Eric R Weeks

List of Publications by Citations

112 papers	9,346 citations	43 h-index	96 g-index
114 ext. papers	10,094 ext. citations	6.1 avg, IF	6.23 L-index

#	Paper	IF	Citations
112	Three-dimensional direct imaging of structural relaxation near the colloidal glass transition. *Science*, **2000**, 287, 627-31	33.3	1470
111	Real-space imaging of nucleation and growth in colloidal crystallization. *Science*, **2001**, 292, 258-62	33.3	831
110	Observation of anomalous diffusion and Lévy flights in a two-dimensional rotating flow. *Physical Review Letters*, **1993**, 71, 3975-3978	7.4	579
109	Two-point microrheology of inhomogeneous soft materials. *Physical Review Letters*, **2000**, 85, 888-91	7.4	507
108	Anomalous diffusion probes microstructure dynamics of entangled F-actin networks. *Physical Review Letters*, **2004**, 92, 178101	7.4	445
107	The physics of the colloidal glass transition. *Reports on Progress in Physics*, **2012**, 75, 066501	14.4	389
106	Properties of cage rearrangements observed near the colloidal glass transition. *Physical Review Letters*, **2002**, 89, 095704	7.4	343
105	Three-dimensional confocal microscopy of colloids. *Applied Optics*, **2001**, 40, 4152-9	1.7	206
104	Three-dimensional imaging of colloidal glasses under steady shear. *Physical Review Letters*, **2007**, 99, 028301	7.4	196
103	In search of colloidal hard spheres. *Soft Matter*, **2013**, 9, 17-27	3.6	191
102	Subdiffusion and the cage effect studied near the colloidal glass transition. *Chemical Physics*, **2002**, 284, 361-367	2.3	180
101	Confocal microscopy of colloids. *Journal of Physics Condensed Matter*, **2007**, 19, 113102	1.8	179
100	On measuring colloidal volume fractions. *Soft Matter*, **2012**, 8, 21-30	3.6	164
99	Rheological microscopy: local mechanical properties from microrheology. *Physical Review Letters*, **2003**, 90, 108301	7.4	161
98	Forced motion of a probe particle near the colloidal glass transition. *Europhysics Letters*, **2004**, 67, 477-483	2.6	148
97	Influence of particle size distribution on random close packing of spheres. *Physical Review E*, **2014**, 90, 022204	2.4	145
96	Particle migration in pressure-driven flow of a Brownian suspension. *Journal of Fluid Mechanics*, **2003**, 493, 363-378	3.7	144

95	Chaotic advection in a two-dimensional flow: Lévy flights and anomalous diffusion. *Physica D: Nonlinear Phenomena*, **1994**, 76, 70-84	3.3	125
94	High-speed DNA-based rolling motors powered by RNase H. *Nature Nanotechnology*, **2016**, 11, 184-90	28.7	124
93	Colloidal glass transition observed in confinement. *Physical Review Letters*, **2007**, 99, 025702	7.4	123
92	Random close packing of disks and spheres in confined geometries. *Physical Review E*, **2009**, 80, 051305	2.4	105
91	Anomalous diffusion in asymmetric random walks with a quasi-geostrophic flow example. *Physica D: Nonlinear Phenomena*, **1996**, 97, 291-310	3.3	101
90	Quantitative imaging of colloidal flows. *Advances in Colloid and Interface Science*, **2009**, 146, 1-17	14.3	99
89	Decoupling of rotational and translational diffusion in supercooled colloidal fluids. *Proceedings of the National Academy of Sciences of the United States of America*, **2012**, 109, 17891-6	11.5	98
88	Direct visualization of ageing in colloidal glasses. *Journal of Physics Condensed Matter*, **2003**, 15, S359-S365	2.8	93
87	Drainage of single Plateau borders: direct observation of rigid and mobile interfaces. *Physical Review E*, **2002**, 66, 040601	2.4	91
86	Two-particle microrheology of quasi-2D viscous systems. *Physical Review Letters*, **2006**, 97, 176001	7.4	86
85	Anomalous diffusion resulting from strongly asymmetric random walks. *Physical Review E*, **1998**, 57, 4915-4920	2.4	83
84	Long-wavelength fluctuations and the glass transition in two dimensions and three dimensions. *Proceedings of the National Academy of Sciences of the United States of America*, **2017**, 114, 1850-1855	11.5	78
83	Development of particle migration in pressure-driven flow of a Brownian suspension. *Journal of Fluid Mechanics*, **2007**, 581, 437-451	3.7	76
82	Transitions between blocked and zonal flows in a rotating annulus with topography. *Science*, **1997**, 278, 1598-601	33.3	69
81	Short- and long-range correlated motion observed in colloidal glasses and liquids. *Journal of Physics Condensed Matter*, **2007**, 19, 205131	1.8	64
80	Foam drainage on the microscale II. Imaging flow through single Plateau borders. *Journal of Colloid and Interface Science*, **2004**, 276, 439-49	9.3	64
79	The equilibrium intrinsic crystal-liquid interface of colloids. *Proceedings of the National Academy of Sciences of the United States of America*, **2009**, 106, 15198-202	11.5	63
78	Experimental study of random-close-packed colloidal particles. *Physical Review E*, **2010**, 82, 011403	2.4	58

