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	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
2	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
3	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
4	A systematic investigation of the rate laws valid in intracellular environments. Biophysical Chemistry, 2006, 124, 1-10.	1.5	102
5	A study of the accuracy of moment-closure approximations for stochastic chemical kinetics. Journal of Chemical Physics, 2012, 136, 154105.	1.2	95
6	Comparison of different moment-closure approximations for stochastic chemical kinetics. Journal of Chemical Physics, 2015, 143, 185101.	1.2	84
7	Stochastic Simulation of Biomolecular Networks in Dynamic Environments. PLoS Computational Biology, 2016, 12, e1004923.	1.5	78
8	Inference for Stochastic Chemical Kinetics Using Moment Equations and System Size Expansion. PLoS Computational Biology, 2016, 12, e1005030.	1.5	77
9	Neural network aided approximation and parameter inference of non-Markovian models of gene expression. Nature Communications, 2021, 12, 2618.	5.8	71
10	Modelling reaction kinetics inside cells. Essays in Biochemistry, 2008, 45, 41-56.	2.1	70
11	Multiscale Modeling in Biology. American Scientist, 2007, 95, 134.	0.1	70
12	Arabidopsis cell expansion is controlled by a photothermal switch. Nature Communications, 2014, 5, 4848.	5.8	63
13	Noise-Induced Breakdown of the Michaelis-Menten Equation in Steady-State Conditions. Physical Review Letters, 2009, 102, 218103.	2.9	62
14	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
15	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
16	Singleâ€molecule enzymology Ã la Michaelisâ€“Menten. FEBS Journal, 2014, 281, 518-530.	2.2	56
17	Macromolecular crowding directs the motion of small molecules inside cells. Journal of the Royal Society Interface, 2017, 14, 20170047.	1.5	52
18	Communication: Limitations of the stochastic quasi-steady-state approximation in open biochemical reaction networks. Journal of Chemical Physics, 2011, 135, 181103.	1.2	51

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19	Discreteness-induced concentration inversion in mesoscopic chemical systems. Nature Communications, 2012, 3, 779.	5.8	49
20	Strong-Coupling Dynamics of a Multicellular Chemotactic System. Physical Review Letters, 2005, 95, 128103.	2.9	48
21	Single-cell variability in multicellular organisms. Nature Communications, 2018, 9, 345.	5.8	48
22	Signatures of nonlinearity in single cell noise-induced oscillations. Journal of Theoretical Biology, 2013, 335, 222-234.	0.8	45
23	Small protein number effects in stochastic models of autoregulated bursty gene expression. Journal of Chemical Physics, 2020, 152, 084115.	1.2	44
24	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
25	Spatial Stochastic Intracellular Kinetics: A Review of Modelling Approaches. Bulletin of Mathematical Biology, 2019, 81, 2960-3009.	0.9	42
26	Mathematical Models Light Up Plant Signaling. Plant Cell, 2014, 26, 5-20.	3.1	41
27	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
28	Intrinsic biochemical noise in crowded intracellular conditions. Journal of Chemical Physics, 2010, 132, .	1.2	37
29	Dynamical phase diagram of an auto-regulating gene in fast switching conditions. Journal of Chemical Physics, 2020, 152, 174110.	1.2	37
30	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
31	Multiscale Modeling of Biological Pattern Formation. Current Topics in Developmental Biology, 2008, 81, 435-460.	1.0	35
32	Investigating the robustness of the classical enzyme kinetic equations in small intracellular compartments. BMC Systems Biology, 2009, 3, 101.	3.0	34
33	Can tissue surface tension drive somite formation?. Developmental Biology, 2007, 307, 248-257.	0.9	30
34	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
35	Model reduction for stochastic chemical systems with abundant species. Journal of Chemical Physics, 2015, 143, 214105.	1.2	24
36	Cox process representation and inference for stochastic reactionâ€“diffusion processes. Nature Communications, 2016, 7, 11729.	5.8	24

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37	Exact Product Formation Rates for Stochastic Enzyme Kinetics. Journal of Physical Chemistry B, 2017, 121, 13-23.	1.2	24
38	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
39	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
40	Crowding-Induced Anisotropic Transport Modulates Reaction Kinetics in Nanoscale Porous Media. Journal of Physical Chemistry B, 2010, 114, 5380-5385.	1.2	18
41	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
42	System size expansion using Feynman rules and diagrams. Journal of Physics A: Mathematical and Theoretical, 2014, 47, 455007.	0.7	15
43	Directed cell migration in the presence of obstacles. Theoretical Biology and Medical Modelling, 2007, 4, 2.	2.1	14
44	A Mesoscopic Simulation Approach for Modeling Intracellular Reactions. Journal of Statistical Physics, 2007, 128, 139-164.	0.5	13
45	Efficient Low-Order Approximation of First-Passage Time Distributions. Physical Review Letters, 2017, 119, 210601.	2.9	13
46	Stochastic time-dependent enzyme kinetics: Closed-form solution and transient bimodality. Journal of Chemical Physics, 2020, 153, 164113.	1.2	11
47	Effects of bursty protein production on the noisy oscillatory properties of downstream pathways. Scientific Reports, 2013, 3, 2438.	1.6	10
48	MomentClosure.jl: automated moment closure approximations in Julia. Bioinformatics, 2021, 38, 289-290.	1.8	10
49	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
50	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
51	Characterizing non-exponential growth and bimodal cell size distributions in fission yeast: An analytical approach. PLoS Computational Biology, 2022, 18, e1009793.	1.5	8
52	External contribution to urban air pollution. Environmental Monitoring and Assessment, 2002, 73, 291-314.	1.3	6
53	A Graph-Based Approach for the Approximate Solution of the Chemical Master Equation. Bulletin of Mathematical Biology, 2013, 75, 1653-1696.	0.9	4
54	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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55	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