Joel Koplik

List of Publications by Year in Descending Order

120 papers	8,432 citations	42 h-index	91 g-index
126 ext. papers	9,006 ext. citations	4.6 avg, IF	5.74 L-index

#	Paper	IF	Citations
120	Surfactant and dilatational viscosity effects on the deformation of liquid droplets in an electric field. *Journal of Colloid and Interface Science*, **2022**, 607, 900-911	9.3	0
119	Pairwise hydrodynamic interactions of spherical colloids at a gas-liquid interface. *Journal of Fluid Mechanics*, **2021**, 915,	3.7	2
118	Film deposition and dynamics of a self-propelled wetting droplet on a conical fibre. *Journal of Fluid Mechanics*, **2021**, 907,	3.7	2
117	Glassy dynamics and equilibrium state on the honeycomb lattice: Role of surface diffusion and desorption on surface crowding. *Physical Review E*, **2021**, 103, 022801	2.4	4
116	Adsorption kinetics and thermodynamic properties of a binary mixture of hard-core particles on a square lattice. *Journal of Chemical Physics*, **2021**, 154, 074705	3.9	2
115	Liquid-hexatic-solid phase transition of a hard-core lattice gas with third neighbor exclusion. *Journal of Chemical Physics*, **2019**, 151, 104702	3.9	17
114	Frictional force on sliding drops. *Physical Review Fluids*, **2019**, 4,	2.8	1
113	Molecular dynamics study of the translation and rotation of amphiphilic Janus nanoparticles at a vapor-liquid surface. *Physical Review Fluids*, **2019**, 4,	2.8	10
112	Self-propelled colloidal particle near a planar wall: A Brownian dynamics study. *Physical Review Fluids*, **2018**, 3,	2.8	20
111	The Translational and Rotational Dynamics of a Colloid Moving Along the Air-Liquid Interface of a Thin Film. *Scientific Reports*, **2018**, 8, 8910	4.9	6
110	Extracting the equation of state of lattice gases from random sequential adsorption simulations by means of the Gibbs adsorption isotherm. *Physical Review E*, **2017**, 96, 052803	2.4	33
109	Diffusivity and hydrodynamic drag of nanoparticles at a vapor-liquid interface. *Physical Review Fluids*, **2017**, 2,	2.8	19
108	Self-diffusiophoretic colloidal propulsion near a solid boundary. *Physics of Fluids*, **2016**, 28, 053107	4.4	83
107	Molecular dynamics simulations: insight into molecular phenomena at interfaces. *Langmuir*, **2014**, 30, 11272-83	4	34
106	Channeling and stress during fluid and suspension flow in self-affine fractures. *Physical Review E*, **2014**, 89, 023010	2.4	2
105	Nanoparticles at liquid interfaces: rotational dynamics and angular locking. *Journal of Chemical Physics*, **2014**, 140, 014904	3.9	20
104	Multiscale liquid drop impact on wettable and textured surfaces. *Physics of Fluids*, **2014**, 26, 082003	4.4	28

103	Velocity slip on curved surfaces. *Physical Review E*, **2014**, 89, 023005	2.4	18
102	Colloidal adsorption at fluid interfaces: regime crossover from fast relaxation to physical aging. *Physical Review Letters*, **2013**, 111, 028302	7.4	53
101	Molecular dynamics simulation of the motion of colloidal nanoparticles in a solute concentration gradient and a comparison to the continuum limit. *Physical Review Letters*, **2013**, 111, 184501	7.4	17
100	The effect of capillary bridging on the Janus particle stability at the interface of two immiscible liquids. *Soft Matter*, **2013**, 9, 4585	3.6	24
99	Diffusiophoretic self-propulsion of colloids driven by a surface reaction: The sub-micron particle regime for exponential and van der Waals interactions. *Physics of Fluids*, **2013**, 25, 012001	4.4	54
98	Micro- and nanoscale fluid flow on chemical channels. *Soft Matter*, **2012**, 8, 9221	3.6	11
97	Suspension flow and sedimentation in self-affine fractures. *Physics of Fluids*, **2012**, 24, 053303	4.4	5
96	Nanoscale simulations of directional locking. *Physics of Fluids*, **2010**, 22, 052005	4.4	31
95	Field-induced alignment of flexible polyelectrolytes in solution. *Physical Review Letters*, **2010**, 104, 218303	7.4	2
94	Multiscale molecular simulations of argon vapor condensation onto a cooled substrate with bulk flow. *Physics of Fluids*, **2010**, 22, 112002	4.4	9
93	Atomistic simulations of the wetting behavior of nanodroplets of water on homogeneous and phase separated self-assembled monolayers. *Soft Matter*, **2010**, 6, 1297	3.6	19
92	Atomistic hybrid DSMC/NEMD method for nonequilibrium multiscale simulations. *Journal of Computational Physics*, **2010**, 229, 1381-1400	4.1	24
91	Molecular dynamics simulation of the equilibrium liquid□vapor interphase with solidification. *Fluid Phase Equilibria*, **2010**, 297, 77-89	2.5	23
90	Wetting of hydrophobic substrates by nanodroplets of aqueous trisiloxane and alkyl polyethoxylate surfactant solutions. *Chemical Engineering Science*, **2009**, 64, 4657-4667	4.4	37
89	A molecular dynamics study of the motion of a nanodroplet of pure liquid on a wetting gradient. *Journal of Chemical Physics*, **2008**, 129, 164708	3.9	35
88	Dynamical clustering of counterions on flexible polyelectrolytes. *Physical Review Letters*, **2008**, 100, 128301	7.4	36
87	Hydrodynamic interaction of two particles in confined linear shear flow at finite Reynolds number. *Physics of Fluids*, **2007**, 19, 113305	4.4	43
86	Shear flow pumping in open micro- and nanofluidic systems. *Physical Review Letters*, **2007**, 98, 224504	7.4	21

