Ramon Grima

List of Publications by Year
in descending order

55 papers	2,319 citations	159525 30 h-index	243529 44 g-index
55 all docs	55 docs citations	55 times ranked	2053 citing authors

#	Article	IF	Citations
1	Cluster mean-field theory accurately predicts statistical properties of large-scale DNA methylation patterns. Journal of the Royal Society Interface, 2022, 19, 20210707.	1.5	0
2	Mean-field theory accurately captures the variation of copy number distributions across the mRNA life cycle. Physical Review E, 2022, 105, 014410.	0.8	8
3	Characterizing non-exponential growth and bimodal cell size distributions in fission yeast: An analytical approach. PLoS Computational Biology, 2022, 18, e1009793.	1.5	8
4	Neural network aided approximation and parameter inference of non-Markovian models of gene expression. Nature Communications, 2021, 12, 2618.	5.8	71
5	Frequency Domain Analysis of Fluctuations of mRNA and Protein Copy Numbers within a Cell Lineage: Theory and Experimental Validation. Physical Review X, 2021, 11, .	2.8	21
6	MomentClosure.jl: automated moment closure approximations in Julia. Bioinformatics, 2021, 38, 289-290.	1.8	10
7	Statistics of Nascent and Mature RNA Fluctuations in a Stochastic Model of Transcriptional Initiation, Elongation, Pausing, and Termination. Bulletin of Mathematical Biology, 2021, 83, 3.	0.9	16
8	Distinguishing between models of mammalian gene expression: telegraph-like models versus mechanistic models. Journal of the Royal Society Interface, 2021, 18, 20210510.	1.5	25
9	Stochastic time-dependent enzyme kinetics: Closed-form solution and transient bimodality. Journal of Chemical Physics, 2020, 153, 164113.	1.2	11
10	Effects of cell cycle variability on lineage and population measurements of messenger RNA abundance. Journal of the Royal Society Interface, 2020, 17, 20200360.	1.5	59
11	Dynamical phase diagram of an auto-regulating gene in fast switching conditions. Journal of Chemical Physics, 2020, 152, 174110.	1.2	37
12	Small protein number effects in stochastic models of autoregulated bursty gene expression. Journal of Chemical Physics, 2020, 152, 084115.	1.2	44
13	Steady-state fluctuations of a genetic feedback loop with fluctuating rate parameters using the unified colored noise approximation. Journal of Physics A: Mathematical and Theoretical, 2020, 53, 405601.	0.7	8
14	Accuracy of parameter estimation for auto-regulatory transcriptional feedback loops from noisy data. Journal of the Royal Society Interface, 2019, 16, 20180967.	1.5	39
15	Spatial Stochastic Intracellular Kinetics: A Review of Modelling Approaches. Bulletin of Mathematical Biology, 2019, 81, 2960-3009.	0.9	42
16	Single-cell variability in multicellular organisms. Nature Communications, 2018, 9, 345.	5.8	48
17	Exact Product Formation Rates for Stochastic Enzyme Kinetics. Journal of Physical Chemistry B, 2017, 121, 13-23.	1.2	24
18	An alternative route to the system-size expansion. Journal of Physics A: Mathematical and Theoretical, 2017, 50, 395003.	0.7	4

