Stefan MÃ¼ller

List of Publications by Year
in descending order

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33 papers	871 citations	687363 13 h-index	501196 28 g-index
36 all docs	36 docs citations	36 times ranked	883 citing authors

#	Article	IF	Citations
1	Inverse problems in systems biology. Inverse Problems, 2009, 25, 123014.	2.0	94
2	The SBML ODE Solver Library: a native API for symbolic and fast numerical analysis of reaction networks. Bioinformatics, 2006, 22, 1406-1407.	4.1	88
3	A generalized model of the repressilator. Journal of Mathematical Biology, 2006, 53, 905-937.	1.9	86
4	Sign Conditions for Injectivity of Generalized Polynomial Maps with Applications to Chemical Reaction Networks and Real Algebraic Geometry. Foundations of Computational Mathematics, 2016, 16, 69-97.	2.5	79
5	Generalized Mass Action Systems: Complex Balancing Equilibria and Sign Vectors of the Stoichiometric and Kinetic-Order Subspaces. SIAM Journal on Applied Mathematics, 2012, 72, 1926-1947.	1.8	70
6	In vivo Polycomb kinetics and mitotic chromatin binding distinguish stem cells from differentiated cells. Genes and Development, 2012, 26, 857-871.	5.9	65
7	From elementary flux modes to elementary flux vectors: Metabolic pathway analysis with arbitrary linear flux constraints. PLoS Computational Biology, 2017, 13, e1005409.	3.2	60
8	Enzyme allocation problems in kinetic metabolic networks: Optimal solutions are elementary flux modes. Journal of Theoretical Biology, 2014, 347, 182-190.	1.7	55
9	A mathematical framework for yield (vs. rate) optimization in constraint-based modeling and applications in metabolic engineering. Metabolic Engineering, 2018, 47, 153-169.	7.0	37
10	Elementary Vectors and Conformal Sums in Polyhedral Geometry and their Relevance for Metabolic Pathway Analysis. Frontiers in Genetics, 2016, 7, 90.	2.3	26
11	Parameter Identification for Chemical Reaction Systems Using Sparsity Enforcing Regularization: A Case Study for the Chloriteâˆ'Iodide Reaction. Journal of Physical Chemistry A, 2009, 113, 2775-2785.	2.5	23
12	Generalized Mass-Action Systems and Positive Solutions of Polynomial Equations with Real and Symbolic Exponents (Invited Talk). Lecture Notes in Computer Science, 2014, , 302-323.	1.3	20
13	On the Bijectivity of Families of Exponential/Generalized Polynomial Maps. SIAM Journal on Applied Algebra and Geometry, 2019, 3, 412-438.	1.4	15
14	Which sets of elementary flux modes form thermodynamically feasible flux distributions?. FEBS Journal, 2016, 283, 1782-1794.	4.7	14
15	Flux tope analysis: studying the coordination of reaction directions in metabolic networks. Bioinformatics, 2019, 35, 266-273.	4.1	14
16	On Global Stability of the Lotka Reactions with Generalized Mass-Action Kinetics. Acta Applicandae Mathematicae, 2017, 151, 53-80.	1.0	12
17	The Center Problem for the Lotka Reactions with Generalized Mass-Action Kinetics. Qualitative Theory of Dynamical Systems, 2018, 17, 403-410.	1.7	11
18	A Deficiency-Based Approach to Parametrizing Positive Equilibria of Biochemical Reaction Systems. Bulletin of Mathematical Biology, 2019, 81, 1143-1172.	1.9	11

#	Article	IF	Citations
19	Elucidating the adaptation and temporal coordination of metabolic pathways using in-silico evolution. BioSystems, 2014, 117, 68-76.	2.0	10
20	Resource allocation in metabolic networks: kinetic optimization and approximations by FBA. Biochemical Society Transactions, 2015, 43, 1195-1200.	3.4	10
21	A generalization of Birch's theorem and vertex-balanced steady states for generalized mass-action systems. Mathematical Biosciences and Engineering, 2019, 16, 8243-8267.	1.9	9
22	Complex-balanced equilibria of generalized mass-action systems: necessary conditions for linear stability. Mathematical Biosciences and Engineering, 2020, 17, 442-459.	1.9	8
23	A minimal and self-consistent in silico cell model based on macromolecular interactions. Philosophical Transactions of the Royal Society B: Biological Sciences, 2007, 362, 1831-1839.	4.0	7
24	Planar S-systems: Global stability and the center problem. Discrete and Continuous Dynamical Systems, 2019, 39, 707-727.	0.9	6
25	Elementary vectors and autocatalytic sets for resource allocation in next-generation models of cellular growth. PLoS Computational Biology, 2022, 18, e1009843.	3.2	6
26	A new dynamic model for highly efficient mass transfer in aerated bioreactors and consequences for <i>k</i>_L<i>a</i> identification. Biotechnology and Bioengineering, 2012, 109, 2997-3006.	3.3	5
27	A Comprehensive Web-based Platform For Domain-Specific Biological Models. Electronic Notes in Theoretical Computer Science, 2013, 299, 61-67.	0.9	5
28	Biochemical Space: A Framework for Systemic Annotation of Biological Models. Electronic Notes in Theoretical Computer Science, 2014, 306, 31-44.	0.9	5
29	Practical Guidelines for Incorporating Knowledge-Based and Data-Driven Strategies into the Inference of Gene Regulatory Networks. IEEE/ACM Transactions on Computational Biology and Bioinformatics, 2016, 13, 64-75.	3.0	3
30	Genetic Recombination as a Chemical Reaction Network. Mathematical Modelling of Natural Phenomena, 2015, 10, 84-99.	2.4	2
31	Characterizing injectivity of classes of maps via classes of matrices. Linear Algebra and Its Applications, 2019, 580, 236-261.	0.9	2
32	Towards a quantitative assessment of inorganic carbon cycling in photosynthetic microorganisms. Engineering in Life Sciences, 2019, 19, 955-967.	3.6	2
33	Detailed Balance $$=$$ Complex Balance $$+$$ Cycle Balance: A Graph-Theoretic Proof for Reaction Networks and Markov Chains. Bulletin of Mathematical Biology, 2020, 82, 116.	1.9	0