Ravi Radhakrishnan

List of Publications by Year
in descending order

94 papers	5,658 citations	172207 29 h-index	82410 72 g-index
103 all docs	103 docs citations	103 times ranked	9093 citing authors

#	Article	IF	Citations
1	Quantification of Curvature Sensing Behavior of Curvature-Inducing Proteins on Model Wavy Substrates. Journal of Membrane Biology, 2022, 255, 175-184.	1.0	2
2	Probing lipid membrane bending mechanics using gold nanorod tracking. Physical Review Research, 2022, 4, .	1.3	4
3	Crowding-induced membrane remodeling: Interplay of membrane tension, polymer density, architecture. Biophysical Journal, 2022, 121, 3674-3683.	0.2	6
4	Data driven and biophysical insights into the regulation of trafficking vesicles by extracellular matrix stiffness. IScience, 2022, 25, 104721.	1.9	1
5	A survey of multiscale modeling: Foundations, historical milestones, current status, and future prospects. AIChE Journal, 2021, 67, e17026.	1.8	14
6	An interdomain helix in IRE1Î± mediates the conformational change required for the sensor's activation. Journal of Biological Chemistry, 2021, 296, 100781.	1.6	5
7	Computational studies of anaplastic lymphoma kinase mutations reveal common mechanisms of oncogenic activation. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, e2019132118.	3.3	3
8	Membrane signalosome: Where biophysics meets systems biology. Current Opinion in Systems Biology, 2021, 25, 34-41.	1.3	2
9	Structural Insights into Pseudokinase Domains of Receptor Tyrosine Kinases. FASEB Journal, 2021, 35, .	0.2	0
10	Biophysical Considerations in the Rational Design and Cellular Targeting of Flexible Polymeric Nanoparticles. Advanced Materials Interfaces, 2021, 8, 2101290.	1.9	2
11	Biophysical Considerations in the Rational Design and Cellular Targeting of Flexible Polymeric Nanoparticles (Adv. Mater. Interfaces 23/2021). Advanced Materials Interfaces, 2021, 8, .	1.9	0
12	ULK1 phosphorylates Exo70 to suppress breast cancer metastasis. Nature Communications, 2020, 11, 117.	5.8	35
13	Multiscale modeling of protein membrane interactions for nanoparticle targeting in drug delivery. Current Opinion in Structural Biology, 2020, 64, 104-110.	2.6	9
14	Dimerization and structure formation of colloids via capillarity at curved fluid interfaces. Soft Matter, 2020, 16, 5861-5870.	1.2	2
15	Structural Insights into Pseudokinase Domains of Receptor Tyrosine Kinases. Molecular Cell, 2020, 79, 390-405.e7.	4.5	56
16	Divalent cations bind to phosphoinositides to induce ion and isomer specific propensities for nano-cluster initiation in bilayer membranes. Royal Society Open Science, 2020, 7, 192208.	1.1	17
17	Understanding and Controlling Food Protein Structure and Function in Foods: Perspectives from Experiments and Computer Simulations. Annual Review of Food Science and Technology, 2020, 11, 365-387.	5.1	33
18	A multiscale biophysical model for the recruitment of actin nucleating proteins at the membrane interface. Soft Matter, 2020, 16, 4941-4954.	1.2	7

