

Rosalind J Allen

List of Publications by Year in descending order

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Version: 2024-02-01

77
papers

5,420
citations

126907

33
h-index

88630

70
g-index

85
all docs

85
docs citations

85
times ranked

5705
citing authors

#	ARTICLE	IF	CITATIONS
1	Challenges in microbial ecology: building predictive understanding of community function and dynamics. ISME Journal, 2016, 10, 2557-2568.	9.8	570
2	Sampling Rare Switching Events in Biochemical Networks. Physical Review Letters, 2005, 94, 018104.	7.8	432
3	Simulating rare events in equilibrium or nonequilibrium stochastic systems. Journal of Chemical Physics, 2006, 124, 024102.	3.0	314
4	Forward flux sampling for rare event simulations. Journal of Physics Condensed Matter, 2009, 21, 463102.	1.8	305
5	Continuum Theory of Phase Separation Kinetics for Active Brownian Particles. Physical Review Letters, 2013, 111, 145702.	7.8	303
6	Phase behaviour of active Brownian particles: the role of dimensionality. Soft Matter, 2014, 10, 1489-1499.	2.7	282
7	Role of Multicellular Aggregates in Biofilm Formation. MBio, 2016, 7, e00237.	4.1	272
8	Scalar ∇^4 field theory for active-particle phase separation. Nature Communications, 2014, 5, 4351.	12.8	247
9	Forward flux sampling-type schemes for simulating rare events: Efficiency analysis. Journal of Chemical Physics, 2006, 124, 194111.	3.0	183
10	Growth-dependent bacterial susceptibility to ribosome-targeting antibiotics. Molecular Systems Biology, 2015, 11, 796.	7.2	123
11	Intermittent Permeation of Cylindrical Nanopores by Water. Physical Review Letters, 2002, 89, 175502.	7.8	116
12	Electrostatic potential inside ionic solutions confined by dielectrics: a variational approach. Physical Chemistry Chemical Physics, 2001, 3, 4177-4186.	2.8	104
13	Computing stationary distributions in equilibrium and nonequilibrium systems with forward flux sampling. Journal of Chemical Physics, 2007, 127, 114109.	3.0	102
14	Mutational Pathway Determines Whether Drug Gradients Accelerate Evolution of Drug-Resistant Cells. Physical Review Letters, 2012, 109, 088101.	7.8	100
15	The role of mechanical forces in the planar-to-bulk transition in growing <i>Escherichia coli</i> microcolonies. Journal of the Royal Society Interface, 2014, 11, 20140400.	3.4	100
16	Effects of Macromolecular Crowding on Genetic Networks. Biophysical Journal, 2011, 101, 2882-2891.	0.5	95
17	Molecular dynamics investigation of water permeation through nanopores. Journal of Chemical Physics, 2003, 119, 3905-3919.	3.0	85
18	Oxic-anoxic regime shifts mediated by feedbacks between biogeochemical processes and microbial community dynamics. Nature Communications, 2017, 8, 789.	12.8	85

