Prosenjit Bagchi

List of Publications by Year
in descending order

51	2,509	218677	233421
papers	citations	26 h-index	45 g-index

52	52	52	1672
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Mesoscale Simulation of Blood Flow in Small Vessels. Biophysical Journal, 2007, 92, 1858-1877.	0.5	244
2	Lateral migration of a capsule in a plane Poiseuille flow in a channel. International Journal of Multiphase Flow, 2008, 34, 966-986.	3.4	157
3	Three-dimensional computational modeling of multiple deformable cells flowing in microvessels. Physical Review E, 2009, 79, 046318.	2.1	152
4	Computational Fluid Dynamic Simulation of Aggregation of Deformable Cells in a Shear Flow. Journal of Biomechanical Engineering, 2005, 127, 1070.	1.3	143
5	Influence of membrane viscosity on capsule dynamics in shear flow. Journal of Fluid Mechanics, 2013, 718, 569-595.	3.4	106
6	Response of the wake of an isolated particle to an isotropic turbulent flow. Journal of Fluid Mechanics, 2004, 518, 95-123.	3.4	105
7	Dynamics of nonspherical capsules in shear flow. Physical Review E, 2009, 80, 016307.	2.1	93
8	Platelet Dynamics in Three-Dimensional Simulation of Whole Blood. Biophysical Journal, 2014, 106, 2529-2540.	0.5	90
9	Phase diagram and breathing dynamics of a single red blood cell and a biconcave capsule in dilute shear flow. Physical Review E, 2011, 84, 026314.	2.1	87
10	Microparticle shape effects on margination, near-wall dynamics and adhesion in a three-dimensional simulation of red blood cell suspension. Soft Matter, 2015, 11, 2097-2109.	2.7	84
11	Steady planar straining flow past a rigid sphere at moderate Reynolds number. Journal of Fluid Mechanics, 2002, 466, 365-407.	3.4	78
12	A computational approach to modeling cellular-scale blood flow in complex geometry. Journal of Computational Physics, 2017, 334, 280-307.	3.8	76
13	Analysis of red blood cell partitioning at bifurcations in simulated microvascular networks. Physics of Fluids, 2018, 30, .	4.0	71
14	Three-dimensional numerical simulation of vesicle dynamics using a front-tracking method. Physical Review E, 2012, 85, 056308.	2.1	70
15	Comparison of erythrocyte dynamics in shear flow under different stress-free configurations. Physics of Fluids, 2014, 26, .	4.0	69
16	Shear versus vortex-induced lift force on a rigid sphere at moderate Re. Journal of Fluid Mechanics, 2002, 473, 379-388.	3.4	66
17	Direct Numerical Simulation of Cellular-Scale Blood Flow in 3D Microvascular Networks. Biophysical Journal, 2017, 113, 2815-2826.	0.5	65
18	3D computational modeling and simulation of leukocyte rolling adhesion and deformation. Computers in Biology and Medicine, 2008, 38, 738-753.	7.0	57