#	Article	IF	Citations
19	Emergent membrane morphologies in relaxed and tense membranes in presence of reversible adhesive pinning interactions. Physical Biology, 2019, 16, 066011.	0.8	10
20	Lateral distribution of phosphatidylinositol 4,5-bisphosphate in membranes regulates formin- and ARP2/3-mediated actin nucleation. Journal of Biological Chemistry, 2019, 294, 4704-4722.	1.6	22
21	Time-dependent antagonist-agonist switching in receptor tyrosine kinase-mediated signaling. BMC Bioinformatics, 2019, 20, 242.	1.2	5
22	Stiffness can mediate balance between hydrodynamic forces and avidity to impact the targeting of flexible polymeric nanoparticles in flow. Nanoscale, 2019, 11, 6916-6928.	2.8	15
23	Nanofluid Dynamics of Flexible Polymeric Nanoparticles Under Wall Confinement. Journal of Heat Transfer, 2019, 141, 0524011-524016.	1.2	5
24	Computational algorithms for in silico profiling of activating mutations in cancer. Cellular and Molecular Life Sciences, 2019, 76, 2663-2679.	2.4	11
25	Nanoparticle transport phenomena in confined flows. Advances in Heat Transfer, 2019, 51, 55-129.	0.4	8
26	Thermodynamic analysis of multivalent binding of functionalized nanoparticles to membrane surface reveals the importance of membrane entropy and nanoparticle entropy in adhesion of flexible nanoparticles. Soft Matter, 2019, 15, 9271-9286.	1.2	7
27	Multivalent Binding of a Ligand-Coated Particle: Role of Shape, Size, and Ligand Heterogeneity. Biophysical Journal, 2018, 114, 1830-1846.	0.2	27
28	Excess area dependent scaling behavior of nano-sized membrane tethers. Physical Biology, 2018, 15, 026002.	0.8	15
29	Rheology of colloidal suspensions in confined flow: Treatment of hydrodynamic interactions in particle-based simulations inspired by dynamical density functional theory. Physical Review E, 2018, 98, .	0.8	12
30	Biophysics of membrane curvature remodeling at molecular and mesoscopic lengthscales. Journal of Physics Condensed Matter, 2018, 30, 273001.	0.7	35
31	Regulation of actin assembly by PI(4,5)P2 and other inositol phospholipids: An update on possible mechanisms. Biochemical and Biophysical Research Communications, 2018, 506, 307-314.	1.0	82
32	Exosomal PD-L1 contributes to immunosuppression and is associated with anti-PD-1 response. Nature, 2018, 560, 382-386.	13.7	1,836
33	Computational Models for Nanoscale Fluid Dynamics and Transport Inspired by Nonequilibrium Thermodynamics1. Journal of Heat Transfer, 2017, 139, 0330011-330019.	1.2	10
34	Mechanisms that determine nanocarrier targeting to healthy versus inflamed lung regions. Nanomedicine: Nanotechnology, Biology, and Medicine, 2017, 13, 1495-1506.	1.7	34
35	Curvature-Driven Migration of Colloids on Tense Lipid Bilayers. Langmuir, 2017, 33, 600-610.	1.6	16
36	Motion of a nano-spheroid in a cylindrical vessel flow: Brownian and hydrodynamic interactions. Journal of Fluid Mechanics, 2017, 821, 117-152.	1.4	12

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37	Microstructure of Flow-Driven Suspension of Hardspheres in Cylindrical Confinement: A Dynamical Density Functional Theory and Monte Carlo Study. Langmuir, 2017, 33, 11332-11344.	1.6	14
38	Effect of wall-mediated hydrodynamic fluctuations on the kinetics of a Brownian nanoparticle. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2016, 472, 20160397.	1.0	5
39	Deletion Mutations Keep Kinase Inhibitors in the Loop. Cancer Cell, 2016, 29, 423-425.	7.7	5
40	Biophysically inspired model for functionalized nanocarrier adhesion to cell surface: roles of protein expression and mechanical factors. Royal Society Open Science, 2016, 3, 160260.	1.1	26
41	Curvatureâ€"undulation coupling as a basis for curvature sensing and generation in bilayer membranes. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, E5117-24.	3.3	34
42	Thermodynamic free energy methods to investigate shape transitions in bilayer membranes. International Journal of Advances in Engineering Sciences and Applied Mathematics, 2016, 8, 88-100.	0.7	5
43	Nanoparticle stochastic motion in the inertial regime and hydrodynamic interactions close to a cylindrical wall. Physical Review Fluids, 2016, 1, .	1.0	17
44	Composite generalized Langevin equation for Brownian motion in different hydrodynamic and adhesion regimes. Physical Review E, 2015, 91, 052303.	0.8	25
45	Application of a free-energy-landscape approach to study tension-dependent bilayer tubulation mediated by curvature-inducing proteins. Physical Review E, 2015, 92, 042715.	0.8	15
46	Phenomenology Based Multiscale Models as Tools to Understand Cell Membrane and Organelle Morphologies. Behavior Research Methods, 2015, 22, 129-175.	2.3	4
47	Physical chemistry and membrane properties of two phosphatidylinositol bisphosphate isomers. Physical Chemistry Chemical Physics, 2015, 17, 12608-12615.	1.3	12
48	Hydrodynamic interactions of deformable polymeric nanocarriers and the effect of crosslinking. Soft Matter, 2015, 11, 5955-5969.	1.2	13
49	Machine learning predictions of cancer driver mutations. , 2014, 2014, .		1
50	Counterion-mediated pattern formation in membranes containing anionic lipids. Advances in Colloid and Interface Science, 2014, 208, 177-188.	7.0	33
51	Multiscale computational models in physical systems biology of intracellular trafficking. IET Systems Biology, 2014, 8, 198-213.	0.8	26
52	ALK Mutations Confer Differential Oncogenic Activation and Sensitivity to ALK Inhibition Therapy in Neuroblastoma. Cancer Cell, 2014, 26, 682-694.	7.7	302
53	Mesoscale computational studies of membrane bilayer remodeling by curvature-inducing proteins. Physics Reports, 2014, 543, 1-60.	10.3	71
54	Defining the free-energy landscape of curvature-inducing proteins on membrane bilayers. Physical Review E, 2014, 90, 022717.	0.8	20

