Andreas Hellander

List of Publications by Year
in descending order

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53	1,415	430442	360668
papers	citations	18 h-index	35 g-index

60	60	60	1249
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Perspective: Stochastic algorithms for chemical kinetics. Journal of Chemical Physics, 2013, 138, 170901.	1.2	259
2	URDME: a modular framework for stochastic simulation of reaction-transport processes in complex geometries. BMC Systems Biology, 2012, 6, 76.	3.0	118
3	Simulation of Stochastic Reaction-Diffusion Processes on Unstructured Meshes. SIAM Journal of Scientific Computing, 2009, 31, 1774-1797.	1.3	105
4	Analysis of neural crestâ€“derived clones reveals novel aspects of facial development. Science Advances, 2016, 2, e1600060.	4.7	68
5	Hybrid method for the chemical master equation. Journal of Computational Physics, 2007, 227, 100-122.	1.9	63
6	Spatial stochastic modelling of the Hes1 gene regulatory network: intrinsic noise can explain heterogeneity in embryonic stem cell differentiation. Journal of the Royal Society Interface, 2013, 10, 20120988.	1.5	59
7	Reaction-diffusion master equation in the microscopic limit. Physical Review E, 2012, 85, 042901.	0.8	57
8	An adaptive algorithm for simulation of stochastic reactionâ€“diffusion processes. Journal of Computational Physics, 2010, 229, 343-360.	1.9	54
9	Stochastic Simulation Service: Bridging the Gap between the Computational Expert and the Biologist. PLoS Computational Biology, 2016, 12, e1005220.	1.5	54
10	Oriented clonal cell dynamics enables accurate growth and shaping of vertebrate cartilage. ELife, 2017, 6, .	2.8	46
11	Coupled Mesoscopic and Microscopic Simulation of Stochastic Reaction-Diffusion Processes in Mixed Dimensions. Multiscale Modeling and Simulation, 2012, 10, 585-611.	0.6	45
12	A Hierarchy of Approximations of the Master Equation Scaled by a Size Parameter. Journal of Scientific Computing, 2008, 34, 127-151.	1.1	44
13	GillesPy: A Python Package for Stochastic Model Building and Simulation. IEEE Life Sciences Letters, 2016, 2, 35-38.	1.2	38
14	Reaction rates for mesoscopic reaction-diffusion kinetics. Physical Review E, 2015, 91, 023312.	0.8	35
15	MOLNs: A Cloud Platform for Interactive, Reproducible, and Scalable Spatial Stochastic Computational Experiments in Systems Biology Using PyURDME. SIAM Journal of Scientific Computing, 2016, 38, C179-C202.	1.3	28
16	Sparse grids and hybrid methods for the chemical master equation. BIT Numerical Mathematics, 2008, 48, 265-283.	1.0	27
17	The Role of Dimerisation and Nuclear Transport in the Hes1 Gene Regulatory Network. Bulletin of Mathematical Biology, 2014, 76, 766-798.	0.9	26
18	CellMCâ€”a multiplatform model compiler for the Cell Broadband Engine and Ã—86. Bioinformatics, 2010, 26, 426-428.	1.8	21

