John F Brady

List of Publications by Year
in descending order

86 papers	7,538 citations	71004 43 h-index	58552 86 g-index
88 all docs	88 docs citations	88 times ranked	4254 citing authors

#	Article	IF	Citations
1	Pressure-driven flow of suspensions: simulation and theory. Journal of Fluid Mechanics, 1994, 275, 157-199.	1.4	644
2	The rheological behavior of concentrated colloidal dispersions. Journal of Chemical Physics, 1993, 99, 567-581.	1.2	468
3	Structure, diffusion and rheology of Brownian suspensions by Stokesian Dynamics simulation. Journal of Fluid Mechanics, 2000, 407, 167-200.	1.4	447
4	Accelerated Stokesian Dynamics simulations. Journal of Fluid Mechanics, 2001, 448, 115-146.	1.4	404
5	Microstructure of strongly sheared suspensions and its impact on rheology and diffusion. Journal of Fluid Mechanics, 1997, 348, 103-139.	1.4	381
6	Stokesian Dynamics simulation of Brownian suspensions. Journal of Fluid Mechanics, 1996, 313, 181-207.	1.4	287
7	Dynamic simulation of hydrodynamically interacting suspensions. Journal of Fluid Mechanics, 1988, 195, 257.	1.4	234
8	A simple paradigm for active and nonlinear microrheology. Physics of Fluids, 2005, 17, 073101.	1.6	214
9	Accelerated Stokesian dynamics: Brownian motion. Journal of Chemical Physics, 2003, 118, 10323-10332.	1.2	208
10	The hydrodynamic force on a rigid particle undergoing arbitrary time-dependent motion at small Reynolds number. Journal of Fluid Mechanics, 1993, 256, 561-605.	1.4	202
11	Acoustic trapping of active matter. Nature Communications, 2016, 7, 10694.	5.8	175
12	A non-local description of advection-diffusion with application to dispersion in porous media. Journal of Fluid Mechanics, 1987, 180, 387.	1.4	156
13	Simulation of hydrodynamically interacting particles near a no-slip boundary. Physics of Fluids, 2007, 19, .	1.6	154
14	Osmotic Propulsion: The Osmotic Motor. Physical Review Letters, 2008, 100, 158303.	2.9	154
15	Brownian Dynamics simulation of hard-sphere colloidal dispersions. Journal of Rheology, 2000, 44, 629-651.	1.3	153
16	Particle motion driven by solute gradients with application to autonomous motion: continuum and colloidal perspectives. Journal of Fluid Mechanics, 2011, 667, 216-259.	1.4	152
17	The effect of order on dispersion in porous media. Journal of Fluid Mechanics, 1989, 200, 173-188.	1.4	128
18	Shear-induced self-diffusion in non-colloidal suspensions. Journal of Fluid Mechanics, 2004, 506, 285-314.	1.4	127

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19	Normal stresses in colloidal dispersions. Journal of Rheology, 1995, 39, 545-566.	1.3	114
20	Suspensions of prolate spheroids in Stokes flow. Part 1. Dynamics of a finite number of particles in an unbounded fluid. Journal of Fluid Mechanics, 1993, 251, 411-442.	1.4	111
21	On rotating disk flow. Journal of Fluid Mechanics, 1987, 175, 363.	1.4	107
22	Brownian motion, hydrodynamics, and the osmotic pressure. Journal of Chemical Physics, 1993, 98, 3335-3341.	1.2	106
23	The sedimentation rate of disordered suspensions. Physics of Fluids, 1988, 31, 717.	1.4	102
24	The long-time self-diffusivity in concentrated colloidal dispersions. Journal of Fluid Mechanics, 1994, 272, 109-134.	1.4	102
25	Single particle motion in colloidal dispersions: a simple model for active and nonlinear microrheology. Journal of Fluid Mechanics, 2006, 557, 73.	1.4	97
26	Tuning colloidal gels by shear. Soft Matter, 2015, 11, 4640-4648.	1.2	97
27	Dynamic simulation of bounded suspensions of hydrodynamically interacting particles. Journal of Fluid Mechanics, 1989, 200, 39-67.	1.4	91
28	The force on a bubble, drop, or particle in arbitrary timeâ€dependent motion at small Reynolds number. Physics of Fluids A, Fluid Dynamics, 1993, 5, 2104-2116.	1.6	85
29	Particle motion between parallel walls: Hydrodynamics and simulation. Physics of Fluids, 2010, 22, .	1.6	85
30	The force on a boundary in active matter. Journal of Fluid Mechanics, 2015, 785, .	1.4	81
31	Single-particle motion in colloids: force-induced diffusion. Journal of Fluid Mechanics, 2010, 658, 188-210.	1.4	80
32	Suspensions of prolate spheroids in Stokes flow. Part 2. Statistically homogeneous dispersions. Journal of Fluid Mechanics, 1993, 251, 443-477.	1.4	79
33	Alternative Frictional Model for Discontinuous Shear Thickening of Dense Suspensions: Hydrodynamics. Physical Review Letters, 2019, 123, 138002.	2.9	69
34	Statistical mechanics of bubbly liquids. Physics of Fluids, 1996, 8, 881-895.	1.6	67
35	Self-diffusion in sheared suspensions by dynamic simulation. Journal of Fluid Mechanics, 1999, 401, 243-274.	1.4	66
36	Modeling hydrodynamic self-propulsion with Stokesian Dynamics. Or teaching Stokesian Dynamics to swim. Physics of Fluids, 2011, 23, .	1.6	66