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19	Shaping the Growth Behaviour of Biofilms Initiated from Bacterial Aggregates. PLoS ONE, 2016, 11, e0149683.	2.5	83
20	Community history affects the predictability of microbial ecosystem development. ISME Journal, 2014, 8, 19-30.	9.8	80
21	Bacterial growth: a statistical physicist's guide. Reports on Progress in Physics, 2019, 82, 016601.	20.1	80
22	Switching and Growth for Microbial Populations in Catastrophic Responsive Environments. Biophysical Journal, 2010, 98, 1099-1108.	0.5	66
23	Mixed population of competing totally asymmetric simple exclusion processes with a shared reservoir of particles. Physical Review E, 2012, 85, 011142.	2.1	66
24	Competition for space during bacterial colonization of a surface. Journal of the Royal Society Interface, 2015, 12, 20150608.	3.4	60
25	C12E2 Reverse Micelle: A Molecular Dynamics Study. Langmuir, 2000, 16, 10547-10552.	3.5	59
26	Homogeneous nucleation under shear in a two-dimensional Ising model: Cluster growth, coalescence, and breakup. Journal of Chemical Physics, 2008, 129, 134704.	3.0	59
27	The <i>Pseudomonas aeruginosa</i> PSL Polysaccharide Is a Social but Noncheatable Trait in Biofilms. MBio, 2017, 8, .	4.1	59
28	Predictable properties of fitness landscapes induced by adaptational tradeoffs. ELife, 2020, 9, .	6.0	49
29	DNA looping provides stability and robustness to the bacteriophage λ switch. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 8101-8106.	7.1	45
30	Reaction Coordinates for the Flipping of Genetic Switches. Biophysical Journal, 2008, 94, 3413-3423.	0.5	42
31	Complexation and Phase Behavior of Oppositely Charged Polyelectrolyte/Macroion Systems. Langmuir, 2004, 20, 1997-2009.	3.5	40
32	Inherent Variability in the Kinetics of Autocatalytic Protein Self-Assembly. Physical Review Letters, 2014, 113, 098101.	7.8	40
33	Assembly of microbial communities in replicate nutrient cycling model ecosystems follows divergent trajectories, leading to alternate stable states. Environmental Microbiology, 2017, 19, 3374-3386.	3.8	39
34	Competition between Primary Nucleation and Autocatalysis in Amyloid Fibril Self-Assembly. Biophysical Journal, 2015, 108, 632-643.	0.5	37
35	Eliminating fast reactions in stochastic simulations of biochemical networks: A bistable genetic switch. Journal of Chemical Physics, 2008, 128, 045105.	3.0	36
36	Mechanistic and environmental control of the prevalence and lifetime of amyloid oligomers. Nature Communications, 2013, 4, 1891.	12.8	36

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37	Non-stationary forward flux sampling. <i>Journal of Chemical Physics</i> , 2012, 136, 174118.	3.0	34
38	Stability of β -lactam antibiotics in bacterial growth media. <i>PLoS ONE</i> , 2020, 15, e0236198.	2.5	33
39	A multipurpose modular system for high-resolution microscopy at high hydrostatic pressure. <i>Review of Scientific Instruments</i> , 2010, 81, 053710.	1.3	31
40	Lower glycolysis carries a higher flux than any biochemically possible alternative. <i>Nature Communications</i> , 2015, 6, 8427.	12.8	30
41	A Kinetic Study of Ovalbumin Fibril Formation: The Importance of Fragmentation and End-Joining. <i>Biophysical Journal</i> , 2015, 108, 2300-2311.	0.5	28
42	A Roadblock-and-Kill Mechanism of Action Model for the DNA-Targeting Antibiotic Ciprofloxacin. <i>Antimicrobial Agents and Chemotherapy</i> , 2020, 64, .	3.2	28
43	Genes Required for Growth at High Hydrostatic Pressure in <i>Escherichia coli</i> K-12 Identified by Genome-Wide Screening. <i>PLoS ONE</i> , 2013, 8, e73995.	2.5	27
44	Predicting the dynamics of bacterial growth inhibition by ribosome-targeting antibiotics. <i>Physical Biology</i> , 2017, 14, 065005.	1.8	23
45	Dynamical Phase Transition in a Model for Evolution with Migration. <i>Physical Review Letters</i> , 2010, 105, 268101.	7.8	22
46	Automatic, optimized interface placement in forward flux sampling simulations. <i>Journal of Chemical Physics</i> , 2013, 138, 164112.	3.0	22
47	Exact Solution of a Model DNA-Inversion Genetic Switch with Orientational Control. <i>Physical Review Letters</i> , 2008, 101, 118104.	7.8	20
48	Steady-state parameter sensitivity in stochastic modeling via trajectory reweighting. <i>Journal of Chemical Physics</i> , 2012, 136, 104106.	3.0	19
49	Antibiotic resistance: a physicist's view. <i>Physical Biology</i> , 2016, 13, 045001.	1.8	19
50	Malliavin Weight Sampling for Computing Sensitivity Coefficients in Brownian Dynamics Simulations. <i>Physical Review Letters</i> , 2012, 109, 250601.	7.8	18
51	Computing the local pressure in molecular dynamics simulations. <i>Journal of Physics Condensed Matter</i> , 2012, 24, 284133.	1.8	18
52	Density functional approach to the effective interaction between charges within dielectric cavities. <i>Journal of Physics Condensed Matter</i> , 2002, 14, 11981-11997.	1.8	15
53	Electrostatic interactions of charges and dipoles near a polarizable membrane. <i>Molecular Physics</i> , 2003, 101, 1575-1585.	1.7	15
54	Kinetic models of ion transport through a nanopore. <i>Physical Review E</i> , 2004, 70, 021105.	2.1	15