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55	High-throughput mutagenesis reveals functional determinants for DNA targeting by activation-induced deaminase. Nucleic Acids Research, 2014, 42, 9964-9975.	6.5	17
56	Exo70 Generates Membrane Curvature for Morphogenesis and Cell Migration. Developmental Cell, 2013, 26, 266-278.	3.1	88
57	Temporal multiscale approach for nanocarrier motion with simultaneous adhesion and hydrodynamic interactions in targeted drug delivery. Journal of Computational Physics, 2013, 244, 252-263.	1.9	13
58	Coarse-Grained Models for Protein-Cell Membrane Interactions. Polymers, 2013, 5, 890-936.	2.0	51
59	Molecular modeling of ErbB4/HER4 kinase in the context of the HER4 signaling network helps rationalize the effects of clinically identified HER4 somatic mutations on the cell phenotype. Biotechnology Journal, 2013, 8, 1452-1464.	1.8	13
60	Quantum and All-Atom Molecular Dynamics Simulations of Protonation and Divalent Ion Binding to Phosphatidylinositol 4,5-Bisphosphate (PIP₂). Journal of Physical Chemistry B, 2013, 117, 8322-8329.	1.2	38
61	Reduction of Nanoparticle Avidity Enhances the Selectivity of Vascular Targeting and PET Detection of Pulmonary Inflammation. ACS Nano, 2013, 7, 2461-2469.	7.3	94
62	Nanocarrier Hydrodynamics and Binding in Targeted Drug Delivery: Challenges in Numerical Modeling and Experimental Validation. Journal of Nanotechnology in Engineering and Medicine, 2013, 4, 101011-1010115.	0.8	26
63	Multiscale Cancer Modeling and In Silico Oncology: Emerging Computational Frontiers in Basic and Translational Cancer Research. Journal of Bioengineering & Biomedical Science, 2013, 03, .	0.2	6
64	Erlotinib binds both inactive and active conformations of the EGFR tyrosine kinase domain. Biochemical Journal, 2012, 448, 417-423.	1.7	228
65	Modeling of a Nanoparticle Motion in a Newtonian Fluid: A Comparison Between Fluctuating Hydrodynamics and Generalized Langevin Procedures. , 2012, 2012, 735-743.		1
66	Structural Systems Biology and Multiscale Signaling Models. Annals of Biomedical Engineering, 2012, 40, 2295-2306.	1.3	8
67	A hybrid formalism combining fluctuating hydrodynamics and generalized Langevin dynamics for the simulation of nanoparticle thermal motion in an incompressible fluid medium. Molecular Physics, 2012, 110, 1057-1067.	0.8	10
68	Systems biology and physical biology of clathrin-mediated endocytosis. Integrative Biology (United) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 5	0.6	55
69	Multivalent Binding of Nanocarrier to Endothelial Cells under Shear Flow. Biophysical Journal, 2011, 101, 319-326.	0.2	41
70	A multiscale modeling approach to investigate molecular mechanisms of pseudokinase activation and drug resistance in the HER3/ErbB3 receptor tyrosine kinase signaling network. Molecular BioSystems, 2011, 7, 2066.	2.9	32
71	Nanoparticle Brownian motion and hydrodynamic interactions in the presence of flow fields. Physics of Fluids, 2011, 23, 73602-7360215.	1.6	60
72	Analysis of Somatic Mutations in Cancer: Molecular Mechanisms of Activation in the ErbB Family of Receptor Tyrosine Kinases. Cancers, 2011, 3, 1195-1231.	1.7	21

