Clemens Bechinger

List of Publications by Year
in descending order

80 papers	9,374 citations	76322 40 h-index	62593 80 g-index
80 all docs	80 docs citations	80 times ranked	6113 citing authors

#	Article	IF	Citations
1	Barrier Crossing in a Viscoelastic Bath. Physical Review Letters, 2022, 128, 028001.	7.8	14
2	Collective response of microrobotic swarms to external threats. New Journal of Physics, 2022, 24, 033001.	2.9	3
3	MoirÃ©-Pattern Evolution Couples Rotational and Translational Friction at Crystalline Interfaces. Physical Review X, 2022, 12, .	8.9	5
4	Role of cohesion in the flow of active particles through bottlenecks. Scientific Reports, 2022, 12, .	3.3	4
5	Bayesian inference of the viscoelastic properties of a Jeffreyâ€™s fluid using optical tweezers. Scientific Reports, 2021, 11, 2023.	3.3	8
6	Pervasive orientational and directional locking at geometrically heterogeneous sliding interfaces. Physical Review E, 2021, 103, 012606.	2.1	3
7	Active colloids under geometrical constraints in viscoelastic media. European Physical Journal E, 2021, 44, 28.	1.6	6
8	Two step micro-rheological behavior in a viscoelastic fluid. Journal of Chemical Physics, 2021, 154, 184904.	3.0	10
9	Editorial: Motile active matter. European Physical Journal E, 2021, 44, 103.	1.6	2
10	Work fluctuation relation of an active Brownian particle in a viscoelastic fluid. Physical Review E, 2021, 104, 034605.	2.1	4
11	Critical Casimir interactions of colloids in micellar critical solutions. Soft Matter, 2021, 17, 2737-2741.	2.7	5
12	Structural lubricity in soft and hard matter systems. Nature Communications, 2020, 11, 4657.	12.8	62
13	Pile-up transmission and reflection of topological defects at grain boundaries in colloidal crystals. Nature Communications, 2020, 11, 3079.	12.8	6
14	Realization of a motility-trap for active particles. Communications Physics, 2020, 3, .	5.3	15
15	Formation of stable and responsive collective states in suspensions of active colloids. Nature Communications, 2020, 11, 2547.	12.8	42
16	The 2020 motile active matter roadmap. Journal of Physics Condensed Matter, 2020, 32, 193001.	1.8	242
17	Direct-imaging of light-driven colloidal Janus particles in weightlessness. Review of Scientific Instruments, 2020, 91, 013902.	1.3	7
18	Properties of a nonlinear bath: experiments, theory, and a stochastic Prandtlâ€“Tomlinson model. New Journal of Physics, 2020, 22, 023014.	2.9	16

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19	Autonomously Probing Viscoelasticity in Disordered Suspensions. Physical Review Letters, 2020, 125, 258002.	7.8	12
20	Active particles sense micromechanical properties of glasses. Nature Materials, 2019, 18, 1118-1123.	27.5	46
21	Active particles in geometrically confined viscoelastic fluids. New Journal of Physics, 2019, 21, 093058.	2.9	29
22	Diffusing wave paradox of phototactic particles in traveling light pulses. Nature Communications, 2019, 10, 2495.	12.8	24
23	Propagating density spikes in light-powered motility-ratchets. Soft Matter, 2019, 15, 5185-5192.	2.7	13
24	Orientational and directional locking of colloidal clusters driven across periodic surfaces. Nature Physics, 2019, 15, 776-780.	16.7	29
25	Colloidal Brazil nut effect in microswimmer mixtures induced by motility contrast. Journal of Chemical Physics, 2019, 150, 114902.	3.0	10
26	Group formation and cohesion of active particles with visual perceptionâ€“dependent motility. Science, 2019, 364, 70-74.	12.6	168
27	Oscillating modes of driven colloids in overdamped systems. Nature Communications, 2018, 9, 999.	12.8	58
28	Experimental Observation of the Aubry Transition in Two-Dimensional Colloidal Monolayers. Physical Review X, 2018, 8, .	8.9	33
29	Run-and-tumble-like motion of active colloids in viscoelastic media. New Journal of Physics, 2018, 20, 015008.	2.9	26
30	Chemotaxis of Active Janus Nanoparticles. Nano Letters, 2018, 18, 5345-5349.	9.1	83
31	Memory-Induced Transition from a Persistent Random Walk to Circular Motion for Achiral Microswimmers. Physical Review Letters, 2018, 121, 078003.	7.8	67
32	Self-organization of active particles by quorum sensing rules. Nature Communications, 2018, 9, 3232.	12.8	109
33	Experimental observation of Shapiro-steps in colloidal monolayers driven across time-dependent substrate potentials. Soft Matter, 2017, 13, 4024-4028.	2.7	14
34	Tuning the motility and directionality of self-propelled colloids. Scientific Reports, 2017, 7, 14891.	3.3	66
35	Active Particles in Complex and Crowded Environments. Reviews of Modern Physics, 2016, 88, .	45.6	1,875
36	Dynamics of Self-Propelled Janus Particles in Viscoelastic Fluids. Physical Review Letters, 2016, 116, 138301.	7.8	127

