Jens Harting

List of Publications by Year in descending order

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154 papers	4,529 citations	94269 37 h-index	123241 61 g-index
160 all docs	160 docs citations	160 times ranked	3715 citing authors

#	Article	IF	Citations
1	Multiphase lattice Boltzmann simulations for porous media applications. Computational Geosciences, 2016, 20, 777-805.	1.2	296
2	Eulerianâ€“Eulerian two-phase numerical simulation of nanofluid laminar forced convection in a microchannel. International Journal of Heat and Fluid Flow, 2011, 32, 107-116.	1.1	240
3	Experimental and numerical investigation of nanofluid forced convection inside a wide microchannel heat sink. Applied Thermal Engineering, 2012, 36, 260-268.	3.0	227
4	Slip Flow Over Structured Surfaces with Entrapped Microbubbles. Physical Review Letters, 2008, 100, 246001.	2.9	179
5	From bijels to Pickering emulsions: A lattice Boltzmann study. Physical Review E, 2011, 83, 046707.	0.8	131
6	Simulation of claylike colloids. Physical Review E, 2005, 72, 011408.	0.8	120
7	Classification of Phase Transitions in Small Systems. Physical Review Letters, 2000, 84, 3511-3514.	2.9	116
8	Implementation of on-site velocity boundary conditions for D3Q19 lattice Boltzmann simulations. Journal of Statistical Mechanics: Theory and Experiment, 2010, 2010, P01018.	0.9	111
9	Bioinspired acousto-magnetic microswarm robots with upstream motility. Nature Machine Intelligence, 2021, 3, 116-124.	8.3	95
10	Roughness Induced Boundary Slip in Microchannel Flows. Physical Review Letters, 2007, 99, 176001.	2.9	88
11	Interplay of inertia and deformability on rheological properties of a suspension of capsules. Journal of Fluid Mechanics, 2014, 751, 725-745.	1.4	85
12	Effects of nanoparticles and surfactant on droplets in shear flow. Soft Matter, 2012, 8, 6542.	1.2	84
13	Lattice Boltzmann simulations of apparent slip in hydrophobic microchannels. Europhysics Letters, 2006, 75, 328-334.	0.7	77
14	Inversion of hematocrit partition at microfluidic bifurcations. Microvascular Research, 2016, 105, 40-46.	1.1	74
15	Large-scale lattice Boltzmann simulations of complex fluids: advances through the advent of computational Grids. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2005, 363, 1895-1915.	1.6	68
16	Numerical simulations of complex fluid-fluid interface dynamics. European Physical Journal: Special Topics, 2013, 222, 177-198.	1.2	62
17	How does confinement affect the dynamics of viscous vesicles and red blood cells?. Soft Matter, 2012, 8, 9246.	1.2	60
18	Assembling Ellipsoidal Particles at Fluid Interfaces Using Switchable Dipolar Capillary Interactions. Advanced Materials, 2014, 26, 6715-6719.	11.1	60

