

# Aaron R Dinner

## List of Publications by Year in descending order

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136  
papers

10,775  
citations

43973

48  
h-index

39575

94  
g-index

324  
all docs

324  
docs citations

324  
times ranked

14525  
citing authors

#	ARTICLE	IF	CITATIONS
1	Computing transition path theory quantities with trajectory stratification. <i>Journal of Chemical Physics</i> , 2022, 157, .	1.2	8
2	Spatiotemporal control of liquid crystal structure and dynamics through activity patterning. <i>Nature Materials</i> , 2021, 20, 875-882.	13.3	70
3	Long-Time-Scale Predictions from Short-Trajectory Data: A Benchmark Analysis of the Trp-Cage Mini-protein. <i>Journal of Chemical Theory and Computation</i> , 2021, 17, 2948-2963.	2.3	20
4	A strong nonequilibrium bound for sorting of cross-linkers on growing biopolymers. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2021, 118, .	3.3	4
5	Actin crosslinker competition and sorting drive emergent GUV size-dependent actin network architecture. <i>Communications Biology</i> , 2021, 4, 1136.	2.0	26
6	Kinetic modeling reveals additional regulation at co-transcriptional level by post-transcriptional sRNA regulators. <i>Cell Reports</i> , 2021, 36, 109764.	2.9	8
7	Mechanical feedback promotes bacterial adaptation to antibiotics. <i>Nature Physics</i> , 2021, 17, 403-409.	6.5	25
8	Error Bounds for Dynamical Spectral Estimation. <i>SIAM Journal on Mathematics of Data Science</i> , 2021, 3, 225-252.	1.0	5
9	Actin filament alignment causes mechanical hysteresis in cross-linked networks. <i>Soft Matter</i> , 2021, 17, 5499-5507.	1.2	16
10	Kinetics of Phenol Escape from the Insulin R <sub>6</sub> Hexamer. <i>Journal of Physical Chemistry B</i> , 2021, 125, 11637-11649.	1.2	5
11	Structural Ensemble of the Insulin Monomer. <i>Biochemistry</i> , 2021, 60, 3125-3136.	1.2	5
12	Stratification as a General Variance Reduction Method for Markov Chain Monte Carlo. <i>SIAM-ASA Journal on Uncertainty Quantification</i> , 2020, 8, 1139-1188.	1.1	11
13	Integrated Variational Approach to Conformational Dynamics: A Robust Strategy for Identifying Eigenfunctions of Dynamical Operators. <i>Journal of Physical Chemistry B</i> , 2020, 124, 9354-9364.	1.2	23
14	Insulin Dissociates by Diverse Mechanisms of Coupled Unfolding and Unbinding. <i>Journal of Physical Chemistry B</i> , 2020, 124, 5571-5587.	1.2	35
15	Machine Learning Force Fields and Coarse-Grained Variables in Molecular Dynamics: Application to Materials and Biological Systems. <i>Journal of Chemical Theory and Computation</i> , 2020, 16, 4757-4775.	2.3	120
16	Tuning molecular motor transport through cytoskeletal filament network organization. <i>Soft Matter</i> , 2020, 16, 2135-2140.	1.2	11
17	Structured silicon for revealing transient and integrated signal transductions in microbial systems. <i>Science Advances</i> , 2020, 6, eaay2760.	4.7	14
18	Bayesian modeling reveals metabolite-dependent ultrasensitivity in the cyanobacterial circadian clock. <i>Molecular Systems Biology</i> , 2020, 16, e9355.	3.2	10

