

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	Effects of Diurnal Variation of Gut Microbes and High-Fat Feeding on Host Circadian Clock Function and Metabolism. <i>Cell Host and Microbe</i> , 2015, 17, 681-689.	5.1	634
2	Multilineage Transcriptional Priming and Determination of Alternate Hematopoietic Cell Fates. <i>Cell</i> , 2006, 126, 755-766.	13.5	572
3	The Immunological Synapse Balances T Cell Receptor Signaling and Degradation. <i>Science</i> , 2003, 302, 1218-1222.	6.0	496
4	Understanding protein folding via free-energy surfaces from theory and experiment. <i>Trends in Biochemical Sciences</i> , 2000, 25, 331-339.	3.7	461
5	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
6	Automatic Method for Identifying Reaction Coordinates in Complex Systems. <i>Journal of Physical Chemistry B</i> , 2005, 109, 6769-6779.	1.2	344
7	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
8	Pancreatic β cell enhancers regulate rhythmic transcription of genes controlling insulin secretion. <i>Science</i> , 2015, 350, aac4250.	6.0	294
9	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
10	Micelle Formation and the Hydrophobic Effect. <i>Journal of Physical Chemistry B</i> , 2004, 108, 6778-6781.	1.2	223
11	Uracil-DNA glycosylase acts by substrate autocatalysis. <i>Nature</i> , 2001, 413, 752-755.	13.7	218
12	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
13	A Conserved Bicycle Model for Circadian Clock Control of Membrane Excitability. <i>Cell</i> , 2015, 162, 836-848.	13.5	178
14	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
15	PLZF expression maps the early stages of ILC1 lineage development. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015, 112, 5123-5128.	3.3	166
16	The Theory of Ultra-Coarse-Graining. 1. General Principles. <i>Journal of Chemical Theory and Computation</i> , 2013, 9, 2466-2480.	2.3	149
17	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
18	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

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19	Polymerization of MIP-1 chemokine (CCL3 and CCL4) and clearance of MIP-1 by insulin-degrading enzyme. EMBO Journal, 2010, 29, 3952-3966.	3.5	129
20	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
21	Contractile Units in Disordered Actomyosin Bundles Arise from F-Actin Buckling. Physical Review Letters, 2012, 108, 238107.	2.9	127
22	Chronic Inflammation Permanently Reshapes Tissue-Resident Immunity in Celiac Disease. Cell, 2019, 176, 967-981.e19.	13.5	126
23	Modeling Viral Capsid Assembly. Advances in Chemical Physics, 2014, 155, 1-68.	0.3	120
24	Machine Learning Force Fields and Coarse-Grained Variables in Molecular Dynamics: Application to Materials and Biological Systems. Journal of Chemical Theory and Computation, 2020, 16, 4757-4775.	2.3	120
25	Atomistic understanding of kinetic pathways for single base-pair binding and unbinding in DNA. Proceedings of the National Academy of Sciences of the United States of America, 2003, 100, 13922-13927.	3.3	117
26	Grand canonical Monte Carlo simulations of water in protein environments. Journal of Chemical Physics, 2004, 121, 6392-6400.	1.2	112
27	An incoherent regulatory network architecture that orchestrates B cell diversification in response to antigen signaling. Molecular Systems Biology, 2011, 7, 495.	3.2	111
28	Umbrella sampling for nonequilibrium processes. Journal of Chemical Physics, 2007, 127, 154112.	1.2	110
29	Distribution of directional change as a signature of complex dynamics. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 19689-19694.	3.3	105
30	Improved Statistical Methods Enable Greater Sensitivity in Rhythm Detection for Genome-Wide Data. PLoS Computational Biology, 2015, 11, e1004094.	1.5	93
31	The roles of stability and contact order in determining protein folding rates. , 2001, 8, 21-22.		89
32	Is protein unfolding the reverse of protein folding? A lattice simulation analysis 1 Edited by A. R. Fersht. Journal of Molecular Biology, 1999, 292, 403-419.	2.0	87
33	B Cell Antigen Receptor Signaling and Internalization Are Mutually Exclusive Events. PLoS Biology, 2006, 4, e200.	2.6	81
34	Gene regulatory networks in the immune system. Trends in Immunology, 2014, 35, 211-218.	2.9	73
35	A two-step nucleotide-flipping mechanism enables kinetic discrimination of DNA lesions by AGT. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 4615-4620.	3.3	72
36	Assembly of vorticity-aligned hard-sphere colloidal strings in a simple shear flow. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 63-67.	3.3	72