77	Video microscopy of colloidal suspensions and colloidal crystals. *Current Opinion in Colloid and Interface Science*, **2002**, 7, 196-203	7.6	57
76	Shear-induced particle migration in binary colloidal suspensions. *Physics of Fluids*, **2008**, 20, 043306	4.4	56
75	Dynamics and structure of an aging binary colloidal glass. *Physical Review E*, **2008**, 78, 031410	2.4	54
74	Experimental study of forces between quasi-two-dimensional emulsion droplets near jamming. *Soft Matter*, **2013**, 9, 3424	3.6	52
73	Incompressibility of polydisperse random-close-packed colloidal particles. *Physical Review E*, **2011**, 84, 030401	2.4	49
72	Polyoxometalate-based gelating networks for entrapment and catalytic decontamination. *Chemical Communications*, **2017**, 53, 11480-11483	5.8	46
71	Two-dimensional to three-dimensional transition in soap films demonstrated by microrheology. *Physical Review Letters*, **2009**, 102, 178302	7.4	45
70	Tracking rotational diffusion of colloidal clusters. *Optics Express*, **2011**, 19, 17189-202	3.3	44
69	Measurement of Stress Redistribution in Flowing Emulsions. *Physical Review Letters*, **2015**, 115, 098302	7.4	43
68	Spatial and temporal dynamical heterogeneities approaching the binary colloidal glass transition. *Soft Matter*, **2011**, 7, 1472-1482	3.6	42
67	Contribution of slow clusters to the bulk elasticity near the colloidal glass transition. *Physical Review Letters*, **2006**, 97, 265701	7.4	42
66	Interparticle interactions and direct imaging of colloidal phases assembled from microsphere-nanoparticle mixtures. *Langmuir*, **2005**, 21, 9978-89	4	41
65	Clogging of soft particles in two-dimensional hoppers. *Physical Review E*, **2017**, 96, 062605	2.4	38
64	Microscopic structural relaxation in a sheared supercooled colloidal liquid. *Physical Review E*, **2010**, 81, 011403	2.4	36
63	A genetic toolbox for creating reversible Ca2+-sensitive materials. *Journal of the American Chemical Society*, **2006**, 128, 13994-5	16.4	36
62	Conformations of laulimalide in DMSO-d6. *Journal of the American Chemical Society*, **2005**, 127, 12838-46	16.4	35
61	Correlations of structure and dynamics in an aging colloidal glass. *Solid State Communications*, **2006**, 139, 599-604	1.6	35
60	Surface Topography Hinders Bacterial Surface Motility. *ACS Applied Materials & Interfaces*, **2018**, 10, 9225-9234	9.5	33

