Steffen Hardt

List of Publications by Year
in descending order

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65 papers	1,634 citations	331670 21 h-index	302126 39 g-index
65 all docs	65 docs citations	65 times ranked	1807 citing authors

#	Article	IF	Citations
1	Helical flows and chaotic mixing in curved micro channels. AICHE Journal, 2004, 50, 2297-2305.	3.6	300
2	Microfluidics with aqueous two-phase systems. Lab on A Chip, 2012, 12, 434-442.	6.0	148
3	Simple Fabrication of Robust Waterâ€Repellent Surfaces with Low Contactâ€Angle Hysteresis Based on Impregnation. Advanced Materials Interfaces, 2014, 1, 1300138.	3.7	101
4	Influence of the enclosed fluid on the flow over a microstructured surface in the Cassie state. Journal of Fluid Mechanics, 2014, 740, 168-195.	3.4	100
5	Electrophoretic partitioning of proteins in two-phase microflows. Lab on A Chip, 2007, 7, 98-102.	6.0	68
6	Drag and diffusion coefficients of a spherical particle attached to a fluidâ€“fluid interface. Journal of Fluid Mechanics, 2016, 790, 607-618.	3.4	60
7	Particle Manipulation Based on Optically Controlled Free Surface Hydrodynamics. Angewandte Chemie - International Edition, 2013, 52, 7291-7295.	13.8	55
8	Droplet Sorting and Manipulation on Patterned Two-Phase Slippery Lubricant-Infused Surface. ACS Applied Materials & Interfaces, 2019, 11, 16130-16138.	8.0	45
9	Controlling the Trajectories of Nano/Micro Particles Using Light-Actuated Marangoni Flow. Nano Letters, 2018, 18, 6924-6930.	9.1	43
10	Flow and Drop Transport Along Liquid-Infused Surfaces. Annual Review of Fluid Mechanics, 2022, 54, 83-104.	25.0	42
11	Protein Diffusion Across the Interface in Aqueous Two-Phase Systems. Langmuir, 2008, 24, 8547-8553.	3.5	33
12	Flow and streaming potential of an electrolyte in a channel with an axial temperature gradient. Journal of Fluid Mechanics, 2017, 813, 1060-1111.	3.4	32
13	Concentration and Size Separation of DNA Samples at Liquidâ€“Liquid Interfaces. Analytical Chemistry, 2011, 83, 5476-5479.	6.5	30
14	Electroosmotic flow in soft microchannels at high grafting densities. Physical Review Fluids, 2019, 4, .	2.5	30
15	Manipulation and control of droplets on surfaces in a homogeneous electric field. Nature Communications, 2022, 13, 289.	12.8	29
16	Thermocapillary flow on superhydrophobic surfaces. Physical Review E, 2010, 82, 037301.	2.1	28
17	Size-dependent detachment of DNA molecules from liquidâ€“liquid interfaces. Soft Matter, 2011, 7, 6320.	2.7	26
18	Driven particles at fluid interfaces acting as capillary dipoles. Journal of Fluid Mechanics, 2015, 770, 5-26.	3.4	25

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19	Microscale Hydrodynamic Cloaking and Shielding via Electro-Osmosis. Physical Review Letters, 2021, 126, 184502.	7.8	25
20	Stability of horizontal viscous fluid layers in a vertical arbitrary time periodic electric field. Physics of Fluids, 2017, 29, .	4.0	22
21	Fast electric control of the droplet size in a microfluidic T-junction droplet generator. Applied Physics Letters, 2018, 112, 194102.	3.3	22
22	Particle dynamics and separation at liquidâ€“liquid interfaces. Soft Matter, 2013, 9, 5438.	2.7	21
23	Enabling the enhancement of electroosmotic flow over superhydrophobic surfaces by induced charges. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2011, 376, 85-88.	4.7	19
24	On-Demand Production of Femtoliter Drops in Microchannels and Their Use as Biological Reaction Compartments. Analytical Chemistry, 2019, 91, 3484-3491.	6.5	18
25	Numerical simulation of a moving rigid body in a rarefied gas. Journal of Computational Physics, 2015, 292, 239-252.	3.8	17
26	Stability of Evaporating Droplets on Chemically Patterned Surfaces. Langmuir, 2019, 35, 4868-4875.	3.5	16
27	Intermediate States of Wetting on Hierarchical Superhydrophobic Surfaces. Langmuir, 2020, 36, 5517-5523.	3.5	16
28	Stretching of surface-tethered polymers in pressure-driven flow under confinement. Soft Matter, 2017, 13, 6189-6196.	2.7	15
29	Line tension and reduction of apparent contact angle associated with electric double layers. Physics of Fluids, 2014, 26, .	4.0	14
30	Electroosmotic flow in a slit nanochannel with superhydrophobic walls. Microfluidics and Nanofluidics, 2015, 19, 1465-1476.	2.2	14
31	Influence of insoluble surfactants on shear flow over a surface in Cassie state at large PÃ©clet numbers. Journal of Fluid Mechanics, 2021, 907, .	3.4	13
32	Electro-osmotic flow enhancement over superhydrophobic surfaces. Physical Review Fluids, 2020, 5, .	2.5	13
33	Exploiting cellular convection in a thick liquid layer to pattern a thin polymer film. Applied Physics Letters, 2016, 108, .	3.3	12
34	Faraday instability of a liquid layer on a lubrication film. Journal of Fluid Mechanics, 2019, 879, 422-447.	3.4	12
35	Insights into the interplay of wetting and transport in mesoporous silica films. Journal of Colloid and Interface Science, 2020, 560, 369-378.	9.4	11
36	Conjugated liquid layers driven by the short-wavelength BÃ©nardâ€“Marangoni instability: experiment and numerical simulation. Journal of Fluid Mechanics, 2015, 783, 46-71.	3.4	10