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19	Inertial focusing of finite-size particles in microchannels. Journal of Fluid Mechanics, 2018, 840, 613-630.	1.4	59
20	Two-dimensional vesicle dynamics under shear flow: Effect of confinement. Physical Review E, 2011, 83, 066319.	0.8	57
21	Lattice Boltzmann simulations in microfluidics: probing the no-slip boundary condition in hydrophobic, rough, and surface nanobubble laden microchannels. Microfluidics and Nanofluidics, 2010, 8, 1.	1.0	55
22	Random-Roughness Hydrodynamic Boundary Conditions. Physical Review Letters, 2010, 105, 016001.	2.9	55
23	Tensorial slip of superhydrophobic channels. Physical Review E, 2012, 85, 016324.	0.8	51
24	Lattice Boltzmann simulations of anisotropic particles at liquid interfaces. Computers and Fluids, 2013, 80, 184-189.	1.3	48
25	Calculation of thermodynamic properties of finite Bose-Einstein systems. Physical Review A, 1999, 60, 1519-1522.	1.0	46
26	Interplay between shell effects and electron correlations in quantum dots. Physical Review B, 2000, 62, 10207-10211.	1.1	46
27	Contact Angle Determination in Multicomponent Lattice Boltzmann Simulations. Communications in Computational Physics, 2011, 9, 1165-1178.	0.7	46
28	Detachment energies of spheroidal particles from fluid-fluid interfaces. Journal of Chemical Physics, 2014, 141, 154902.	1.2	46
29	Soft particles at a fluid interface. Soft Matter, 2016, 12, 1062-1073.	1.2	46
30	Colloids dragged through a polymer solution: Experiment, theory, and simulation. Journal of Chemical Physics, 2008, 129, 084902.	1.2	45
31	Quantitative analysis of numerical estimates for the permeability of porous media from lattice-Boltzmann simulations. Journal of Statistical Mechanics: Theory and Experiment, 2010, 2010, P11026.	0.9	43
32	Steering in computational science: Mesoscale modelling and simulation. Contemporary Physics, 2003, 44, 417-434.	0.8	41
33	Timescales of emulsion formation caused by anisotropic particles. Soft Matter, 2014, 10, 4977-4989.	1.2	41
34	Classification of phase transitions of finite Bose-Einstein condensates in power-law traps by Fisher zeros. Physical Review A, 2001, 64, .	1.0	40
35	Simplified particulate model for coarse-grained hemodynamics simulations. Physical Review E, 2010, 82, 056710.	0.8	40
36	Prediction of Anomalous Blood Viscosity in Confined Shear Flow. Physical Review Letters, 2014, 112, 238304.	2.9	39

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37	Agglomeration and filtration of colloidal suspensions with DVLO interactions in simulation and experiment. Journal of Colloid and Interface Science, 2010, 349, 186-195.	5.0	38
38	Largeâ€“scale gridâ€“enabled lattice Boltzmann simulations of complex fluid flow in porous media and under shear. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2004, 362, 1703-1722.	1.6	36
39	Direct Assembly of Magnetic Janus Particles at a Droplet Interface. ACS Nano, 2017, 11, 11232-11239.	7.3	36
40	Simulations of slip flow on nanobubble-laden surfaces. Journal of Physics Condensed Matter, 2011, 23, 184106.	0.7	35
41	Hydrodynamic interactions induce anomalous diffusion under partial confinement. Soft Matter, 2014, 10, 2945-2948.	1.2	35
42	Shear viscosity of claylike colloids in computer simulations and experiments. Physical Review E, 2006, 74, 021403.	0.8	34
43	Simulation of fluid flow in hydrophobic rough microchannels. International Journal of Computational Fluid Dynamics, 2008, 22, 475-480.	0.5	34
44	Interface deformations affect the orientation transition of magnetic ellipsoidal particles adsorbed at fluidâ€“fluid interfaces. Soft Matter, 2014, 10, 6742-6748.	1.2	34
45	LB3D: A parallel implementation of the Lattice-Boltzmann method for simulation of interacting amphiphilic fluids. Computer Physics Communications, 2017, 217, 149-161.	3.0	34
46	Heat transfer by nanofluids in wavy microchannels. Advanced Powder Technology, 2018, 29, 925-933.	2.0	32
47	Tunable dipolar capillary deformations for magnetic Janus particles at fluidâ€“fluid interfaces. Soft Matter, 2015, 11, 3581-3588.	1.2	30
48	Forced transport of deformable containers through narrow constrictions. Physical Review E, 2014, 90, 033006.	0.8	29
49	Parallelised Hoshenâ€“Kopelman algorithm for lattice-Boltzmann simulations. Computer Physics Communications, 2015, 189, 92-98.	3.0	29
50	Transport phenomena and structuring in shear flow of suspensions near solid walls. Journal of Statistical Mechanics: Theory and Experiment, 2004, 2004, P12003.	0.9	28
51	Flow past superhydrophobic surfaces with cosine variation in local slip length. Physical Review E, 2013, 87, 023005.	0.8	27
52	From creeping to inertial flow in porous media: a lattice Boltzmannâ€“finite element study. Journal of Statistical Mechanics: Theory and Experiment, 2013, 2013, P02038.	0.9	26
53	Contact Angle Dependence on the Fluidâˆ’Wall Dispersive Energy. Langmuir, 2010, 26, 10913-10917.	1.6	25
54	Emergence of rheological properties in lattice Boltzmann simulations of gyroid mesophases. Europhysics Letters, 2006, 73, 533-539.	0.7	24