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37	Self-diffusion in sheared suspensions. Journal of Fluid Mechanics, 1996, 312, 223-252.	1.4	65
38	A theory for the phase behavior of mixtures of active particles. Soft Matter, 2015, 11, 7920-7931.	1.2	62
39	Forces, stresses and the (thermo?) dynamics of active matter. Current Opinion in Colloid and Interface Science, 2016, 21, 24-33.	3.4	61
40	Swim stress, motion, and deformation of active matter: effect of an external field. Soft Matter, 2014, 10, 9433-9445.	1.2	53
41	Brownian electrorheological fluids as a model for flocculated dispersions. Journal of Rheology, 1996, 40, 1027-1056.	1.3	52
42	The force on a sphere in a uniform flow with small-amplitude oscillations at finite Reynolds number. Journal of Fluid Mechanics, 1993, 256, 607-614.	1.4	51
43	Anomalous diffusion due to longâ€range velocity fluctuations in the absence of a mean flow. Physics of Fluids A, Fluid Dynamics, 1989, 1, 47-51.	1.6	46
44	On the bulk viscosity of suspensions. Journal of Fluid Mechanics, 2006, 554, 109.	1.4	43
45	The hydrodynamics of confined dispersions. Journal of Fluid Mechanics, 2011, 687, 254-299.	1.4	43
46	Non-spherical osmotic motor: chemical sailing. Journal of Fluid Mechanics, 2014, 748, 488-520.	1.4	43
47	Tracer diffusion in active suspensions. Physical Review E, 2017, 95, 052605.	0.8	42
48	The temporal behaviour of the hydrodynamic force on a body in response to an abrupt change in velocity at small but finite Reynolds number. Journal of Fluid Mechanics, 1995, 293, 35-46.	1.4	41
49	Constant Stress and Pressure Rheology of Colloidal Suspensions. Physical Review Letters, 2015, 115, 158301.	2.9	38
50	Microscopic origins of the swim pressure and the anomalous surface tension of active matter. Physical Review E, 2020, 101, 012604.	0.8	37
51	Colloidal diffusion and hydrodynamic screening near boundaries. Soft Matter, 2011, 7, 6844.	1.2	35
52	Microrheology of colloidal dispersions: Shape matters. Journal of Rheology, 2008, 52, 165-196.	1.3	33
53	Fluctuation-dissipation in active matter. Journal of Chemical Physics, 2019, 150, 184901.	1.2	31
54	Dynamic structure factor study of diffusion in strongly sheared suspensions. Journal of Fluid Mechanics, 2005, 527, 141-169.	1.4	30