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37	The stretching force on a tethered polymer in pressure-driven flow. Journal of Chemical Physics, 2017, 147, 034902.	3.0	10
38	From flow focusing to vortex formation in crossing microchannels. Microfluidics and Nanofluidics, 2017, 21, 1.	2.2	9
39	Stability and collapse of holes in liquid layers. Journal of Fluid Mechanics, 2018, 855, 1130-1155.	3.4	9
40	Conformation and Dynamics of Long-Chain End-Tethered Polymers in Microchannels. Polymers, 2019, 11, 488.	4.5	9
41	Electric-Field-Induced Pattern Formation in Layers of DNA Molecules at the Interface between Two Immiscible Liquids. Physical Review Letters, 2020, 124, 064501.	7.8	9
42	Electro-osmotic flow along superhydrophobic surfaces with embedded electrodes. Physical Review E, 2014, 89, 063005.	2.1	8
43	No-contact electrostatic manipulation of droplets on liquid-infused surfaces: Experiments and numerical simulations. Applied Physics Letters, 2019, 114, 213704.	3.3	8
44	Interaction of proteins with phase boundaries in aqueous two-phase systems under electric fields. Soft Matter, 2021, 17, 3929-3936.	2.7	7
45	On the thermocapillary migration between parallel plates. International Journal of Heat and Mass Transfer, 2022, 182, 121962.	4.8	7
46	Thermophoresis of Janus particles at large Knudsen numbers. Physical Review Fluids, 2018, 3, .	2.5	7
47	The spatial structure of electrostatically forced Faraday waves. Journal of Fluid Mechanics, 2022, 939, .	3.4	7
48	Liquid plug formation from heated binary mixtures in capillary tubes. Journal of Fluid Mechanics, 2020, 889, .	3.4	6
49	Wetting of a liquid annulus in a capillary tube. Soft Matter, 2021, 17, 1756-1772.	2.7	6
50	Liquid Wells as Selfâ€Healing, Functional Analogues to Solid Vessels. Advanced Materials, 2021, 33, e2100117.	21.0	6
51	Electroosmotic flow in small-scale channels induced by surface-acoustic waves. Physical Review Fluids, 2020, 5, .	2.5	6
52	Drag force on spherical particle moving near a plane wall in highly rarefied gas. Journal of Fluid Mechanics, 2020, 883, .	3.4	5
53	Electrokinetic manipulation of the von KÃ¡rmÃ¡n vortex street in the wake of a confined cylinder. I. DC electric field. Physics of Fluids, 2018, 30, 082004.	4.0	4
54	Breakup dynamics of capillary bridges on hydrophobic stripes. International Journal of Multiphase Flow, 2021, 140, 103582.	3.4	4

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55	Electrokinetics of a particle attached to a fluid interface: Electrophoretic mobility and interfacial deformation. Physical Review Fluids, 2018, 3, .	2.5	4
56	Coupled self-organization: Thermal interaction between two liquid films undergoing long-wavelength instabilities. Physical Review E, 2014, 89, 053018.	2.1	3
57	Electric-field-induced stretching of surface-tethered polyelectrolytes in a microchannel. Physical Review E, 2017, 96, 032503.	2.1	3
58	Mass Transfer via Femtoliter Droplets in Ping-Pong Mode. Physical Review Applied, 2020, 13, .	3.8	3
59	Hydrodynamic dispersion in Hele-Shaw flows with inhomogeneous wall boundary conditions. Journal of Fluid Mechanics, 2021, 925, .	3.4	3
60	Electrophoretic transport of biomolecules across liquidâ€“liquid interfaces. Journal of Physics Condensed Matter, 2011, 23, 279502.	1.8	2
61	Interfacial instability of liquid films coating the walls of a parallel-plate channel and sheared by a gas flow. Microfluidics and Nanofluidics, 2018, 22, 1.	2.2	2
62	Relaxation of surface-tethered polymers under moderate confinement. Soft Matter, 2018, 14, 7926-7933.	2.7	1
63	Deformation modes of an oil-water interface under a local electric field: From Taylor cones to surface dimples. Physical Review Fluids, 2021, 6, .	2.5	1
64	The effective shear and dilatational viscosities of a particle-laden interface in the dilute limit. Journal of Fluid Mechanics, 2020, 903, .	3.4	0
65	Manipulation of single sub-femtolitre droplets via partial coalescence in a direct-current electric field. Flow, 2021, 1, .	2.6	0