#	Article	IF	Citations
19	Tank-treading and tumbling frequencies of capsules and red blood cells. Physical Review E, 2011, 83, 046305.	2.1	53
20	Orbital drift of capsules and red blood cells in shear flow. Physics of Fluids, 2013, 25, .	4.0	53
21	Inertial and viscous forces on a rigid sphere in straining flows at moderate Reynolds numbers. Journal of Fluid Mechanics, 2003, 481, 105-148.	3.4	48
22	A computational study of leukocyte adhesion and its effect on flow pattern in microvessels. Journal of Theoretical Biology, 2008, 254, 483-498.	1.7	44
23	Flow of Red Blood Cells in Stenosed Microvessels. Scientific Reports, 2016, 6, 28194.	3.3	44
24	Effect of inertia on the hydrodynamic interaction between two liquid capsules in simple shear flow. International Journal of Multiphase Flow, 2008, 34, 375-392.	3.4	39
25	Rheology of a dilute suspension of liquid-filled elastic capsules. Physical Review E, 2010, 81, 056320.	2.1	39
26	Threeâ€dimensional distribution of wall shear stress and its gradient in red cellâ€resolved computational modeling of blood flow in inÂvivoâ€like microvascular networks. Physiological Reports, 2019, 7, e14067.	1.7	32
27	Flow-Induced Damage to Blood Cells in Aortic Valve Stenosis. Annals of Biomedical Engineering, 2016, 44, 2724-2736.	2.5	30
28	Dynamic rheology of a dilute suspension of elastic capsules: effect of capsule tank-treading, swinging and tumbling. Journal of Fluid Mechanics, 2011, 669, 498-526.	3.4	29
29	A computational model of amoeboid cell swimming. Physics of Fluids, 2017, 29, .	4.0	27
30	Dynamics of microcapsules in oscillating shear flow. Physics of Fluids, 2011, 23, .	4.0	26
31	The cell-free layer in simulated microvascular networks. Journal of Fluid Mechanics, 2019, 864, 768-806.	3.4	26
32	A computational study of red blood cell deformability effect on hemodynamic alteration in capillary vessel networks. Scientific Reports, 2022, 12, 4304.	3.3	26
33	On the shape memory of red blood cells. Physics of Fluids, 2017, 29, .	4.0	25
34	IntermittencyÂandÂsynchronizedÂmotionÂofÂredÂbloodÂcellÂdynamicsÂinÂshearÂflow. Journal of Fluid Mechanics, 2014, 759, 472-488.	3.4	23
35	Dynamics of red blood cells in oscillating shear flow. Journal of Fluid Mechanics, 2016, 800, 484-516.	3.4	22
36	Effect of freestream isotropic turbulence on heat transfer from a sphere. Physics of Fluids, 2008, 20, .	4.0	21

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37	A computational model of amoeboid cell motility in the presence of obstacles. Soft Matter, 2018, 14, 5741-5763.	2.7	16
38	A computational study of amoeboid motility in 3D: the role of extracellular matrix geometry, cell deformability, and cellâ€“matrix adhesion. Biomechanics and Modeling in Mechanobiology, 2021, 20, 167-191.	2.8	14
39	Investigation of red blood cell partitioning in an in vitro microvascular bifurcation. Artificial Organs, 2021, 45, 1083-1096.	1.9	12
40	Motion of a capsule in a curved tube. Journal of Fluid Mechanics, 2021, 907, .	3.4	10
41	Hydrodynamic Interaction Between a Platelet and an Erythrocyte: Effect of Erythrocyte Deformability, Dynamics, and Wall Proximity. Journal of Biomechanical Engineering, 2013, 135, 51002.	1.3	9
42	Hydrodynamic interaction between erythrocytes and leukocytes affects rheology of blood in microvessels. Biorheology, 2007, 44, 191-215.	0.4	9
43	Inertial and non-inertial focusing of a deformable capsule in a curved microchannel. Journal of Fluid Mechanics, 2021, 929, .	3.4	7
44	Flow Past a Sphere With Surface Blowing and Suction. Journal of Fluids Engineering, Transactions of the ASME, 2007, 129, 1547-1558.	1.5	6
45	Analysis of membrane tank-tread of nonspherical capsules and red blood cells. European Physical Journal E, 2012, 35, 103.	1.6	6
46	3D Computational Modeling and Simulation of Cell Motion on Adhesive Surfaces in Shear Flow. , 2008, , .		0
47	Capture, Deformation, Rolling and Detachment of a Cell on an Adhesive Surface in a Shear Flow. , 2008, , .		0
48	Direct Numerical Simulation of 1000 Deformable Capsules in a Channel Flow at Finite Inertia. , 2008, , .		0
49	Binary Interaction of Liquid Capsules in a Shear Flow. , 2008, , .		0
50	Rheology of a Suspension of 1000 Liquid Capsules in Channel Flow. , 2008, , .		0
51	Highâ€fidelity Modeling of Blood Flow in Physiologically Realistic Microvascular Networks. FASEB Journal, 2019, 33, 521.2.	0.5	0