#	Article	IF	Citations
19	Accuracy of the Michaelisâ€“Menten approximation when analysing effects of molecular noise. Journal of the Royal Society Interface, 2015, 12, 20150054.	1.5	20
20	SNIC Science Cloud (SSC): A National-Scale Cloud Infrastructure for Swedish Academia. , 2017, , .		18
21	Deep-learning models for lipid nanoparticle-based drug delivery. Nanomedicine, 2021, 16, 1097-1110.	1.7	18
22	Smart computational exploration of stochastic gene regulatory network models using human-in-the-loop semi-supervised learning. Bioinformatics, 2019, 35, 5199-5206.	1.8	17
23	Local error estimates for adaptive simulation of the reactionâ€“diffusion master equation via operator splitting. Journal of Computational Physics, 2014, 266, 89-100.	1.9	16
24	The machine learning life cycle and the cloud: implications for drug discovery. Expert Opinion on Drug Discovery, 2021, 16, 1071-1079.	2.5	16
25	Efficient computation of transient solutions of the chemical master equation based on uniformization and quasi-Monte Carlo. Journal of Chemical Physics, 2008, 128, 154109.	1.2	13
26	Analysis and Design of Jump Coefficients in Discrete Stochastic Diffusion Models. SIAM Journal of Scientific Computing, 2016, 38, A55-A83.	1.3	13
27	Mesoscopic-microscopic spatial stochastic simulation with automatic system partitioning. Journal of Chemical Physics, 2017, 147, 234101.	1.2	13
28	Impact of Force Function Formulations on the Numerical Simulation of Centre-Based Models. Bulletin of Mathematical Biology, 2020, 82, 132.	0.9	10
29	Apache Spark Streaming, Kafka andÂHarmonicIO: A Performance Benchmark and Architecture Comparison for Enterprise and Scientific Computing. Lecture Notes in Computer Science, 2020, , 335-347.	1.0	9
30	Incorporating Active Transport of Cellular Cargo in Stochastic Mesoscopic Models of Living Cells. Multiscale Modeling and Simulation, 2010, 8, 1691-1714.	0.6	8
31	A multiscale compartment-based model of stochastic gene regulatory networks using hitting-time analysis. Journal of Chemical Physics, 2021, 154, 184105.	1.2	8
32	Reducing Complexity in Management of eScience Computations. , 2012, , .		7
33	Mesoscopic Modeling of Stochastic Reaction-Diffusion Kinetics in the Subdiffusive Regime. Multiscale Modeling and Simulation, 2016, 14, 668-707.	0.6	7
34	HarmonicIO: Scalable Data Stream Processing for Scientific Datasets. , 2018, , .		7
35	Orchestral: A Lightweight Framework for Parallel Simulations of Cell-Cell Communication. , 2018, , .		6
36	Adapting the Secretary Hiring Problem for Optimal Hot-Cold Tier Placement Under Top-K Workloads. , 2019, , .		6

#	Article	IF	Citations
37	A multiscale model to design therapeutic strategies that overcome drug resistance to tyrosine kinase inhibitors in multiple myeloma. Mathematical Biosciences, 2020, 319, 108293.	0.9	6
38	Automatic and portable cloud deployment for scientific simulations. , 2014, , .		5
39	Epidemiological modeling in StochSS Live!. Bioinformatics, 2021, 37, 2787-2788.	1.8	5
40	Identification of dynamic mass-action biochemical reaction networks using sparse Bayesian methods. PLoS Computational Biology, 2022, 18, e1009830.	1.5	5
41	FedQAS: Privacy-Aware Machine Reading Comprehension with Federated Learning. Applied Sciences (Switzerland), 2022, 12, 3130.	1.3	5
42	BAMSI: a multi-cloud service for scalable distributed filtering of massive genome data. BMC Bioinformatics, 2018, 19, 240.	1.2	4
43	Hierarchical algorithm for the reaction-diffusion master equation. Journal of Chemical Physics, 2020, 152, 034104.	1.2	4
44	Scientific Analysis by Queries in Extended SPARQL over a Scalable e-Science Data Store. , 2013, , .		3
45	Robustness Analysis of Spatiotemporal Models in the Presence of Extrinsic Fluctuations. SIAM Journal on Applied Mathematics, 2017, 77, 1157-1183.	0.8	3
46	Scalable machine learning-assisted model exploration and inference using Sciope. Bioinformatics, 2021, 37, 279-281.	1.8	3
47	Surrogate assisted model reduction for stochastic biochemical reaction networks. , 2017, , .		2
48	A 3D Multiscale Model to Explore the Role of EGFR Overexpression in Tumourigenesis. Bulletin of Mathematical Biology, 2019, 81, 2323-2344.	0.9	2
49	Rapid development of cloud-native intelligent data pipelines for scientific data streams using the HASTE Toolkit. GigaScience, 2021, 10, .	3.3	2
50	CBMOS: a GPU-enabled Python framework for the numerical study of center-based models. BMC Bioinformatics, 2022, 23, 55.	1.2	2
51	Living in darkness: Exploring adaptation of Proteus anguinus in 3 dimensions by X-ray imaging. GigaScience, 2022, 11, .	3.3	2
52	Multiscale Simulation of Stochastic Reaction-Diffusion Networks. , 2017, , 55-79.		1
53	Hybrid method for the chemical master equation. Proceedings in Applied Mathematics and Mechanics, 2007, 7, 1023701-1023702.	0.2	0