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55	Recent advances in the simulation of particle-laden flows. European Physical Journal: Special Topics, 2014, 223, 2253-2267.	1.2	24
56	Two-dimensional lattice Boltzmann simulations of vesicles with viscosity contrast. Rheologica Acta, 2016, 55, 465-475.	1.1	24
57	Setting the pace of microswimmers: when increasing viscosity speeds up self-propulsion. New Journal of Physics, 2017, 19, 053024.	1.2	23
58	Insights from molecular dynamics simulations on structural organization and diffusive dynamics of an ionic liquid at solid and vacuum interfaces. Journal of Colloid and Interface Science, 2019, 553, 350-363.	5.0	23
59	Complex dynamics of a bilamellar vesicle as a simple model for leukocytes. Soft Matter, 2013, 9, 8057.	1.2	22
60	Self-Similar Liquid Lens Coalescence. Physical Review Letters, 2020, 124, 194502.	2.9	22
61	Curvature estimation from a volume-of-fluid indicator function for the simulation of surface tension and wetting with a free-surface lattice Boltzmann method. Physical Review E, 2016, 93, 043302.	0.8	21
62	Hydraulic properties of porous sintered glass bead systems. Granular Matter, 2017, 19, 1.	1.1	21
63	Blood Crystal: Emergent Order of Red Blood Cells Under Wall-Confined Shear Flow. Physical Review Letters, 2018, 120, 268102.	2.9	20
64	Detection and tracking of defects in the gyroid mesophase. Computer Physics Communications, 2005, 165, 97-109.	3.0	19
65	Dynamic wetting: status and prospective of single particle based experiments and simulations. New Biotechnology, 2015, 32, 420-432.	2.4	19
66	Controlled capillary assembly of magnetic Janus particles at fluidâ€“fluid interfaces. Soft Matter, 2016, 12, 6566-6574.	1.2	19
67	From Dot to Ring: The Role of Friction in the Deposition Pattern of a Drying Colloidal Suspension Droplet. Langmuir, 2018, 34, 5303-5311.	1.6	19
68	Domain and droplet sizes in emulsions stabilized by colloidal particles. Physical Review E, 2014, 90, 042307.	0.8	18
69	Inertial migration of oblate spheroids in a plane channel. Physics of Fluids, 2020, 32, .	1.6	18
70	Inertial migration of neutrally buoyant particles in superhydrophobic channels. Physical Review Fluids, 2020, 5, .	1.0	18
71	Two-dimensional Cahnâ€“Hilliard simulations for coarsening kinetics of spinodal decomposition in binary mixtures. Physical Chemistry Chemical Physics, 2021, 23, 24823-24833.	1.3	18
72	Order-Disorder Transition in Nanoscopic Semiconductor Quantum Rings. Physical Review Letters, 2001, 86, 3120-3123.	2.9	17

