Eric Clement

List of Publications by Year
in descending order

79 papers	4,471 citations	109264 35 h-index	98753 67 g-index
80 all docs	80 docs citations	80 times ranked	2622 citing authors

#	Article	IF	Citations
1	Turning Bacteria Suspensions into Superfluids. Physical Review Letters, 2015, 115, 028301.	2.9	249
2	Memories in sand: Experimental tests of construction history on stress distributions under sandpiles. Physical Review E, 1999, 60, R5040-R5043.	0.8	237
3	Clogging transition of many-particle systems flowing through bottlenecks. Scientific Reports, 2014, 4, 7324.	1.6	237
4	Arching effect model for particle size segregation. Physical Review Letters, 1993, 70, 2431-2434.	2.9	220
5	Studies of columns of beads under external vibrations. Physical Review E, 1994, 49, 1634-1646.	0.8	197
6	Experimental study of heaping in a two-dimensional â€˜â€˜sand pileâ€™â€™. Physical Review Letters, 1992, 69, 1189-1192.	2.9	187
7	Nonlocal Rheology of Granular Flows across Yield Conditions. Physical Review Letters, 2013, 111, 238301.	2.9	181
8	Enhanced Diffusion due to Active Swimmers at a Solid Surface. Physical Review Letters, 2011, 106, 048102.	2.9	178
9	Fluidization of a Bidimensional Powder. Europhysics Letters, 1991, 16, 133-138.	0.7	148
10	Non-Newtonian Viscosity ofEscherichia coliSuspensions. Physical Review Letters, 2013, 110, 268103.	2.9	145
11	Greenâ€™s function measurements of force transmission in 2D granular materials. Physica D: Nonlinear Phenomena, 2003, 182, 274-303.	1.3	144
12	Anomalous energy dissipation in molecular-dynamics simulations of grains: The â€˜â€˜detachmentâ€™â€™ effect. Physical Review E, 1994, 50, 4113-4122.	0.8	124
13	Mixing of a Granular Material in a Bidimensional Rotating Drum. Europhysics Letters, 1995, 30, 7-12.	0.7	122
14	Simulations of pattern formation in vibrated granular media. Europhysics Letters, 1996, 36, 247-252.	0.7	122
15	Stresses in Silos: Comparison Between Theoretical Models and New Experiments. Physical Review Letters, 2000, 84, 1439-1442.	2.9	119
16	Pattern formation in a vibrated two-dimensional granular layer. Physical Review E, 1996, 53, 2972-2975.	0.8	117
17	Non-local rheology in dense granular flows. European Physical Journal E, 2015, 38, 125.	0.7	112
18	Size segregation in a two-dimensional sandpile: Convection and arching effects. Physical Review E, 1994, 50, 5138-5141.	0.8	98

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19	Hot Spots in an Athermal System. Physical Review Letters, 2012, 108, 135502.	2.9	83
20	Green's Function Probe of a Static Granular Piling. Physical Review Letters, 2001, 86, 3308-3311.	2.9	81
21	Source-term and excluded-volume effects on the diffusion-controlled A+Bâ†'0 reaction in one dimension: Rate laws and particle distributions. Physical Review A, 1989, 39, 6455-6465.	1.0	80
22	Creep and Fluidity of a Real Granular Packing near Jamming. Physical Review Letters, 2011, 107, 138303.	2.9	74
23	Oscillatory surface rheotaxis of swimming E. coli bacteria. Nature Communications, 2019, 10, 3434.	5.8	73
24	Accelerated drop detachment in granular suspensions. Physics of Fluids, 2012, 24, .	1.6	66
25	Living on the edge: transfer and traffic of E. coli in a confined flow. Soft Matter, 2015, 11, 6284-6293.	1.2	59
26	Steady-state diffusion-controlled A+Aâ†'0 reaction in Euclidean and fractal dimensions: Rate laws and particle self-ordering. Physical Review A, 1989, 39, 6472-6477.	1.0	54
27	Reorganization of a dense granular assembly: The unjamming response function. Physical Review E, 2004, 69, 031306.	0.8	46
28	Steady-state diffusion-controlled A+Bâ†'0 reactions in two and three dimensions: Rate laws and particle distributions. Physical Review A, 1989, 39, 6466-6471.	1.0	43
29	Nonlocal rheological properties of granular flows near a jamming limit. Physical Review E, 2008, 78, 031303.	0.8	42
30	A combined rheometry and imaging study of viscosity reduction in bacterial suspensions. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 2326-2331.	3.3	42
31	Trigger waves in a model for catalysis. Physical Review E, 1995, 52, 5904-5909.	0.8	41
32	Magnetotactic bacteria in a droplet self-assemble into a rotary motor. Nature Communications, 2019, 10, 5082.	5.8	41
33	Transverse instability of avalanches in granular flows down an incline. Physical Review E, 2006, 73, 050302.	0.8	39
34	Decompaction modes of a two-dimensional â€˜â€˜sandpileâ€™â€™ under vibration: Model and experiments. Physical Review E, 1994, 50, 3092-3099.	0.8	36
35	A two-sphere model for bacteria swimming near solid surfaces. Physics of Fluids, 2012, 24, .	1.6	36
36	Particles accelerate the detachment of viscous liquids. Rheologica Acta, 2013, 52, 403-412.	1.1	35