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19	Transient intracellular acidification regulates the core transcriptional heat shock response. <i>ELife</i> , 2020, 9, .	2.8	52
20	Galerkin approximation of dynamical quantities using trajectory data. <i>Journal of Chemical Physics</i> , 2019, 150, 244111.	1.2	51
21	Mechanical and kinetic factors drive sorting of F-actin cross-linkers on bundles. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019, 116, 16192-16197.	3.3	43
22	Transcription factories in Ig $\lambda$ allelic choice and diversity. <i>Advances in Immunology</i> , 2019, 141, 33-49.	1.1	5
23	Chronic Inflammation Permanently Reshapes Tissue-Resident Immunity in Celiac Disease. <i>Cell</i> , 2019, 176, 967-981.e19.	13.5	126
24	Bridging the Timescales of Single-Cell and Population Dynamics. <i>Physical Review X</i> , 2018, 8, .	2.8	28
25	Cooperative recruitment of Yan via a high-affinity ETS supersite organizes repression to confer specificity and robustness to cardiac cell fate specification. <i>Genes and Development</i> , 2018, 32, 389-401.	2.7	14
26	Geographically Resolved Rhythms in Twitter Use Reveal Social Pressures on Daily Activity Patterns. <i>Current Biology</i> , 2018, 28, 3763-3775.e5.	1.8	25
27	Trajectory Stratification of Stochastic Dynamics. <i>SIAM Review</i> , 2018, 60, 909-938.	4.2	19
28	Molecular dynamics simulations of nucleotide release from the circadian clock protein KaiC reveal atomic-resolution functional insights. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018, 115, E11475-E11484.	3.3	24
29	Entropic constraints on the steady-state fitness of competing self-replicators. <i>Journal of Chemical Physics</i> , 2018, 149, 224105.	1.2	0
30	Nonequilibrium phase diagrams for actomyosin networks. <i>Soft Matter</i> , 2018, 14, 7740-7747.	1.2	35
31	Bootstrapping and Empirical Bayes Methods Improve Rhythm Detection in Sparsely Sampled Data. <i>Journal of Biological Rhythms</i> , 2018, 33, 339-349.	1.4	34
32	miR-4728-3p Functions as a Tumor Suppressor in Ulcerative Colitis-associated Colorectal Neoplasia Through Regulation of Focal Adhesion Signaling. <i>Inflammatory Bowel Diseases</i> , 2017, 23, 1328-1337.	0.9	22
33	Single-pixel interior filling function approach for detecting and correcting errors in particle tracking. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017, 114, 221-226.	3.3	14
34	Biphasic growth dynamics control cell division in <i>Caulobacter crescentus</i> . <i>Nature Microbiology</i> , 2017, 2, 17116.	5.9	36
35	A Versatile Framework for Simulating the Dynamic Mechanical Structure of Cytoskeletal Networks. <i>Biophysical Journal</i> , 2017, 113, 448-460.	0.2	66
36	Stochastic feeding dynamics arise from the need for information and energy. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017, 114, 9261-9266.	3.3	15

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37	Filament rigidity and connectivity tune the deformation modes of active biopolymer networks. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, E10037-E10045.	3.3	63
38	The cyanobacterial circadian clock follows midday in vivo and in vitro. ELife, 2017, 6, .	2.8	37
39	Toward Coherent Control Around the Quantum-Classical Boundary. Advances in Chemical Physics, 2016, , 283-312.	0.3	0
40	Piecewise Adiabatic Passage in Polarization Optics: an Achromatic Polarization Rotator. Advances in Chemical Physics, 2016, , 219-234.	0.3	1
41	Eigenvector method for umbrella sampling enables error analysis. Journal of Chemical Physics, 2016, 145, 084115.	1.2	25
42	Dynamics of Photochemical Reactions of Organic Carbonyls and their Clusters. Advances in Chemical Physics, 2016, , 1-22.	0.3	0
43	Multiple Time-Step Dual-Hamiltonian Hybrid Molecular Dynamics “ Monte Carlo Canonical Propagation Algorithm. Journal of Chemical Theory and Computation, 2016, 12, 1449-1458.	2.3	9
44	Structural basis for oligomerization and glycosaminoglycan binding of CCL5 and CCL3. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 5000-5005.	3.3	72
45	Self-Antigen-Driven Thymic B Cell Class Switching Promotes T Cell Central Tolerance. Cell Reports, 2016, 17, 387-398.	2.9	31
46	Controlling Quantum Dynamics with Assisted Adiabatic Processes. Advances in Chemical Physics, 2016, , 51-136.	0.3	5
47	Quantum Dynamics by Partitioning Technique. Advances in Chemical Physics, 2016, , 349-394.	0.3	0
48	Refining Disordered Peptide Ensembles with Computational Amide I Spectroscopy: Application to Elastin-Like Peptides. Journal of Physical Chemistry B, 2016, 120, 11395-11404.	1.2	19
49	Single-cell analysis defines the divergence between the innate lymphoid cell lineage and lymphoid tissue“inducer cell lineage. Nature Immunology, 2016, 17, 269-276.	7.0	129
50	Shape dynamics of growing cell walls. Soft Matter, 2016, 12, 3442-3450.	1.2	24
51	Intergenerational continuity of cell shape dynamics in Caulobacter crescentus. Scientific Reports, 2015, 5, 9155.	1.6	17
52	Improved Statistical Methods Enable Greater Sensitivity in Rhythm Detection for Genome-Wide Data. PLoS Computational Biology, 2015, 11, e1004094.	1.5	93
53	Effects of Diurnal Variation of Gut Microbes and High-Fat Feeding on Host Circadian Clock Function and Metabolism. Cell Host and Microbe, 2015, 17, 681-689.	5.1	634
54	PLZF expression maps the early stages of ILC1 lineage development. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 5123-5128.	3.3	166