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55	Osmosis in a minimal model system. <i>Journal of Chemical Physics</i> , 2012, 137, 244911.	3.0	14
56	Speed of Invasion of an Expanding Population by a Horizontally Transmitted Trait. <i>Genetics</i> , 2014, 196, 497-507.	2.9	14
57	Computational design of probes to detect bacterial genomes by multivalent binding. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2020, 117, 8719-8726.	7.1	14
58	Statistical physics of a model binary genetic switch with linear feedback. <i>Physical Review E</i> , 2009, 79, 031923.	2.1	13
59	Single-molecule imaging at high hydrostatic pressure. <i>Applied Physics Letters</i> , 2013, 102, .	3.3	13
60	Malliavin Weight Sampling: A Practical Guide. <i>Entropy</i> , 2014, 16, 221-232.	2.2	13
61	Tracking the stochastic growth of bacterial populations in microfluidic droplets. <i>Physical Biology</i> , 2022, 19, 026003.	1.8	13
62	Oscillating microbial dynamics driven by small populations, limited nutrient supply and high death rates. <i>Journal of Theoretical Biology</i> , 2012, 314, 120-129.	1.7	12
63	Parasites on parasites: Coupled fluctuations in stacked contact processes. <i>Europhysics Letters</i> , 2013, 101, 50001.	2.0	12
64	Osmosis with active solutes. <i>Europhysics Letters</i> , 2014, 106, 34003.	2.0	11
65	Resource spectrum engineering by specialist species can shift the specialist-generalist balance. <i>Theoretical Ecology</i> , 2020, 13, 149-163.	1.0	11
66	Permeation of nanopores by water: the effects of channel polarization. <i>Journal of Physics Condensed Matter</i> , 2003, 15, S297-S302.	1.8	8
67	Growth-dependent drug susceptibility can prevent or enhance spatial expansion of a bacterial population. <i>Physical Biology</i> , 2019, 16, 046001.	1.8	8
68	Staff and patient perceptions of a community urinary catheter service. <i>International Journal of Urological Nursing</i> , 2020, 14, 83-91.	0.2	8
69	Sedimentation equilibria of colloidal hard rod dispersions. <i>PhysChemComm</i> , 1999, 2, 30.	0.8	5
70	Nucleation in a Sheared Ising Model: Effects of External Field. <i>Progress of Theoretical Physics Supplement</i> , 2008, 175, 144-153.	0.1	5
71	Trajectory reweighting for non-equilibrium steady states. <i>Molecular Physics</i> , 2018, 116, 3104-3113.	1.7	5
72	Phenotypic delay in the evolution of bacterial antibiotic resistance: Mechanistic models and their implications. <i>PLoS Computational Biology</i> , 2020, 16, e1007930.	3.2	5

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73	A simulation study of aggregation mediated by production of cohesive molecules. <i>Soft Matter</i> , 2019, 15, 9120-9132.	2.7	3
74	Title is missing!. , 2020, 16, e1007930.		0
75	Title is missing!. , 2020, 16, e1007930.		0
76	Title is missing!. , 2020, 16, e1007930.		0
77	Title is missing!. , 2020, 16, e1007930.		0