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73	Micro-rheology on (polymer-grafted) colloids using optical tweezers. Journal of Physics Condensed Matter, 2011, 23, 184114.	0.7	17
74	Diffusion dominated evaporation in multicomponent lattice Boltzmann simulations. Journal of Chemical Physics, 2017, 146, 054111.	1.2	17
75	Hydroâ€micromechanical modeling of wave propagation in saturated granular crystals. International Journal for Numerical and Analytical Methods in Geomechanics, 2019, 43, 1115-1139.	1.7	17
76	A phase-field model for the evaporation of thin film mixtures. Physical Chemistry Chemical Physics, 2020, 22, 6638-6652.	1.3	17
77	Modeling of capillary-driven flows in axisymmetric geometries. Computers and Fluids, 2019, 178, 132-140.	1.3	16
78	Lattice Boltzmann method for thin-liquid-film hydrodynamics. Physical Review E, 2019, 100, 033313.	0.8	15
79	Micro- and nanoscale fluid flow on chemical channels. Soft Matter, 2012, 8, 9221.	1.2	14
80	Desorption energy of soft particles from a fluid interface. Soft Matter, 2020, 16, 8655-8666.	1.2	14
81	Stress response and structural transitions in sheared gyroidal and lamellar amphiphilic mesophases: Lattice-Boltzmann simulations. Physical Review E, 2006, 73, 031503.	0.8	13
82	Stability diagram for dense suspensions of model colloidalAl2O3particles in shear flow. Physical Review E, 2007, 75, 051404.	0.8	13
83	Numerical simulations of self-diffusiophoretic colloids at fluid interfaces. Soft Matter, 2020, 16, 3536-3547.	1.2	13
84	Anomalous distribution functions in sheared suspensions. Europhysics Letters, 2008, 83, 30001.	0.7	12
85	Lattice-Boltzmann simulations of the drag force on a sphere approaching a superhydrophobic striped plane. Journal of Chemical Physics, 2014, 140, 034707.	1.2	12
86	Interplay between microdynamics and macrorheology in vesicle suspensions. Soft Matter, 2014, 10, 4735-4742.	1.2	12
87	Mesoscopic electrohydrodynamic simulations of binary colloidal suspensions. Journal of Chemical Physics, 2018, 148, 144101.	1.2	12
88	Optimal motion of triangular magnetocapillary swimmers. Journal of Chemical Physics, 2019, 151, 124707.	1.2	12
89	Capillaryâ€bridge forces between solid particles: Insights from lattice Boltzmann simulations. AIChE Journal, 2021, 67, e17350.	1.8	12
90	Scallop Theorem and Swimming at the Mesoscale. Physical Review Letters, 2021, 126, 224501.	2.9	12

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91	Active elastohydrodynamics of vesicles in narrow blind constrictions. Physical Review Fluids, 2017, 2, .	1.0	12
92	Interplay of confinement and density on the heat transfer characteristics of nanoscale-confined gas. International Journal of Heat and Mass Transfer, 2018, 126, 331-341.	2.5	11
93	Capillary assemblies in a rotating magnetic field. Soft Matter, 2019, 15, 9093-9103.	1.2	11
94	Structure and rheology of suspensions of spherical strain-hardening capsules. Journal of Fluid Mechanics, 2021, 911, .	1.4	11
95	Evaluation of Pressure Boundary Conditions for Permeability Calculations Using the Lattice-Boltzmann Method. Advances in Applied Mathematics and Mechanics, 2010, 2, 685-700.	0.7	11
96	FORMATION AND GROWTH OF CLUSTERS IN COLLOIDAL SUSPENSIONS. International Journal of Modern Physics C, 2007, 18, 501-510.	0.8	10
97	Structural transitions and arrest of domain growth in sheared binary immiscible fluids and microemulsions. Physical Review E, 2007, 75, 041504.	0.8	10
98	Effect of temperature difference between channel walls on the heat transfer characteristics of nanoscale-confined gas. International Journal of Thermal Sciences, 2019, 137, 13-25.	2.6	10
99	Role of the Interplay between Spinodal Decomposition and Crystal Growth in the Morphological Evolution of Crystalline Bulk Heterojunctions. Energy Technology, 2020, 8, 1901468.	1.8	10
100	Controllable Capillary Assembly of Magnetic Ellipsoidal Janus Particles into Tunable Rings, Chains and Hexagonal Lattices. Advanced Materials, 2021, 33, 2006390.	11.1	10
101	The effect of the liquid layer thickness on the dissolution of immersed surface droplets. Soft Matter, 2019, 15, 6461-6468.	1.2	9
102	Phoretic colloids close to and trapped at fluid interfaces. ChemNanoMat, 2021, 7, 1073.	1.5	9
103	On the effect of surfactant adsorption and viscosity change on apparent slip in hydrophobic microchannels. Progress in Computational Fluid Dynamics, 2008, 8, 197.	0.1	8
104	Direct simulation of liquidâ€“gasâ€“solid flow with a free surface lattice Boltzmann method. International Journal of Computational Fluid Dynamics, 2017, 31, 463-475.	0.5	8
105	A general perturbative approach for bead-based microswimmers reveals rich self-propulsion phenomena. New Journal of Physics, 2019, 21, 113017.	1.2	8
106	Effect of wall stiffness, mass and potential interaction strength on heat transfer characteristics of nanoscale-confined gas. International Journal of Heat and Mass Transfer, 2020, 147, 118929.	2.5	8
107	Catalytic flow with a coupled finite difference â€" Lattice Boltzmann scheme. Computer Physics Communications, 2020, 256, 107443.	3.0	8
108	Squeezing multiple soft particles into a constriction: Transition to clogging. Physical Review E, 2021, 104, 065101.	0.8	8