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55	Pancreatic $\beta$ cell enhancers regulate rhythmic transcription of genes controlling insulin secretion. <i>Science</i> , 2015, 350, aac4250.	6.0	294
56	A Conserved Bicycle Model for Circadian Clock Control of Membrane Excitability. <i>Cell</i> , 2015, 162, 836-848.	13.5	178
57	Using multiscale preconditioning to accelerate the convergence of iterative molecular calculations. <i>Journal of Chemical Physics</i> , 2014, 140, 184114.	1.2	11
58	Gene regulatory networks in the immune system. <i>Trends in Immunology</i> , 2014, 35, 211-218.	2.9	73
59	Scaling laws governing stochastic growth and division of single bacterial cells. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2014, 111, 15912-15917.	3.3	195
60	Finding Chemical Reaction Paths with a Multilevel Preconditioning Protocol. <i>Journal of Chemical Theory and Computation</i> , 2014, 10, 5467-5475.	2.3	3
61	Nucleotide Regulation of the Structure and Dynamics of G-Actin. <i>Biophysical Journal</i> , 2014, 106, 1710-1720.	0.2	22
62	Universality in Stochastic Exponential Growth. <i>Physical Review Letters</i> , 2014, 113, 028101.	2.9	57
63	Modeling Viral Capsid Assembly. <i>Advances in Chemical Physics</i> , 2014, 155, 1-68.	0.3	120
64	A negative feedback loop mediated by the Bcl6-cullin 3 complex limits Tfh cell differentiation. <i>Journal of Experimental Medicine</i> , 2014, 211, 1137-1151.	4.2	20
65	Distribution of directional change as a signature of complex dynamics. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2013, 110, 19689-19694.	3.3	105
66	Local Fluctuations in Solution: Theory and Applications. <i>Advances in Chemical Physics</i> , 2013, 153, 311-372.	0.3	18
67	Transcriptional Regulation of Germinal Center B and Plasma Cell Fates by Dynamical Control of IRF4. <i>Immunity</i> , 2013, 38, 918-929.	6.6	356
68	The Theory of Ultra-Coarse-Graining. 1. General Principles. <i>Journal of Chemical Theory and Computation</i> , 2013, 9, 2466-2480.	2.3	149
69	Influence of Interlayer Exchanges on Vorticity-Aligned Colloidal String Assembly in a Simple Shear Flow. <i>Journal of Physical Chemistry Letters</i> , 2013, 4, 3310-3315.	2.1	2
70	Intracellular transport of insulin granules is a subordinated random walk. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2013, 110, 4911-4916.	3.3	296
71	Minimizing memory as an objective for coarse-graining. <i>Journal of Chemical Physics</i> , 2013, 138, 094111.	1.2	17
72	Relation between ordering and shear thinning in colloidal suspensions. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2013, 110, 3771-3776.	3.3	49