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37	Microswimmers â€“ From Single Particle Motion to Collective Behavior. European Physical Journal: Special Topics, 2016, 225, 2061-2064.	2.6	17
38	Phototaxis of synthetic microswimmers in optical landscapes. Nature Communications, 2016, 7, 12828.	12.8	210
39	Direct relations between morphology and transport in Boolean models. Physical Review E, 2015, 92, 043023.	2.1	32
40	Transient dynamics of a colloidal particle driven through a viscoelastic fluid. New Journal of Physics, 2015, 17, 103032.	2.9	47
41	Formation, compression and surface melting of colloidal clusters by active particles. Soft Matter, 2015, 11, 6187-6191.	2.7	68
42	Effect of confinement on the mode dynamics of dipole clusters. Soft Matter, 2015, 11, 1197-1207.	2.7	7
43	Probing linear and nonlinear microrheology of viscoelastic fluids. Europhysics Letters, 2014, 108, 54008.	2.0	30
44	Enhanced dispersion by elastic turbulence in porous media. Europhysics Letters, 2014, 107, 54003.	2.0	33
45	Geometrical interpretation of long-time tails of first-passage time distributions in porous media with stagnant parts. Physical Review E, 2014, 90, 013025.	2.1	11
46	Periodic average structures of colloidal quasicrystals. Soft Matter, 2014, 10, 8705-8710.	2.7	7
47	Gravitaxis of asymmetric self-propelled colloidal particles. Nature Communications, 2014, 5, 4829.	12.8	211
48	Light-induced phase transitions of colloidal monolayers with crystalline order. Soft Matter, 2013, 9, 9230.	2.7	24
49	Circular Motion of Asymmetric Self-Propelling Particles. Physical Review Letters, 2013, 110, 198302.	7.8	333
50	Dynamical Clustering and Phase Separation in Suspensions of Self-Propelled Colloidal Particles. Physical Review Letters, 2013, 110, 238301.	7.8	905
51	Experimental Observation of Directional Locking and Dynamical Ordering of Colloidal Monolayers Driven across Quasiperiodic Substrates. Physical Review Letters, 2012, 109, 058301.	7.8	74
52	Permeability of Porous Materials Determined from the Euler Characteristic. Physical Review Letters, 2012, 109, 264504.	7.8	65
53	Active Brownian motion tunable by light. Journal of Physics Condensed Matter, 2012, 24, 284129.	1.8	251
54	Measurement of permeability of microfluidic porous media with finite-sized colloidal tracers. Experiments in Fluids, 2012, 53, 1327-1333.	2.4	14

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55	Observation of kinks and antikinks in colloidal monolayers driven across ordered surfaces. Nature Materials, 2012, 11, 126-130.	27.5	183
56	Microswimmers in patterned environments. Soft Matter, 2011, 7, 8810.	2.7	441
57	Shear Thinning and Local Melting of Colloidal Crystals. Physical Review Letters, 2011, 107, 138301.	7.8	49
58	Critical Casimir effect in classical binary liquid mixtures. Physical Review E, 2009, 80, 061143.	2.1	168
59	Tunability of critical Casimir interactions by boundary conditions. Europhysics Letters, 2009, 88, 26001.	2.0	76
60	Direct measurement of critical Casimir forces. Nature, 2008, 451, 172-175.	27.8	487
61	Archimedean-like tiling on decagonal quasicrystalline surfaces. Nature, 2008, 454, 501-504.	27.8	192
62	Phonon dispersion curves of two-dimensional colloidal crystals: the wavelength-dependence of friction. Soft Matter, 2008, 4, 2199.	2.7	16
63	Stochastic resonance vs. resonant activation. Europhysics Letters, 2006, 74, 937-943.	2.0	58
64	Direct Measurement of Three-Body Interactions amongst Charged Colloids. Physical Review Letters, 2004, 92, 078301.	7.8	110
65	Direct Measurement of Entropic Forces Induced by Rigid Rods. Physical Review Letters, 2003, 90, 048301.	7.8	83
66	Density-dependent pair interactions in 2D. Europhysics Letters, 2002, 58, 926-965.	2.0	105
67	Measurement of surface charge densities on Brownian particles using total internal reflection microscopy. Journal of Chemical Physics, 2001, 114, 10094-10104.	3.0	58
68	Perforated Wetting Layers from Periodic Patterns of Lyophobic Surface Domains. Langmuir, 2001, 17, 7814-7822.	3.5	26
69	Phase Behavior of Two-Dimensional Colloidal Systems in the Presence of Periodic Light Fields. Physical Review Letters, 2001, 86, 930-933.	7.8	121
70	Submicron metal oxide structures by a sol-gel process on patterned substrates. Thin Solid Films, 2000, 366, 135-138.	1.8	22
71	Single-File Diffusion of Colloids in One-Dimensional Channels. Science, 2000, 287, 625-627.	12.6	435
72	Melting and Reentrant Freezing of Two-Dimensional Colloidal Crystals in Confined Geometry. Physical Review Letters, 1999, 82, 3364-3367.	7.8	131

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73	From Mesoscopic to Nanoscopic Surface Structures: Lithography with Colloid Monolayers. Advanced Materials, 1998, 10, 495-497.	21.0	159
74	From Mesoscopic to Nanoscopic Surface Structures: Lithography with Colloid Monolayers. Chemical Engineering and Technology, 1998, 21, 761-763.	1.5	14
75	From Mesoscopic to Nanoscopic Surface Structures: Lithography with Colloid Monolayers. Advanced Materials, 1998, 10, 495-497.	21.0	3
76	Chromic Mechanism in Amorphous â€‰WOâ€‰3 Films. Journal of the Electrochemical Society, 1997, 144, 2022-2026.	2.9	168
77	Improved Monolithic Photovoltaic-Electrochromic Devices Incorporating an a-SiC:H Solar Cell. Materials Research Society Symposia Proceedings, 1996, 420, 183.	0.1	3
78	Photoelectrochromic windows and displays. Nature, 1996, 383, 608-610.	27.8	592
79	Lowâ€voltage electrochromic device for photovoltaicâ€powered smart windows. Journal of Applied Physics, 1996, 80, 1226-1232.	2.5	54
80	Photoinduced doping of thin amorphous WO3 films. Thin Solid Films, 1994, 239, 156-160.	1.8	38