, 2007, 39, 146-147.	21.4	13
51	Genome rewired. Nature, 2008, 452, 824-825.	27.8	13
52	Stability of Systems with Stochastic Delays and Applications to Genetic Regulatory Networks. SIAM Journal on Applied Dynamical Systems, 2016, 15, 1844-1873.	1.6	12
53	Overpowering the component problem. Nature Biotechnology, 2009, 27, 450-451.	17.5	11
54	The Effects of Time-Varying Temperature on Delays in Genetic Networks. SIAM Journal on Applied Dynamical Systems, 2016, 15, 1734-1752.	1.6	11

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55	STOCHASTIC RESONANCE IN HAIR CELL MECHANOELECTRICAL TRANSDUCTION. Fluctuation and Noise Letters, 2004, 04, L1-L10.	1.5	10
56	Timing and Variability of Galactose Metabolic Gene Activation Depend on the Rate of Environmental Change. PLoS Computational Biology, 2015, 11, e1004399.	3.2	10
57	Improved pyrrolysine biosynthesis through phage assisted non-continuous directed evolution of the complete pathway. Nature Communications, 2021, 12, 3914.	12.8	8
58	Evolution of a single gene highlights the complexity underlying molecular descriptions of fitness. Chaos, 2010, 20, 026107.	2.5	6
59	Using cellular fitness to map the structure and function of a major facilitator superfamily effluxer. Molecular Systems Biology, 2017, 13, 964.	7.2	6
60	Improved memory devices for synthetic cells. Science, 2018, 360, 150-151.	12.6	5
61	RNA Compensation: A Positive Feedback Insulation Strategy for RNA-Based Transcription Networks. ACS Synthetic Biology, 2022, 11, 1240-1250.	3.8	5
62	Averaged equations for distributed Josephson junction arrays. Physica D: Nonlinear Phenomena, 2004, 192, 196-214.	2.8	4
63	Effects of cell cycle noise on excitable gene circuits. Physical Biology, 2016, 13, 066007.	1.8	4
64	Bacterial Killers Engineered to Exterminate Pathogenic Microbes. Molecular Cell, 2019, 75, 5-6.	9.7	4
65	Stochastic Neural Networks for Automatic Cell Tracking in Microscopy Image Sequences of Bacterial Colonies. Mathematical and Computational Applications, 2022, 27, 22.	1.3	2
66	TOWARDS A UNIFIED RATE THEORY OF STOCHASTIC RESONANCE. Fluctuation and Noise Letters, 2006, 06, L405-L413.	1.5	0
67	Tunable NF-ÎºB Oscillations in Yeast. Cell Systems, 2017, 5, 440-442.	6.2	0
68	Allosteric regulation within the highly interconnected structural scaffold of <scp>AraC</scp>/<scp>XylS</scp> homologs tolerates a wide range of amino acid changes. Proteins: Structure, Function and Bioinformatics, 2022, 90, 186-199.	2.6	0