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73	Phase Resetting Reveals Network Dynamics Underlying a Bacterial Cell Cycle. <i>PLoS Computational Biology</i> , 2012, 8, e1002778.	1.5	9
74	Requirements for contractility in disordered cytoskeletal bundles. <i>New Journal of Physics</i> , 2012, 14, 033037.	1.2	67
75	Improved predictions of transcription factor binding sites using physicochemical features of DNA. <i>Nucleic Acids Research</i> , 2012, 40, e175-e175.	6.5	30
76	Contractile Units in Disordered Actomyosin Bundles Arise from F-Actin Buckling. <i>Physical Review Letters</i> , 2012, 108, 238107.	2.9	127
77	Model for competition from self during passive immunization, with application to broadly neutralizing antibodies for HIV. <i>Vaccine</i> , 2012, 30, 607-613.	1.7	7
78	Duplex interrogation by a direct DNA repair protein in search of base damage. <i>Nature Structural and Molecular Biology</i> , 2012, 19, 671-676.	3.6	62
79	Efficient and Unbiased Sampling of Biomolecular Systems in the Canonical Ensemble: A Review of Self-Guided Langevin Dynamics. <i>Advances in Chemical Physics</i> , 2012, 150, 255-326.	0.3	32
80	Assembly of vorticity-aligned hard-sphere colloidal strings in a simple shear flow. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2012, 109, 63-67.	3.3	72
81	A self-reinforcing regulatory network triggered by limiting IL-7 activates pre-BCR signaling and differentiation. <i>Nature Immunology</i> , 2012, 13, 300-307.	7.0	141
82	Steered transition path sampling. <i>Journal of Chemical Physics</i> , 2012, 136, 234103.	1.2	28
83	Delineation of Folding Pathways of a $\beta^2$ -Sheet Miniprotein. <i>Journal of Physical Chemistry B</i> , 2011, 115, 13065-13074.	1.2	41
84	Flow-Dependent Unfolding and Refolding of an RNA by Nonequilibrium Umbrella Sampling. <i>Journal of Chemical Theory and Computation</i> , 2011, 7, 2710-2720.	2.3	36
85	Epigenetic repression of the Igk locus by STAT5-mediated recruitment of the histone methyltransferase Ezh2. <i>Nature Immunology</i> , 2011, 12, 1212-1220.	7.0	169
86	Entrainment of a driven oscillator as a dynamical phase transition. <i>Physical Review E</i> , 2011, 84, 061134.	0.8	4
87	An incoherent regulatory network architecture that orchestrates B cell diversification in response to antigen signaling. <i>Molecular Systems Biology</i> , 2011, 7, 495.	3.2	111
88	Enhanced Sampling of Nonequilibrium Steady States. <i>Annual Review of Physical Chemistry</i> , 2010, 61, 441-459.	4.8	71
89	Polymerization of MIP-1 chemokine (CCL3 and CCL4) and clearance of MIP-1 by insulin-degrading enzyme. <i>EMBO Journal</i> , 2010, 29, 3952-3966.	3.5	129
90	Extracting Physically Intuitive Reaction Coordinates from Transition Networks of a $\beta^2$ -Sheet Miniprotein. <i>Journal of Physical Chemistry B</i> , 2010, 114, 6979-6989.	1.2	21

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91	A list-based algorithm for evaluation of large deviation functions. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2010, 2010, P02006.	0.9	8
92	Model for how retrograde actin flow regulates adhesion traction stresses. <i>Journal of Physics Condensed Matter</i> , 2010, 22, 194113.	0.7	46
93	Critical behavior of a model for catalyzed autoamplification. <i>Journal of Chemical Physics</i> , 2009, 130, 134906.	1.2	4
94	Separating forward and backward pathways in nonequilibrium umbrella sampling. <i>Journal of Chemical Physics</i> , 2009, 131, 154104.	1.2	70
95	How Focal Adhesion Size Depends on Integrin Affinity. <i>Langmuir</i> , 2009, 25, 1540-1546.	1.6	23
96	Models of Single-Molecule Experiments with Periodic Perturbations Reveal Hidden Dynamics in RNA Folding. <i>Journal of Physical Chemistry B</i> , 2009, 113, 7579-7590.	1.2	10
97	Using the Bias from Flow to Elucidate Single DNA Repair Protein Sliding and Interactions with DNA. <i>Biophysical Journal</i> , 2009, 96, 1911-1917.	0.2	24
98	Apparent Directional Scanning for DNA Repair. <i>Biophysical Journal</i> , 2008, 94, 47-52.	0.2	6
99	Signatures of combinatorial regulation in intrinsic biological noise. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2008, 105, 17262-17267.	3.3	35
100	The <i>Pseudomonas aeruginosa</i> multidrug efflux regulator MexR uses an oxidation-sensing mechanism. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2008, 105, 13586-13591.	3.3	139
101	A two-step nucleotide-flipping mechanism enables kinetic discrimination of DNA lesions by AGT. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2008, 105, 4615-4620.	3.3	72
102	Umbrella sampling for nonequilibrium processes. <i>Journal of Chemical Physics</i> , 2007, 127, 154112.	1.2	110
103	Enhancement of Diffusion-Controlled Reaction Rates by Surface-Induced Orientational Restriction. <i>Biophysical Journal</i> , 2006, 90, 896-902.	0.2	18
104	A Hybrid Deterministic~Stochastic Algorithm for Modeling Cell Signaling Dynamics in Spatially Inhomogeneous Environments and under the Influence of External Fields. <i>Journal of Physical Chemistry B</i> , 2006, 110, 12749-12765.	1.2	24
105	Multilineage Transcriptional Priming and Determination of Alternate Hematopoietic Cell Fates. <i>Cell</i> , 2006, 126, 755-766.	13.5	572
106	B Cell Antigen Receptor Signaling and Internalization Are Mutually Exclusive Events. <i>PLoS Biology</i> , 2006, 4, e200.	2.6	81
107	Monte Carlo simulations of biomolecules: The MC module in CHARMM. <i>Journal of Computational Chemistry</i> , 2006, 27, 203-216.	1.5	55
108	Bias annealing: A method for obtaining transition paths de novo. <i>Journal of Chemical Physics</i> , 2006, 125, 114101.	1.2	38