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37	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
38	Enhanced Sampling of Nonequilibrium Steady States. Annual Review of Physical Chemistry, 2010, 61, 441-459.	4.8	71
39	Separating forward and backward pathways in nonequilibrium umbrella sampling. Journal of Chemical Physics, 2009, 131, 154104.	1.2	70
40	Spatiotemporal control of liquid crystal structure and dynamics through activity patterning. Nature Materials, 2021, 20, 875-882.	13.3	70
41	Requirements for contractility in disordered cytoskeletal bundles. New Journal of Physics, 2012, 14, 033037.	1.2	67
42	A Versatile Framework for Simulating the Dynamic Mechanical Structure of Cytoskeletal Networks. Biophysical Journal, 2017, 113, 448-460.	0.2	66
43	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
44	Duplex interrogation by a direct DNA repair protein in search of base damage. Nature Structural and Molecular Biology, 2012, 19, 671-676.	3.6	62
45	Universality in Stochastic Exponential Growth. Physical Review Letters, 2014, 113, 028101.	2.9	57
46	Self-guided enhanced sampling methods for thermodynamic averages. Journal of Chemical Physics, 2003, 118, 1074-1084.	1.2	55
47	Monte Carlo simulations of biomolecules: The MC module in CHARMM. Journal of Computational Chemistry, 2006, 27, 203-216.	1.5	55
48	Elastic energy storage in β -sheets with application to F1-ATPase. European Biophysics Journal, 2003, 32, 676-683.	1.2	52
49	Transient intracellular acidification regulates the core transcriptional heat shock response. ELife, 2020, 9, .	2.8	52
50	Galerkin approximation of dynamical quantities using trajectory data. Journal of Chemical Physics, 2019, 150, 244111.	1.2	51
51	Relation between ordering and shear thinning in colloidal suspensions. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 3771-3776.	3.3	49
52	Model for how retrograde actin flow regulates adhesion traction stresses. Journal of Physics Condensed Matter, 2010, 22, 194113.	0.7	46
53	Factors that affect the folding ability of proteins. , 1999, 35, 34-40.		45
54	Mechanical and kinetic factors drive sorting of F-actin cross-linkers on bundles. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 16192-16197.	3.3	43

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55	Delineation of Folding Pathways of a β^2 -Sheet Miniprotein. <i>Journal of Physical Chemistry B</i> , 2011, 115, 13065-13074.	1.2	41
56	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
57	Local deformations of polymers with nonplanar rigid main-chain internal coordinates. <i>Journal of Computational Chemistry</i> , 2000, 21, 1132-1144.	1.5	39
58	Bias annealing: A method for obtaining transition paths de novo. <i>Journal of Chemical Physics</i> , 2006, 125, 114101.	1.2	38
59	Dynamic coupling between coordinates in a model for biomolecular isomerization. <i>Journal of Chemical Physics</i> , 2006, 124, 144911.	1.2	37
60	The cyanobacterial circadian clock follows midday in vivo and in vitro. <i>ELife</i> , 2017, 6, .	2.8	37
61	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
62	Biphasic growth dynamics control cell division in <i>Caulobacter crescentus</i> . <i>Nature Microbiology</i> , 2017, 2, 17116.	5.9	36
63	A charge-scaling method to treat solvent in QM/MM simulations. <i>Theoretical Chemistry Accounts</i> , 2003, 109, 118-124.	0.5	35
64	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
65	Nonequilibrium phase diagrams for actomyosin networks. <i>Soft Matter</i> , 2018, 14, 7740-7747.	1.2	35
66	Insulin Dissociates by Diverse Mechanisms of Coupled Unfolding and Unbinding. <i>Journal of Physical Chemistry B</i> , 2020, 124, 5571-5587.	1.2	35
67	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
68	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
69	A metastable state in folding simulations of a protein model. <i>Nature Structural Biology</i> , 1998, 5, 236-241.	9.7	31
70	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
71	Self-Antigen-Driven Thymic B Cell Class Switching Promotes T Cell Central Tolerance. <i>Cell Reports</i> , 2016, 17, 387-398.	2.9	31
72	Use of quantitative structure-property relationships to predict the folding ability of model proteins. , 1998, 33, 177-203.		30