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109	Rotational behaviour of red blood cells in suspension: a mesoscale simulation study. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2011, 369, 2337-2344.	1.6	7
110	Hydrodynamic interactions in active colloidal crystal microrheology. Physical Review E, 2012, 86, 057302.	0.8	7
111	Quantification of the performance of chaotic micromixers on the basis of finite time Lyapunov exponents. Microfluidics and Nanofluidics, 2012, 13, 19-27.	1.0	7
112	Mesoscale simulation of soft particles with tunable contact angle in multicomponent fluids. Physical Review E, 2019, 100, 033309.	0.8	7
113	Optimal cell transport in straight channels and networks. Physical Review Fluids, 2018, 3, .	1.0	7
114	Heat Conduction Characteristic of Rarefied Gas in Nanochannel. Journal of Applied Fluid Mechanics, 2020, 13, 1-13.	0.4	7
115	Phase-Field Simulation of Liquidâ€“Vapor Equilibrium and Evaporation of Fluid Mixtures. ACS Applied Materials & Interfaces, 2021, 13, 55988-56003.	4.0	7
116	Effect of body deformability on microswimming. Soft Matter, 2017, 13, 3984-3993.	1.2	6
117	Interplay of wall force field and wall physical characteristics on interfacial phenomena of a nano-confined gas medium. International Journal of Thermal Sciences, 2020, 153, 106394.	2.6	6
118	Probing sedimentation non-ideality of particulate systems using analytical centrifugation. Soft Matter, 2021, 17, 2803-2814.	1.2	6
119	Theoretical framework for two-microswimmer hydrodynamic interactions. New Journal of Physics, 2021, 23, 073041.	1.2	6
120	Lattice Boltzmann simulations of stochastic thin film dewetting. Physical Review E, 2021, 104, 034801.	0.8	6
121	Transport of neutral and charged nanorods across varying-section channels. Soft Matter, 2021, 17, 2062-2070.	1.2	6
122	Early Detection of Agglomeration in Fluidized Beds by Means of Frequency Analysis of Pressure Fluctuations. Energy & Fuels, 2022, 36, 4924-4932.	2.5	6
123	Computational steering of cluster formation in Brownian suspensions. Computers and Mathematics With Applications, 2009, 58, 995-1002.	1.4	5
124	Simulations of Blood Flow in Plain Cylindrical and Constricted Vessels with Single Cell Resolution. Macromolecular Theory and Simulations, 2011, 20, 562-570.	0.6	5
125	Capillary interactions between soft capsules protruding through thin fluid films. Soft Matter, 2020, 16, 10910-10920.	1.2	5
126	Multi Relaxation Time Lattice Boltzmann Simulations of Multiple Component Fluid Flows in Porous Media. , 2013, , 39-49.		4