59	Phase behavior and 3D structure of strongly attractive microsphere-nanoparticle mixtures. *Langmuir*, **2005**, 21, 11040-7	4	31
58	Boundary Mobility Controls Glassiness in Confined Colloidal Liquids. *Physical Review Letters*, **2014**, 112,	7.4	30
57	Programmable DNA Hydrogels Assembled from Multidomain DNA Strands. *ChemBioChem*, **2016**, 17, 1156-62	3.8	30
56	Semagenesis and the parasitic angiosperm Striga asiatica. *Plant Journal*, **2007**, 51, 707-16	6.9	29
55	Embedded 3D Bioprinting of Gelatin Methacryloyl-Based Constructs with Highly Tunable Structural Fidelity. *ACS Applied Materials & Interfaces*, **2020**, 12, 44563-44577	9.5	29
54	Experimental verification of rapid, sporadic particle motions by direct imaging of glassy colloidal systems. *Physical Review Letters*, **2011**, 107, 065704	7.4	27
53	Experimental and numerical studies of an eastward jet over topography. *Journal of Fluid Mechanics*, **2001**, 438, 129-157	3.7	27
52	Introduction to the Colloidal Glass Transition. *ACS Macro Letters*, **2017**, 6, 27-34	6.6	26
51	Topological rearrangements and stress fluctuations in quasi-two-dimensional hopper flow of emulsions. *Soft Matter*, **2012**, 8, 10486	3.6	26
50	Influence of confinement on dynamical heterogeneities in dense colloidal samples. *Physical Review E*, **2012**, 85, 041401	2.4	26
49	Glass transition of two-dimensional binary soft-disk mixtures with large size ratios. *Physical Review E*, **2010**, 82, 041402	2.4	25
48	Experimental studies of the flow of concentrated hard sphere suspensions into a constriction. *Journal of Physics: Conference Series*, **2006**, 40, 124-132	0.3	23
47	Structure and dynamics of biphasic colloidal mixtures. *Physical Review E*, **2008**, 77, 060403	2.4	22
46	Evolving artificial neural networks to control chaotic systems. *Physical Review E*, **1997**, 56, 1531-1540	2.4	20
45	Immersion of charged nanoparticles in a salt solution/air interface. *Journal of Physical Chemistry B*, **2008**, 112, 9565-7	3.4	20
44	The role of deformability in determining the structural and mechanical properties of bubbles and emulsions. *Soft Matter*, **2019**, 15, 5854-5865	3.6	17
43	Observation of anomalous diffusion and L□y flights **1995**, 51-71		17
42	Predicting the size of droplets produced through Laplace pressure induced snap-off. *Soft Matter*, **2016**, 12, 7398-404	3.6	16

41	Measuring the size of individual particles from three-dimensional imaging experiments. *Nature Communications*, **2012**, 3, 1127	17.4	16
40	Flow fields in soap films: Relating viscosity and film thickness. *Physical Review E*, **2009**, 80, 026309	2.4	15
39	Electric field line diagrams don□t work. *American Journal of Physics*, **1996**, 64, 714-724	0.7	15
38	Decoupling of translational and rotational diffusion in quasi-2D colloidal fluids. *Journal of Chemical Physics*, **2017**, 147, 134502	3.9	14
37	Experimental observation of local rearrangements in dense quasi-two-dimensional emulsion flow. *Physical Review E*, **2015**, 91, 062306	2.4	14
36	Cooperative behavior of biased probes in crowded interacting systems. *Soft Matter*, **2017**, 13, 7617-7624	3.6	12
35	Local elastic response measured near the colloidal glass transition. *Journal of Chemical Physics*, **2013**, 138, 12A520	3.9	12
34	Local influence of boundary conditions on a confined supercooled colloidal liquid. *European Physical Journal: Special Topics*, **2010**, 189, 83-93	2.3	12
33	Affine and nonaffine motions in sheared polydisperse emulsions. *Physical Review E*, **2015**, 91, 010301	2.4	11
32	Free-energy landscape for cage breaking of three hard disks. *Physical Review E*, **2012**, 85, 031504	2.4	10
31	Glassy dynamics and dynamical heterogeneity in colloids **2011**, 110-151		9
30	Multiplexed, Tethered Particle Microscopy for Studies of DNA-Enzyme Dynamics. *Methods in Enzymology*, **2017**, 582, 415-435	1.7	8
29	Tracking the Brownian diffusion of a colloidal tetrahedral cluster. *Chaos*, **2011**, 21, 041103	3.3	7
28	Random packing of rods in small containers. *Granular Matter*, **2019**, 21, 1	2.6	6
27	Energy barriers, entropy barriers, and non-Arrhenius behavior in a minimal glassy model. *Physical Review E*, **2016**, 93, 062613	2.4	6
26	Invariance of Structure in an Aging Colloidal Glass. *AIP Conference Proceedings*, **2006**,	0	6
25	Rearrangement of two dimensional aggregates of droplets under compression: Signatures of the energy landscape from crystal to glass. *Physical Review Research*, **2020**, 2,	3.9	6
24	Measuring and overcoming limits of the Saffman-Delbr□k model for soap film viscosities. *PLoS ONE*, **2015**, 10, e0121981	3.7	6