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109	Conformational sampling via a self-regulating effective energy surface. <i>Journal of Chemical Physics</i> , 2006, 124, 174901.	1.2	16
110	Dynamic coupling between coordinates in a model for biomolecular isomerization. <i>Journal of Chemical Physics</i> , 2006, 124, 144911.	1.2	37
111	A Model for TCR Gene Segment Use. <i>Journal of Immunology</i> , 2006, 177, 3857-3864.	0.4	16
112	Control of Genotypic Allelic Inclusion through TCR Surface Expression. <i>Journal of Immunology</i> , 2005, 175, 6412-6419.	0.4	3
113	Automatic Method for Identifying Reaction Coordinates in Complex Systems. <i>Journal of Physical Chemistry B</i> , 2005, 109, 6769-6779.	1.2	344
114	Grand canonical Monte Carlo simulations of water in protein environments. <i>Journal of Chemical Physics</i> , 2004, 121, 6392-6400.	1.2	112
115	CD4 enhances T cell sensitivity to antigen by coordinating Lck accumulation at the immunological synapse. <i>Nature Immunology</i> , 2004, 5, 791-799.	7.0	228
116	Micelle Formation and the Hydrophobic Effect. <i>Journal of Physical Chemistry B</i> , 2004, 108, 6778-6781.	1.2	223
117	A charge-scaling method to treat solvent in QM/MM simulations. <i>Theoretical Chemistry Accounts</i> , 2003, 109, 118-124.	0.5	35
118	Elastic energy storage in $\beta$ -sheets with application to F1-ATPase. <i>European Biophysics Journal</i> , 2003, 32, 676-683.	1.2	52
119	The Immunological Synapse Balances T Cell Receptor Signaling and Degradation. <i>Science</i> , 2003, 302, 1218-1222.	6.0	496
120	Atomistic understanding of kinetic pathways for single base-pair binding and unbinding in DNA. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2003, 100, 13922-13927.	3.3	117
121	Self-guided enhanced sampling methods for thermodynamic averages. <i>Journal of Chemical Physics</i> , 2003, 118, 1074-1084.	1.2	55
122	Uracil-DNA glycosylase acts by substrate autocatalysis. <i>Nature</i> , 2001, 413, 752-755.	13.7	218
123	The roles of stability and contact order in determining protein folding rates. , 2001, 8, 21-22.		89
124	Local deformations of polymers with nonplanar rigid main-chain internal coordinates. <i>Journal of Computational Chemistry</i> , 2000, 21, 1132-1144.	1.5	39
125	Understanding protein folding via free-energy surfaces from theory and experiment. <i>Trends in Biochemical Sciences</i> , 2000, 25, 331-339.	3.7	461
126	Factors that affect the folding ability of proteins. , 1999, 35, 34-40.		45



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127	One of Two Unstructured Domains of Ii Becomes Ordered in Complexes with MHC Class II Molecules. <i>Immunity</i> , 1999, 10, 761-768.	6.6	31
128	The Thermodynamics and Kinetics of Protein Folding: A Lattice Model Analysis of Multiple Pathways with Intermediates. <i>Journal of Physical Chemistry B</i> , 1999, 103, 7976-7994.	1.2	40
129	Is protein unfolding the reverse of protein folding? A lattice simulation analysis 1 Edited by A. R. Fersht. <i>Journal of Molecular Biology</i> , 1999, 292, 403-419.	2.0	87
130	A metastable state in folding simulations of a protein model. <i>Nature Structural Biology</i> , 1998, 5, 236-241.	9.7	31
131	Use of quantitative structure-property relationships to predict the folding ability of model proteins. , 1998, 33, 177-203.		30
132	Photoinduced Bond Cleavage as a Probe of Mode Specificity and Intramolecular Dynamics in Rovibrationally Excited Triatomic to 10 Atom Molecules. <i>Advances in Chemical Physics</i> , 0, , 23-50.	0.3	0
133	Effects of Electromagnetic Fields on Molecular Scattering. <i>Advances in Chemical Physics</i> , 0, , 313-348.	0.3	1
134	Ultrafast and Efficient Control of Coherent Electron Dynamics via SPODS. <i>Advances in Chemical Physics</i> , 0, , 235-282.	0.3	10
135	From Coherent to Incoherent Dynamical Control of Open Quantum Systems. <i>Advances in Chemical Physics</i> , 0, , 137-218.	0.3	2
136	Laser Control of Ultrafast Molecular Rotation. <i>Advances in Chemical Physics</i> , 0, , 395-412.	0.3	6