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73	Improved predictions of transcription factor binding sites using physicochemical features of DNA. <i>Nucleic Acids Research</i> , 2012, 40, e175-e175.	6.5	30
74	Steered transition path sampling. <i>Journal of Chemical Physics</i> , 2012, 136, 234103.	1.2	28
75	Bridging the Timescales of Single-Cell and Population Dynamics. <i>Physical Review X</i> , 2018, 8, .	2.8	28
76	Actin crosslinker competition and sorting drive emergent GUV size-dependent actin network architecture. <i>Communications Biology</i> , 2021, 4, 1136.	2.0	26
77	Eigenvector method for umbrella sampling enables error analysis. <i>Journal of Chemical Physics</i> , 2016, 145, 084115.	1.2	25
78	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
79	Mechanical feedback promotes bacterial adaptation to antibiotics. <i>Nature Physics</i> , 2021, 17, 403-409.	6.5	25
80	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
81	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
82	Shape dynamics of growing cell walls. <i>Soft Matter</i> , 2016, 12, 3442-3450.	1.2	24
83	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
84	How Focal Adhesion Size Depends on Integrin Affinity. <i>Langmuir</i> , 2009, 25, 1540-1546.	1.6	23
85	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
86	Nucleotide Regulation of the Structure and Dynamics of G-Actin. <i>Biophysical Journal</i> , 2014, 106, 1710-1720.	0.2	22
87	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
88	Extracting Physically Intuitive Reaction Coordinates from Transition Networks of a β^2 -Sheet Miniprotein. <i>Journal of Physical Chemistry B</i> , 2010, 114, 6979-6989.	1.2	21
89	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
90	Long-Time-Scale Predictions from Short-Trajectory Data: A Benchmark Analysis of the Trp-Cage Miniprotein. <i>Journal of Chemical Theory and Computation</i> , 2021, 17, 2948-2963.	2.3	20

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91	Refining Disordered Peptide Ensembles with Computational Amide I Spectroscopy: Application to Elastin-Like Peptides. <i>Journal of Physical Chemistry B</i> , 2016, 120, 11395-11404.	1.2	19
92	Trajectory Stratification of Stochastic Dynamics. <i>SIAM Review</i> , 2018, 60, 909-938.	4.2	19
93	Enhancement of Diffusion-Controlled Reaction Rates by Surface-Induced Orientational Restriction. <i>Biophysical Journal</i> , 2006, 90, 896-902.	0.2	18
94	Local Fluctuations in Solution: Theory and Applications. <i>Advances in Chemical Physics</i> , 2013, 153, 311-372.	0.3	18
95	Minimizing memory as an objective for coarse-graining. <i>Journal of Chemical Physics</i> , 2013, 138, 094111.	1.2	17
96	Intergenerational continuity of cell shape dynamics in <i>Caulobacter crescentus</i> . <i>Scientific Reports</i> , 2015, 5, 9155.	1.6	17
97	Conformational sampling via a self-regulating effective energy surface. <i>Journal of Chemical Physics</i> , 2006, 124, 174901.	1.2	16
98	A Model for TCR Gene Segment Use. <i>Journal of Immunology</i> , 2006, 177, 3857-3864.	0.4	16
99	Actin filament alignment causes mechanical hysteresis in cross-linked networks. <i>Soft Matter</i> , 2021, 17, 5499-5507.	1.2	16
100	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
101	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
102	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
103	Structured silicon for revealing transient and integrated signal transductions in microbial systems. <i>Science Advances</i> , 2020, 6, eaay2760.	4.7	14
104	Using multiscale preconditioning to accelerate the convergence of iterative molecular calculations. <i>Journal of Chemical Physics</i> , 2014, 140, 184114.	1.2	11
105	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
106	Tuning molecular motor transport through cytoskeletal filament network organization. <i>Soft Matter</i> , 2020, 16, 2135-2140.	1.2	11
107	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
108	Ultrafast and Efficient Control of Coherent Electron Dynamics via SPODS. <i>Advances in Chemical Physics</i> , 0, , 235-282.	0.3	10

