Yang Cao

List of Publications by Year in descending order

		471061	360668
47	2,685	17	35
papers	citations	h-index	g-index

48	48	48	1429
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Efficient step size selection for the tau-leaping simulation method. Journal of Chemical Physics, 2006, 124, 044109.	1.2	470
2	The slow-scale stochastic simulation algorithm. Journal of Chemical Physics, 2005, 122, 014116.	1.2	386
3	Stiffness in stochastic chemically reacting systems: The implicit tau-leaping method. Journal of Chemical Physics, 2003, 119, 12784-12794.	1.2	343
4	Efficient formulation of the stochastic simulation algorithm for chemically reacting systems. Journal of Chemical Physics, 2004, 121, 4059-4067.	1.2	337
5	Avoiding negative populations in explicit Poisson tau-leaping. Journal of Chemical Physics, 2005, 123, 054104.	1.2	178
6	Multiscale stochastic simulation algorithm with stochastic partial equilibrium assumption for chemically reacting systems. Journal of Computational Physics, 2005, 206, 395-411.	1.9	161
7	Adaptive explicit-implicit tau-leaping method with automatic tau selection. Journal of Chemical Physics, 2007, 126, 224101.	1.2	137
8	Algorithms and Software for Stochastic Simulation of Biochemical Reacting Systems. Biotechnology Progress, 2008, 24, 56-61.	1.3	119
9	Accuracy limitations and the measurement of errors in the stochastic simulation of chemically reacting systems. Journal of Computational Physics, 2006, 212, 6-24.	1.9	80
10	Accelerated stochastic simulation of the stiff enzyme-substrate reaction. Journal of Chemical Physics, 2005, 123, 144917.	1.2	67
11	Consistency and Stability of Tau-Leaping Schemes for Chemical Reaction Systems. Multiscale Modeling and Simulation, 2005, 4, 867-895.	0.6	66
12	The numerical stability of leaping methods for stochastic simulation of chemically reacting systems. Journal of Chemical Physics, 2004, 121, 12169.	1.2	54
13	Stochastic Simulation of Enzyme-Catalyzed Reactions with Disparate Timescales. Biophysical Journal, 2008, 95, 3563-3574.	0.2	53
14	Hybrid modeling and simulation of stochastic effects on progression through the eukaryotic cell cycle. Journal of Chemical Physics, 2012, 136, 034105.	1.2	31
15	Slow-scale tau-leaping method. Computer Methods in Applied Mechanics and Engineering, 2008, 197, 3472-3479.	3.4	27
16	Stochastic exit from mitosis in budding yeast. Cell Cycle, 2011, 10, 999-1009.	1.3	26
17	The subtle business of model reduction for stochastic chemical kinetics. Journal of Chemical Physics, 2009, 130, 064103.	1.2	24
18	Chapter 5 Discrete Stochastic Simulation Methods for Chemically Reacting Systems. Methods in Enzymology, 2009, 454, 115-140.	0.4	19

#	Article	IF	Citations
19	Stochastic Turing Patterns: Analysis of Compartment-Based Approaches. Bulletin of Mathematical Biology, 2014, 76, 3051-3069.	0.9	18
20	Modelling Propagation of Public Opinions on Microblogging Big Data Using Sentiment Analysis and Compartmental Models. International Journal on Semantic Web and Information Systems, 2017, 13, 11-27.	2.2	11
21	Michaelisâ€“Menten speeds up tau-leaping under a wide range of conditions. Journal of Chemical Physics, 2011, 134, 134112.	1.2	9
22	Cell cycle control and environmental response by second messengers in Caulobacter crescentus. BMC Bioinformatics, 2020, 21, 408.	1.2	9
23	Stiffness detection and reduction in discrete stochastic simulation of biochemical systems. Journal of Chemical Physics, 2011, 134, 054105.	1.2	7
24	A stochastic spatiotemporal model of a response-regulator network in theCaulobacter crescentuscell cycle. Physical Biology, 2016, 13, 035007.	0.8	6
25	Efficient implementation of the hybrid method for stochastic simulation of biochemical systems. Journal of Micromechanics and Molecular Physics, 2017, 02, 1750006.	0.7	6
26	Accuracy Analysis of Hybrid Stochastic Simulation Algorithm on Linear Chain Reaction Systems. Bulletin of Mathematical Biology, 2019, 81, 3024-3052.	0.9	6
27	A stochastic model of size control in the budding yeast cell cycle. BMC Bioinformatics, 2019, 20, 322.	1.2	6
28	A Framework to Analyze the Performance of Load Balancing Schemes for Ensembles of Stochastic Simulations. International Journal of Parallel Programming, 2015, 43, 597-630.	1.1	5
29	A hybrid stochastic model of the budding yeast cell cycle. Npj Systems Biology and Applications, 2020, 6, 7.	1.4	5
30	The Abridgment and Relaxation Time for a Linear Multi-Scale Model Based on Multiple Site Phosphorylation. PLoS ONE, 2015, 10, e0133295.	1.1	4
31	Parameter estimation of stochastic models based on limited data. ACM SIGBioinformatics Record, 2018, 7, 1-3.	0.3	4
32	Analysis and remedy of negativity problem in hybrid stochastic simulation algorithm and its application. BMC Bioinformatics, 2019, 20, 315.	1.2	4
33	Computational modeling of unphosphorylated CtrA:Cori binding in the Caulobacter cell cycle. IScience, 2021, 24, 103413.	1.9	2
34	Two-dimensional model of bipolar PopZ polymerization in caulobacter crescentus. , 2015, , .		1
35	Stochastic Modeling and Simulation of Reaction-Diffusion System with Hill Function Dynamics. , 2016, , .		1
36	Reaction time for trimolecular reactions in compartment-based reaction-diffusion models. Journal of Chemical Physics, 2018, 148, 204108.	1.2	1

#	Article	IF	Citations
37	A spatiotemporal model of polarity and spatial gradient establishment in caulobacter crescentus. , 2021, , .		1
38	Modeling the temporal dynamics of master regulators and CtrA proteolysis in Caulobacter crescentus cell cycle. PLoS Computational Biology, 2022, 18, e1009847.	1.5	1
39	Adaptive aggregation method for the chemical master equation. , 2008, , .		0
40	Stiffness detection and reduction in discrete stochastic simulation of biochemical systems. , 2010, , .		0
41	Hybrid Modeling and Simulation of Insulin Secretion Pathway in Pancreatic Islets. , 2010, , .		0
42	Approximation of a multi-scale model based on multiple site phosphorylation. , 2012, , .		0
43	The effect of unhealthy β-cells in synchronized insulin secretion. , 2012, , .		0
44	Multigrid discretization method for PopZ polarization in Caulobacter cell cycle. , 2013, , .		0
45	Hybrid ODE/SSA methods and the cell cycle model. AIP Conference Proceedings, 2017, , .	0.3	0
46	Stochastic Simulation of Biochemical Systems: In Memory of Dan T. Gillespieâ€™s contributions. Bulletin of Mathematical Biology, 2019, 81, 2819-2821.	0.9	0
47	Finding acceptable parameter regions of stochastic Hill functions for multisite phosphorylation mechanism. Journal of Chemical Physics, 2020, 152, 124108.	1.2	0