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73	Multiscale Modeling of Functionalized Nanocarriers in Targeted Drug Delivery. Current Nanoscience, 2011, 7, 727-735.	0.7	29
74	Molecular dynamics analysis of conserved hydrophobic and hydrophilic bond-interaction networks in ErbB family kinases. Biochemical Journal, 2011, 436, 241-251.	1.7	27
75	ErbB3/HER3 intracellular domain is competent to bind ATP and catalyze autophosphorylation. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 7692-7697.	3.3	395
76	Computational model for nanocarrier binding to endothelium validated using in vivo, in vitro, and atomic force microscopy experiments. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 16530-16535.	3.3	116
77	Minimal Mesoscale Model for Protein-Mediated Vesiculation in Clathrin-Dependent Endocytosis. PLoS Computational Biology, 2010, 6, e1000926.	1.5	47
78	Calculation of free energies in fluid membranes subject to heterogeneous curvature fields. Physical Review E, 2009, 80, 011925.	0.8	17
79	Molecular Dynamics Simulations Reveal that Tyr-317 Phosphorylation Reduces Shc Binding Affinity for Phosphotyrosyl Residues of Epidermal Growth Factor Receptor. Biophysical Journal, 2009, 96, 2278-2288.	0.2	21
80	Atomistic Insights into Regulatory Mechanisms of the HER2 Tyrosine Kinase Domain: A Molecular Dynamics Study. Biophysical Journal, 2009, 96, 2321-2334.	0.2	31
81	Role of Network Branching in Eliciting Differential Short-Term Signaling Responses in the Hypersensitive Epidermal Growth Factor Receptor Mutants Implicated in Lung Cancer. Biotechnology Progress, 2008, 24, 540-553.	1.3	22
82	Molecular systems biology of ErbB1 signaling: bridging the gap through multiscale modeling and high-performance computing. Molecular BioSystems, 2008, 4, 1151.	2.9	25
83	Landscape of finite-temperature equilibrium behaviour of curvature-inducing proteins on a bilayer membrane explored using a linearized elastic free energy model. Molecular Physics, 2008, 106, 1913-1923.	0.8	15
84	The Role of Glycocalyx in Nanocarrier-Cell Adhesion Investigated Using a Thermodynamic Model and Monte Carlo Simulations. Journal of Physical Chemistry C, 2007, 111, 15848-15856.	1.5	44
85	Coupling of Fast and Slow Modes in the Reaction Pathway of the Minimal Hammerhead Ribozyme Cleavage. Biophysical Journal, 2007, 93, 2391-2399.	0.2	20
86	Regulation of DNA Repair Fidelity by Molecular Checkpoints:Â â€œGatesâ€•in DNA Polymerase Î²'s Substrate Selectionâ€. Biochemistry, 2006, 45, 15142-15156.	1.2	66
87	Correct and incorrect nucleotide incorporation pathways in DNA polymerase Î². Biochemical and Biophysical Research Communications, 2006, 350, 521-529.	1.0	52
88	â€œKMC-TDGLâ€â€"a coarse-grained methodology for simulating interfacial dynamics in complex fluids: application to protein-mediated membrane processes. Molecular Physics, 2006, 104, 3653-3666.	0.8	13
89	Effects of confinement on freezing and melting. Journal of Physics Condensed Matter, 2006, 18, R15-R68.	0.7	614
90	Fidelity Discrimination in DNA Polymerase Î²:Â Differing Closing Profiles for a Mismatched (G:A) versus Matched (G:C) Base Pair. Journal of the American Chemical Society, 2005, 127, 13245-13252.	6.6	69

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91	Orchestration of cooperative events in DNA synthesis and repair mechanism unraveled by transition path sampling of DNA polymerase Â's closing. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 5970-5975.	3.3	146
92	Biomolecular free energy profiles by a shooting/umbrella sampling protocol, â€œBOLASâ€• Journal of Chemical Physics, 2004, 121, 2436-2444.	1.2	62
93	Phase separation in confined systems. Reports on Progress in Physics, 2000, 63, 727-727.	8.1	28
94	Multiphysics pharmacokinetic model for targeted nanoparticles. Frontiers in Medical Technology, 0, 4, .	1.3	1