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37	Erosion patterns in a sediment layer. Physical Review E, 2003, 67, 065201.	0.8	34
38	Rheology of a confined granular material. Physical Review E, 2001, 64, 060302.	0.8	31
39	Chirality-induced bacterial rheotaxis in bulk shear flows. Science Advances, 2020, 6, eabb2012.	4.7	31
40	Rheology of granular flows across the transition from soft to rigid particles. Physical Review Fluids, 2017, 2, .	1.0	30
41	Effect of motility on the transport of bacteria populations through a porous medium. Physical Review Fluids, 2019, 4, .	1.0	30
42	Swimming bacteria in Poiseuille flow: The quest for active Bretherton-Jeffery trajectories. Europhysics Letters, 2019, 126, 44003.	0.7	29
43	E. coli â€œsuper-contaminatesâ€•narrow ducts fostered by broad run-time distribution. Science Advances, 2020, 6, eaay0155.	4.7	29
44	Mesoscopic Length Scale Controls the Rheology of Dense Suspensions. Physical Review Letters, 2010, 105, 108302.	2.9	28
45	Bacterial suspensions under flow. European Physical Journal: Special Topics, 2016, 225, 2389-2406.	1.2	26
46	Rheology of granular media. Current Opinion in Colloid and Interface Science, 1999, 4, 294-299.	3.4	25
47	Stochastic Aspects of the Force Network in a Regular Granular Piling. Journal De Physique, I, 1997, 7, 1541-1558.	1.2	24
48	<i>E coli</i> Accumulation behind an Obstacle. Advances in Microbiology, 2018, 08, 451-464.	0.3	21
49	Spreading of a granular droplet. Physical Review E, 2007, 76, 060301.	0.8	18
50	Microrheology to probe non-local effects in dense granular flows. Europhysics Letters, 2015, 109, 24002.	0.7	17
51	Stripe formation in horizontally oscillating granular suspensions. Europhysics Letters, 2014, 107, 34006.	0.7	16
52	Athermal analogue of sheared dense Brownian suspensions. Europhysics Letters, 2015, 111, 18001.	0.7	16
53	Mechanical fluctuations suppress the threshold of soft-glassy solids: The secular drift scenario. Physical Review E, 2015, 92, 020201.	0.8	15
54	Anomalous Steady-State Properties of Long-Range A + A .fwdarw. 0 Reactions. The Journal of Physical Chemistry, 1994, 98, 7390-7394.	2.9	14

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55	3D Spatial Exploration by E. coli Echoes Motor Temporal Variability. Physical Review X, 2020, 10, .	2.8	14
56	Patterns of fragmentation for polymer coatings. Journal of Macromolecular Science - Physics, 1999, 38, 971-980.	0.4	13
57	Run-to-Tumble Variability Controls the Surface Residence Times of E. coli Bacteria. Physical Review Letters, 2022, 128, .	2.9	12
58	Catalysis on a fractal lattice: A model for poisoning. Physical Review E, 1994, 49, 4857-4864.	0.8	10
59	The stress response function in granular materials. Comptes Rendus Physique, 2002, 3, 141-151.	0.3	10
60	Active dry granular flows: Rheology and rigidity transitions. Europhysics Letters, 2016, 116, 14001.	0.7	10
61	Erosive granular avalanches: a cross confrontation between theory and experiment. Granular Matter, 2007, 10, 3-11.	1.1	9
62	Actuated rheology of magnetic micro-swimmers suspensions: Emergence of motor and brake states. Physical Review Fluids, 2018, 3, .	1.0	9
63	Statistical Models for Surface Catalysis: Evidence for Anomalous Reaction Rates. The Journal of Physical Chemistry, 1994, 98, 7274-7277.	2.9	8
64	Pattern Formation in a Vibrated Granular Layer. Lecture Notes in Physics, 2001, , 233-243.	0.3	6
65	Generalized monomer-monomer model for catalysis. Physical Review E, 1995, 52, 5997-6005.	0.8	5
66	A Multi-Agent Based Simulation of Sand Piles in a Static Equilibrium. Lecture Notes in Computer Science, 2000, , 108-118.	1.0	5
67	Confined suspension jet and long-range hydrodynamic interactions: A destabilization scenario. Physics of Fluids, 2006, 18, 083301.	1.6	4
68	Non-local rheology of dense granular flows. EPJ Web of Conferences, 2017, 140, 11013.	0.1	3
69	Single-trajectory characterization of active swimmers in a flow. Physical Review E, 2021, 103, 032608.	0.8	3
70	Science in the Sandbox: Fluctuations, Friction and Instabilities. Lecture Notes in Physics, 2001, , 351-391.	0.3	3
71	Local dynamics and synchronization in a granular glass. Granular Matter, 2012, 14, 239-245.	1.1	2
72	Free surface instability in a confined suspension jet. Physica A: Statistical Mechanics and Its Applications, 2005, 356, 196-201.	1.2	1

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73	Exact Dynamics in a Model of the Bimolecular Reaction A+Bâ†' 0. Materials Research Society Symposia Proceedings, 1992, 290, 345.	0.1	0
74	Wavelength Selection in a Vibrated Granular Layer. Materials Research Society Symposia Proceedings, 2000, 627, 1.	0.1	0
75	Rheology of a granular column. Materials Research Society Symposia Proceedings, 2000, 627, 1.	0.1	0
76	Mechanical response of a static granular piling. Materials Research Society Symposia Proceedings, 2000, 627, 1.	0.1	0
77	Surface wave acoustics of granular packing under gravity. , 2009, , .		0
78	Bimolecular Diffusion-Limited Reaction Kinetics at Steady-State. NATO ASI Series Series B: Physics, 1991, , 431-436.	0.2	0
79	Relaxation processes after instantaneous shear rate reversal in a dense granular flow. EPJ Web of Conferences, 2017, 140, 03010.	0.1	0