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19	Macromolecular crowding directs the motion of small molecules inside cells. Journal of the Royal Society Interface, 2017, 14, 20170047.	1.5	52
20	Efficient Low-Order Approximation of First-Passage Time Distributions. Physical Review Letters, 2017, 119, 210601.	2.9	13
21	Cox process representation and inference for stochastic reactionâ€“diffusion processes. Nature Communications, 2016, 7, 11729.	5.8	24
22	Stochastic Simulation of Biomolecular Networks in Dynamic Environments. PLoS Computational Biology, 2016, 12, e1004923.	1.5	78
23	Inference for Stochastic Chemical Kinetics Using Moment Equations and System Size Expansion. PLoS Computational Biology, 2016, 12, e1005030.	1.5	77
24	Comparison of different moment-closure approximations for stochastic chemical kinetics. Journal of Chemical Physics, 2015, 143, 185101.	1.2	84
25	Model reduction for stochastic chemical systems with abundant species. Journal of Chemical Physics, 2015, 143, 214105.	1.2	24
26	Singleâ€molecule enzymology Ã la Michaelisâ€“Menten. FEBS Journal, 2014, 281, 518-530.	2.2	56
27	Arabidopsis cell expansion is controlled by a photothermal switch. Nature Communications, 2014, 5, 4848.	5.8	63
28	System size expansion using Feynman rules and diagrams. Journal of Physics A: Mathematical and Theoretical, 2014, 47, 455007.	0.7	15
29	Phenotypic switching in gene regulatory networks. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 6994-6999.	3.3	153
30	A continuum approximation to an off-lattice individual-cell based model of cell migration and adhesion. Journal of Theoretical Biology, 2014, 359, 220-232.	0.8	58
31	Mathematical Models Light Up Plant Signaling. Plant Cell, 2014, 26, 5-20.	3.1	41
32	Signatures of nonlinearity in single cell noise-induced oscillations. Journal of Theoretical Biology, 2013, 335, 222-234.	0.8	45
33	A Graph-Based Approach for the Approximate Solution of the Chemical Master Equation. Bulletin of Mathematical Biology, 2013, 75, 1653-1696.	0.9	4
34	Effects of bursty protein production on the noisy oscillatory properties of downstream pathways. Scientific Reports, 2013, 3, 2438.	1.6	10
35	Discreteness-induced concentration inversion in mesoscopic chemical systems. Nature Communications, 2012, 3, 779.	5.8	49
36	A study of the accuracy of moment-closure approximations for stochastic chemical kinetics. Journal of Chemical Physics, 2012, 136, 154105.	1.2	95

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37	Spontaneous spatiotemporal waves of gene expression from biological clocks in the leaf. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 6757-6762.	3.3	103
38	The slow-scale linear noise approximation: an accurate, reduced stochastic description of biochemical networks under timescale separation conditions. BMC Systems Biology, 2012, 6, 39.	3.0	108
39	Intrinsic Noise Analyzer: A Software Package for the Exploration of Stochastic Biochemical Kinetics Using the System Size Expansion. PLoS ONE, 2012, 7, e38518.	1.1	43
40	Communication: Limitations of the stochastic quasi-steady-state approximation in open biochemical reaction networks. Journal of Chemical Physics, 2011, 135, 181103.	1.2	51
41	Quantitative analysis of lowâ€abundance peptides in HeLa cell cytoplasm by targeted liquid chromatography/mass spectrometry and stable isotope dilution: emphasising the distinction between peptide detection and peptide identification. Rapid Communications in Mass Spectrometry, 2010, 24, 1093-1104.	0.7	23
42	Intrinsic biochemical noise in crowded intracellular conditions. Journal of Chemical Physics, 2010, 132, .	1.2	37
43	Stochastic theory of large-scale enzyme-reaction networks: Finite copy number corrections to rate equation models. Journal of Chemical Physics, 2010, 133, 195101.	1.2	36
44	Crowding-Induced Anisotropic Transport Modulates Reaction Kinetics in Nanoscale Porous Media. Journal of Physical Chemistry B, 2010, 114, 5380-5385.	1.2	18
45	Noise-Induced Breakdown of the Michaelis-Menten Equation in Steady-State Conditions. Physical Review Letters, 2009, 102, 218103.	2.9	62
46	Investigating the robustness of the classical enzyme kinetic equations in small intracellular compartments. BMC Systems Biology, 2009, 3, 101.	3.0	34
47	Multiscale Modeling of Biological Pattern Formation. Current Topics in Developmental Biology, 2008, 81, 435-460.	1.0	35
48	Modelling reaction kinetics inside cells. Essays in Biochemistry, 2008, 45, 41-56.	2.1	70
49	Can tissue surface tension drive somite formation?. Developmental Biology, 2007, 307, 248-257.	0.9	30
50	Directed cell migration in the presence of obstacles. Theoretical Biology and Medical Modelling, 2007, 4, 2.	2.1	14
51	A Mesoscopic Simulation Approach for Modeling Intracellular Reactions. Journal of Statistical Physics, 2007, 128, 139-164.	0.5	13
52	Multiscale Modeling in Biology. American Scientist, 2007, 95, 134.	0.1	70
53	A systematic investigation of the rate laws valid in intracellular environments. Biophysical Chemistry, 2006, 124, 1-10.	1.5	102
54	Strong-Coupling Dynamics of a Multicellular Chemotactic System. Physical Review Letters, 2005, 95, 128103.	2.9	48

#	Article	IF	Citations
55	External contribution to urban air pollution. Environmental Monitoring and Assessment, 2002, 73, 291-314.	1.3	6