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109	Bayesian modeling reveals metabolite-dependent ultrasensitivity in the cyanobacterial circadian clock. <i>Molecular Systems Biology</i> , 2020, 16, e9355.	3.2	10
110	Phase Resetting Reveals Network Dynamics Underlying a Bacterial Cell Cycle. <i>PLoS Computational Biology</i> , 2012, 8, e1002778.	1.5	9
111	Multiple Time-Step Dual-Hamiltonian Hybrid Molecular Dynamics – Monte Carlo Canonical Propagation Algorithm. <i>Journal of Chemical Theory and Computation</i> , 2016, 12, 1449-1458.	2.3	9
112	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
113	Kinetic modeling reveals additional regulation at co-transcriptional level by post-transcriptional sRNA regulators. <i>Cell Reports</i> , 2021, 36, 109764.	2.9	8
114	Computing transition path theory quantities with trajectory stratification. <i>Journal of Chemical Physics</i> , 2022, 157, .	1.2	8
115	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
116	Apparent Directional Scanning for DNA Repair. <i>Biophysical Journal</i> , 2008, 94, 47-52.	0.2	6
117	Laser Control of Ultrafast Molecular Rotation. <i>Advances in Chemical Physics</i> , 0, , 395-412.	0.3	6
118	Controlling Quantum Dynamics with Assisted Adiabatic Processes. <i>Advances in Chemical Physics</i> , 2016, , 51-136.	0.3	5
119	Transcription factories in Ig λ allelic choice and diversity. <i>Advances in Immunology</i> , 2019, 141, 33-49.	1.1	5
120	Error Bounds for Dynamical Spectral Estimation. <i>SIAM Journal on Mathematics of Data Science</i> , 2021, 3, 225-252.	1.0	5
121	Kinetics of Phenol Escape from the Insulin R ₆ Hexamer. <i>Journal of Physical Chemistry B</i> , 2021, 125, 11637-11649.	1.2	5
122	Structural Ensemble of the Insulin Monomer. <i>Biochemistry</i> , 2021, 60, 3125-3136.	1.2	5
123	Critical behavior of a model for catalyzed autoamplification. <i>Journal of Chemical Physics</i> , 2009, 130, 134906.	1.2	4
124	Entrainment of a driven oscillator as a dynamical phase transition. <i>Physical Review E</i> , 2011, 84, 061134.	0.8	4
125	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
126	Control of Genotypic Allelic Inclusion through TCR Surface Expression. <i>Journal of Immunology</i> , 2005, 175, 6412-6419.	0.4	3

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127	Finding Chemical Reaction Paths with a Multilevel Preconditioning Protocol. <i>Journal of Chemical Theory and Computation</i> , 2014, 10, 5467-5475.	2.3	3
128	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
129	From Coherent to Incoherent Dynamical Control of Open Quantum Systems. <i>Advances in Chemical Physics</i> , 0, , 137-218.	0.3	2
130	Piecewise Adiabatic Passage in Polarization Optics: an Achromatic Polarization Rotator. <i>Advances in Chemical Physics</i> , 2016, , 219-234.	0.3	1
131	Effects of Electromagnetic Fields on Molecular Scattering. <i>Advances in Chemical Physics</i> , 0, , 313-348.	0.3	1
132	Toward Coherent Control Around the Quantum-Classical Boundary. <i>Advances in Chemical Physics</i> , 2016, , 283-312.	0.3	0
133	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
134	Dynamics of Photochemical Reactions of Organic Carbonyls and their Clusters. <i>Advances in Chemical Physics</i> , 2016, , 1-22.	0.3	0
135	Quantum Dynamics by Partitioning Technique. <i>Advances in Chemical Physics</i> , 2016, , 349-394.	0.3	0
136	Entropic constraints on the steady-state fitness of competing self-replicators. <i>Journal of Chemical Physics</i> , 2018, 149, 224105.	1.2	0