Timm KrÃ¼ger

List of Publications by Year in descending order

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57 papers	2,801 citations	236925 25 h-index	189892 50 g-index
64 all docs	64 docs citations	64 times ranked	2409 citing authors

#	Article	IF	Citations
1	The Lattice Boltzmann Method. Graduate Texts in Physics, 2017, , .	0.2	761
2	Efficient and accurate simulations of deformable particles immersed in a fluid using a combined immersed boundary lattice Boltzmann finite element method. Computers and Mathematics With Applications, 2011, 61, 3485-3505.	2.7	262
3	Computational inertial microfluidics: a review. Lab on A Chip, 2020, 20, 1023-1048.	6.0	121
4	Deformability-based red blood cell separation in deterministic lateral displacement devicesâ€"A simulation study. Biomicrofluidics, 2014, 8, 054114.	2.4	116
5	Deterministic Lateral Displacement: Challenges and Perspectives. ACS Nano, 2020, 14, 10784-10795.	14.6	97
6	Shear stress in lattice Boltzmann simulations. Physical Review E, 2009, 79, 046704.	2.1	94
7	Computer simulations reveal complex distribution of haemodynamic forces in a mouse retina model of angiogenesis. Journal of the Royal Society Interface, 2014, 11, 20140543.	3.4	87
8	Interplay of inertia and deformability on rheological properties of a suspension of capsules. Journal of Fluid Mechanics, 2014, 751, 725-745.	3.4	85
9	Crossover from tumbling to tank-treading-like motion in dense simulated suspensions of red blood cells. Soft Matter, 2013, 9, 9008-9015.	2.7	77
10	Computer Simulation Study of Collective Phenomena in Dense Suspensions of Red Blood Cells under Shear. , 2012, , .		67
11	Ternary free-energy lattice Boltzmann model with tunable surface tensions and contact angles. Physical Review E, 2016, 93, 033305.	2.1	66
12	Numerical simulations of complex fluid-fluid interface dynamics. European Physical Journal: Special Topics, 2013, 222, 177-198.	2.6	62
13	How does confinement affect the dynamics of viscous vesicles and red blood cells?. Soft Matter, 2012, 8, 9246.	2.7	60
14	Assembling Ellipsoidal Particles at Fluid Interfaces Using Switchable Dipolar Capillary Interactions. Advanced Materials, 2014, 26, 6715-6719.	21.0	60
15	Choice of boundary condition for lattice-Boltzmann simulation of moderate-Reynolds-number flow in complex domains. Physical Review E, 2014, 89, 023303.	2.1	48
16	Rheology of dense suspensions of elastic capsules: normal stresses, yield stress, jamming and confinement effects. Soft Matter, 2014, 10, 4360.	2.7	47
17	Detachment energies of spheroidal particles from fluid-fluid interfaces. Journal of Chemical Physics, 2014, 141, 154902.	3.0	46
18	Effect of tube diameter and capillary number on platelet margination and near-wall dynamics. Rheologica Acta, 2016, 55, 511-526.	2.4	44

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19	Impact of blood rheology on wall shear stress in a model of the middle cerebral artery. Interface Focus, 2013, 3, 20120094.	3.0	41
20	Abnormal morphology biases hematocrit distribution in tumor vasculature and contributes to heterogeneity in tissue oxygenation. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 27811-27819.	7.1	40
21	Anisotropic permeability in deterministic lateral displacement arrays. Lab on A Chip, 2017, 17, 3318-3330.	6.0	37
22	Second-order convergence of the deviatoric stress tensor in the standard Bhatnagar-Gross-Krook lattice Boltzmann method. Physical Review E, 2010, 82, 025701.	2.1	35
23	Interface deformations affect the orientation transition of magnetic ellipsoidal particles adsorbed at fluidâ€“fluid interfaces. Soft Matter, 2014, 10, 6742-6748.	2.7	34
24	LB3D: A parallel implementation of the Lattice-Boltzmann method for simulation of interacting amphiphilic fluids. Computer Physics Communications, 2017, 217, 149-161.	7.5	34
25	Mesoscopic modelling and simulation of soft matter. Soft Matter, 2018, 14, 9-26.	2.7	34
26	Parallelised Hoshenâ€“Kopelman algorithm for lattice-Boltzmann simulations. Computer Physics Communications, 2015, 189, 92-98.	7.5	29
27	Setting the pace of microswimmers: when increasing viscosity speeds up self-propulsion. New Journal of Physics, 2017, 19, 053024.	2.9	23
28	Complex dynamics of a bilamellar vesicle as a simple model for leukocytes. Soft Matter, 2013, 9, 8057.	2.7	22
29	Labelâ€Free Biophysical Markers from Whole Blood Microfluidic Immune Profiling Reveal Severe Immune Response Signatures. Small, 2021, 17, e2006123.	10.0	22
30	Emergent cell-free layer asymmetry and biased haematocrit partition in a biomimetic vascular network of successive bifurcations. Soft Matter, 2021, 17, 3619-3633.	2.7	21
31	Breakdown of deterministic lateral displacement efficiency for non-dilute suspensions: A numerical study. Medical Engineering and Physics, 2015, 37, 845-854.	1.7	20
32	Association between erythrocyte dynamics and vessel remodelling in developmental vascular networks. Journal of the Royal Society Interface, 2021, 18, 20210113.	3.4	20
33	Spatiotemporal Dynamics of Dilute Red Blood Cell Suspensions in Low-Inertia Microchannel Flow. Biophysical Journal, 2020, 118, 2561-2573.	0.5	19
34	Acoustic driven flow and lattice Boltzmann simulations to study cell adhesion in biofunctionalized Î¼-fluidic channels with complex geometry. Biomicrofluidics, 2010, 4, 024106.	2.4	18
35	Numerical investigation of the formation and stability of homogeneous pairs of soft particles in inertial microfluidics. Journal of Fluid Mechanics, 2022, 937, .	3.4	18
36	Particle stress in suspensions of soft objects. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2011, 369, 2414-2421.	3.4	13