23	Snap-off production of monodisperse droplets. *European Physical Journal E*, **2015**, 38, 138	1.5	5
22	Model-free 3D localization with precision estimates for brightfield-imaged particles. *Optics Express*, **2019**, 27, 29875-29895	3.3	5
21	Spatiotemporal intermittency and localized dynamic fluctuations upon approaching the glass transition. *Physical Review E*, **2018**, 97, 060601	2.4	5
20	Aging near rough and smooth boundaries in colloidal glasses. *Journal of Chemical Physics*, **2017**, 147, 224505	3.9	4
19	Slow dynamics in cylindrically confined colloidal suspensions **2013**,		4
18	Inducing a Curl with a Stretch. *Physics Magazine*, **2011**, 4,	1.1	4
17	Effect of Topographical Steps on the Surface Motility of the Bacterium. *ACS Biomaterials Science and Engineering*, **2019**, 5, 6436-6445	5.5	3
16	Complex dynamics of three interacting spheres in a rotating drum. *Physics of Fluids*, **2010**, 22, 033305	4.4	3
15	From particles to spins: Eulerian formulation of supercooled liquids and glasses. *Proceedings of the National Academy of Sciences of the United States of America*, **2008**, 105, 15263-8	11.5	3
14	Soft particle clogging in two-dimensional hoppers. *Physical Review E*, **2021**, 104, 044909	2.4	3
13	Brownian motion of ellipsoidal particles on a granular magnetic bath. *Physical Review E*, **2020**, 102, 022902	2.4	3
12	Materials science. Melting colloidal crystals from the inside out. *Science*, **2012**, 338, 55-6	33.3	2
11	Microscopy of soft materials1-24		2
10	Squishy Materials. *Physics Teacher*, **2006**, 44, 276-279	0.4	2
9	Confocal Microscopy **2008**, 705-714		2
8	Visualizing free-energy landscapes for four hard disks. *Physical Review E*, **2020**, 102, 062153	2.4	2
7	Supramolecular DNA Photonic Hydrogels for On-Demand Control of Coloration with High Spatial and Temporal Resolution. *Nano Letters*, **2021**, 21, 9958-9965	11.5	1
6	Isomorph invariance of dynamics of sheared glassy systems. *Physical Review E*, **2019**, 100, 053005	2.4	1

5	Rheology finds distinct glass and jamming transitions in emulsions. *Soft Matter*, **2021**, 17, 2587-2595	3.6	1
4	Clogging and avalanches in quasi-two-dimensional emulsion hopper flow.. *Physical Review E*, **2022**, 105, 014603	2.4	0
3	Direct observation of crystal nucleation and growth in a quasi-two-dimensional nonvibrating granular system. *Physical Review E*, **2021**, 104, 044904	2.4	0
2	Mechanical properties of 2D aggregates of oil droplets as model mono-crystals. *Soft Matter*, **2021**, 17, 1194-1201	3.6	0
1	Neglecting polydispersity degrades propensity measurements in supercooled liquids. *European Physical Journal E*, **2021**, 44, 65	1.5	