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127	Strict Equivalence between Maxwellâ€“Stefan and Fast-Mode Theory for Multicomponent Polymer Mixtures. Macromolecules, 2019, 52, 6035-6044.	2.2	4
128	How antagonistic salts cause nematic ordering and behave like diblock copolymers. Journal of Chemical Physics, 2019, 150, 064912.	1.2	4
129	Thermally induced stress in a nanoconfined gas medium. Journal of Molecular Modeling, 2020, 26, 180.	0.8	4
130	Computer Simulation of Particle Suspensions. , 2006, , 113-143.		4
131	Toward a continuum model for particle-induced velocity fluctuations in suspension flow through a stenosed geometry. International Journal of Modern Physics C, 2014, 25, 1441013.	0.8	3
132	Structural characterization of an ionic liquid in bulk and in nano-confined environment using data from MD simulations. Data in Brief, 2020, 28, 104794.	0.5	3
133	Monolayer Structures of Supramolecular Antagonistic Salt Aggregates. Journal of Physical Chemistry B, 2021, 125, 2351-2359.	1.2	3
134	Lattice Boltzmann simulations of drying suspensions of soft particles. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2021, 379, 20200399.	1.6	3
135	Instability of particle inertial migration in shear flow. Physics of Fluids, 2021, 33, .	1.6	3
136	Liquid film rupture beyond the thin-film equation: A multi-component lattice Boltzmann study. Physics of Fluids, 2022, 34, .	1.6	3
137	Lattice Boltzmann simulations of liquid film drainage between smooth surfaces. IMA Journal of Applied Mathematics, 2011, 76, 761-773.	0.8	2
138	Equilibrium Orientation and Adsorption of an Ellipsoidal Janus Particle at a Fluidâ€“Fluid Interface. Colloids and Interfaces, 2020, 4, 55.	0.9	2
139	Regimes of motion of magnetocapillary swimmers. European Physical Journal E, 2021, 44, 59.	0.7	2
140	Capillary Interactions, Aggregate Formation, and the Rheology of Particle-Laden Flows: A Lattice Boltzmann Study. Industrial & Engineering Chemistry Research, 2022, 61, 1863-1870.	1.8	2
141	Simulation of dense colloids. Brazilian Journal of Physics, 2008, 38, .	0.7	1
142	Numerical Modeling of Fluid Flow in Porous Media and in Driven Colloidal Suspensions. , 2009, , 349-363.		1
143	Capillary Interactions: Assembling Ellipsoidal Particles at Fluid Interfaces Using Switchable Dipolar Capillary Interactions (Adv. Mater. 39/2014). Advanced Materials, 2014, 26, 6800-6800.	11.1	1
144	Mesoscale Simulations of Anisotropic Particles at Fluid-Fluid Interfaces. , 2016, , 565-577.		1

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145	Mesoscale Simulations of Janus Particles and Deformable Capsules in Flow. , 2018, , 369-385.		1
146	Optimization of Chaotic Micromixers Using Finite Time Lyapunov Exponents. , 2012, , 325-336.		1
147	Hydrodynamic simulations of sedimenting dilute particle suspensions under repulsive DLVO interactions. Soft Matter, 2022, 18, 2157-2167.	1.2	1
148	Publisher's Note: Structural transitions and arrest of domain growth in sheared binary immiscible fluids and microemulsions [Phys. Rev. E75, 041504 (2007)]. Physical Review E, 2007, 75, .	0.8	0
149	Simulations of Particle Suspensions at the Institute for Computational Physics. , 2007, , 83-92.		0
150	Mesoscale Simulations of Fluid-Fluid Interfaces. , 2015, , 545-558.		0
151	Direct numerical simulation of wave propagation in saturated random granular packings using coupled LBM-DEM. EPJ Web of Conferences, 2021, 249, 14003.	0.1	0
152	Using Computational Steering to Explore the Parameter Space of Stability in a Suspension. , 2010, , 33-48.		0
153	Simplified Models for Coarse-Grained Hemodynamics Simulations. , 2013, , 53-64.		0
154	Rheological Properties of Binary and Ternary Amphiphilic Fluid Mixtures. , 2007, , 355-364.		0