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37	Theoretische Physik. , 2015, , .		13
38	Fluctuations and diffusion in sheared athermal suspensions of deformable particles. Europhysics Letters, 2014, 108, 68006.	2.0	12
39	The fluidic resistance of an array of obstacles and a method for improving boundaries in deterministic lateral displacement arrays. Microfluidics and Nanofluidics, 2020, 24, 1.	2.2	12
40	Limitation of spiral microchannels for particle separation in heterogeneous mixtures: Impact of particlesâ€™ size and deformability. Biomicrofluidics, 2020, 14, 044113.	2.4	11
41	Effects of size and elasticity on the relation between flow velocity and wall shear stress in side-wall aneurysms: A lattice Boltzmann-based computer simulation study. PLoS ONE, 2020, 15, e0227770.	2.5	11
42	Cosmon lumps and horizonless black holes. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2008, 663, 21-25.	4.1	10
43	Compressed vessels bias red blood cell partitioning at bifurcations in a hematocrit-dependent manner: Implications in tumor blood flow. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	10
44	Mesoscale simulation of soft particles with tunable contact angle in multicomponent fluids. Physical Review E, 2019, 100, 033309.	2.1	7
45	Enabling In Situ Pre- and Post-processing for Exascale Hemodynamic Simulations - A Co-design Study with the Sparse Geometry Lattice-Boltzmann Code HemeLB. , 2012, , .		6
46	Effect of body deformability on microswimming. Soft Matter, 2017, 13, 3984-3993.	2.7	6
47	Geometry and Flow Properties Affect the Phase Shift between Pressure and Shear Stress Waves in Blood Vessels. Fluids, 2021, 6, 378.	1.7	6
48	Micro-haemodynamics at the maternalâ€“fetal interface: Experimental, theoretical and clinical perspectives. Current Opinion in Biomedical Engineering, 2022, 22, 100387.	3.4	4
49	Multiphase and Multicomponent Flows. Graduate Texts in Physics, 2017, , 331-405.	0.2	3
50	Modeling ternary fluids in contact with elastic membranes. Physical Review E, 2021, 103, 022112.	2.1	3
51	Capillary Interactions: Assembling Ellipsoidal Particles at Fluid Interfaces Using Switchable Dipolar Capillary Interactions (Adv. Mater. 39/2014). Advanced Materials, 2014, 26, 6800-6800.	21.0	1
52	Boundary and Initial Conditions. Graduate Texts in Physics, 2017, , 153-230.	0.2	1
53	Inflammation Biomarkers: Labelâ€Free Biophysical Markers from Whole Blood Microfluidic Immune Profiling Reveal Severe Immune Response Signatures (Small 12/2021). Small, 2021, 17, 2170051.	10.0	1
54	Mesoscale Simulations of Fluid-Fluid Interfaces. , 2015, , 545-558.		0

#	Article	IF	Citations
55	Boundary Conditions for Fluid-Structure Interaction. Graduate Texts in Physics, 2017, , 433-491.	0.2	0
56	Forces. Graduate Texts in Physics, 2017, , 231-263.	0.2	0
57	Simplified Models for Coarse-Grained Hemodynamics Simulations. , 2013, , 53-64.		0