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55	The curved kinetic boundary layer of active matter. Soft Matter, 2018, 14, 279-290.	1.2	29
56	Gravitational instability in suspension flow. Journal of Fluid Mechanics, 2002, 472, 201-210.	1.4	28
57	Swimming to Stability: Structural and Dynamical Control via Active Doping. ACS Nano, 2019, 13, 560-572.	7.3	27
58	Upstream swimming and Taylor dispersion of active Brownian particles. Physical Review Fluids, 2020, 5, .	1.0	27
59	Suspensions of prolate spheroids in Stokes flow. Part 3. Hydrodynamic transport properties of crystalline dispersions. Journal of Fluid Mechanics, 1993, 251, 479-500.	1.4	26
60	A hydrodynamic model for discontinuous shear-thickening in dense suspensions. Journal of Rheology, 2020, 64, 379-394.	1.3	26
61	The behavior of active diffusiophoretic suspensions: An accelerated Laplacian dynamics study. Journal of Chemical Physics, 2016, 145, 134902.	1.2	23
62	Collective diffusion in sheared colloidal suspensions. Journal of Fluid Mechanics, 2008, 597, 305-341.	1.4	21
63	Short-time transport properties of bidisperse suspensions and porous media: A Stokesian dynamics study. Journal of Chemical Physics, 2015, 142, 094901.	1.2	20
64	Unsteady shear flows of colloidal hard-sphere suspensions by dynamic simulation. Journal of Rheology, 2017, 61, 477-501.	1.3	20
65	Diffusion and flow in complex liquids. Soft Matter, 2020, 16, 114-124.	1.2	20
66	Many-body effects and matrix inversion in low-Reynolds-number hydrodynamics. Physics of Fluids, 2001, 13, 350-353.	1.6	19
67	Instability of expanding bacterial droplets. Nature Communications, 2018, 9, 1322.	5.8	17
68	Machine learning for phase behavior in active matter systems. Soft Matter, 2021, 17, 6808-6816.	1.2	16
69	Classical Liquids in Fractal Dimension. Physical Review Letters, 2015, 115, 097801.	2.9	14
70	Nonlinear microrheology of active Brownian suspensions. Soft Matter, 2020, 16, 1034-1046.	1.2	13
71	Short-time diffusion in concentrated bidisperse hard-sphere suspensions. Journal of Chemical Physics, 2015, 142, 064905.	1.2	12
72	Response to â€˜â€˜Comment on â€˜The rheological behavior of concentrated colloidal dispersionsâ€™â€°â€™â€™ [J. Chem. Phys. 101, 1757 (1994)]. Journal of Chemical Physics, 1994, 101, 1758-1758.	1.2	11

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73	Theory for the Casimir effect and the partitioning of active matter. Soft Matter, 2021, 17, 523-530.	1.2	11
74	Reverse osmotic effect in active matter. Physical Review E, 2020, 101, 062604.	0.8	10
75	Do hydrodynamic interactions affect the swim pressure?. Soft Matter, 2018, 14, 3581-3589.	1.2	9
76	A new resistance function for two rigid spheres in a uniform compressible low-Reynolds-number flow. Physics of Fluids, 2006, 18, 043102.	1.6	7
77	Antiswarming: Structure and dynamics of repulsive chemically active particles. Physical Review E, 2017, 96, 060601.	0.8	4
78	The â€œisothermalâ€•compressibility of active matter. Journal of Chemical Physics, 2021, 154, 014902.	1.2	4
79	The hydrodynamics of an active squirming particle inside of a porous container. Journal of Fluid Mechanics, 2021, 919, .	1.4	4
80	Distribution and pressure of active LÃ©vy swimmers under confinement. Journal of Physics A: Mathematical and Theoretical, 2021, 54, 275002.	0.7	4
81	Phoretic motion in active matter. Journal of Fluid Mechanics, 2021, 922, .	1.4	4
82	Macroscopic Modeling of Viscous Suspension Flows. Applied Mechanics Reviews, 1994, 47, S229-S235.	4.5	3
83	Dynamic overlap concentration scale of active colloids. Physical Review E, 2021, 104, 044612.	0.8	3
84	Partitioning of active particles into porous media. Soft Matter, 2022, 18, 2757-2766.	1.2	3
85	The Einstein shear viscosity correction for non no-slip hyperspheres. Journal of Colloid and Interface Science, 2014, 430, 302-304.	5.0	2
86	Activity-induced propulsion of a vesicle. Journal of Fluid Mechanics, 2022, 942, .	1.4	2