85	Flow channeling in a single fracture induced by shear displacement. *Geothermics*, **2006**, 35, 576-588	4.3	75
84	Nanoscale fluid flows in the vicinity of patterned surfaces. *Physical Review Letters*, **2006**, 96, 114502	7.4	41
83	Slip, immiscibility, and boundary conditions at the liquid-liquid interface. *Physical Review Letters*, **2006**, 96, 044505	7.4	42
82	Molecular dynamics study of the influence of surfactant structure on surfactant-facilitated spreading of droplets on solid surfaces. *Langmuir*, **2005**, 21, 12160-70	4	40
81	Molecular dynamics (MD) simulation on the collision of a nano-sized particle onto another nano-sized particle adhered on a flat substrate. *Journal of Aerosol Science*, **2005**, 36, 1427-1443	4.3	20
80	Microstructure and velocity fluctuations in sheared suspensions. *Journal of Fluid Mechanics*, **2004**, 511, 237-263	3.7	34
79	MOLECULAR DYNAMICS SIMULATIONS OF NON-NEWTONIAN EXTENSIONAL FLUID FLOWS. *International Journal of Modern Physics B*, **2003**, 17, 27-32	1.1	1
78	Molecular dynamics simulation of liquid bridge extensional flows. *Journal of Non-Newtonian Fluid Mechanics*, **2003**, 109, 51-89	2.7	13
77	Extensional rupture of model non-Newtonian fluid filaments. *Physical Review E*, **2003**, 67, 011502	2.4	7
76	Adsorption phenomena in the transport of a colloidal particle through a nanochannel containing a partially wetting fluid. *Physical Review Letters*, **2002**, 89, 244501	7.4	34
75	Dynamics of nanoscale droplets. *Physical Review E*, **2002**, 65, 021504	2.4	15
74	Deterministic and stochastic behaviour of non-Brownian spheres in sheared suspensions. *Journal of Fluid Mechanics*, **2002**, 460, 307-335	3.7	92
73	MOLECULAR ASPECTS OF CONTACT-LINE DYNAMICS **2002**, 89-103		
72	Network model for deep bed filtration. *Physics of Fluids*, **2001**, 13, 1076-1086	4.4	39
71	Boundary conditions at a fluid-solid interface. *Physical Review Letters*, **2001**, 86, 803-6	7.4	267
70	The Tracer Transit-Time Tail in Multipole Reservoir Flows. *Transport in Porous Media*, **2001**, 42, 199-209	3.1	4
69	Molecular dynamics of flows in the Knudsen regime. *Physica A: Statistical Mechanics and Its Applications*, **2000**, 287, 153-160	3.3	43
68	Molecular simulations of dewetting. *Physical Review Letters*, **2000**, 84, 4401-4	7.4	61

67	Permeability of self-affine rough fractures. *Physical Review E*, **2000**, 62, 8076-85	2.4	37
66	Koplik and Banavar Reply:. *Physical Review Letters*, **1999**, 82, 1334-1334	7.4	3
65	Depletion forces in hard-sphere colloids. *Physical Review E*, **1999**, 59, R1339-R1342	2.4	14
64	Applications of statistical mechanics in subcontinuum fluid dynamics. *Physica A: Statistical Mechanics and Its Applications*, **1999**, 274, 281-293	3.3	39
63	Absence of many-body effects in interactions between charged colloidal particles. *Physical Review E*, **1999**, 59, R1335-R1338	2.4	24
62	Microscopic motion of particles flowing through a porous medium. *Physics of Fluids*, **1999**, 11, 76-87	4.4	11
61	Thermal walls in computer simulations. *Physical Review E*, **1998**, 57, R17-R20	2.4	81
60	Numerical study of geometrical dispersion in self-affine rough fractures. *Physical Review E*, **1998**, 58, 3334-3346	2.4	20
59	Nonlinear flow in porous media. *Physical Review E*, **1998**, 58, 4776-4782	2.4	55
58	No-Slip Condition for a Mixture of Two Liquids. *Physical Review Letters*, **1998**, 80, 5125-5128	7.4	37
57	Impurity solvation in a liquid. *Journal of Chemical Physics*, **1998**, 108, 2104-2110	3.9	
56	Physics of Fluids at Low Reynolds NumbersÅ molecular Approach. *Computers in Physics*, **1998**, 12, 424		16
55	Tracer dispersion in three-dimensional multipole flows. *Physical Review E*, **1997**, 56, 4244-4258	2.4	5
54	Molecular Simulation of Reentrant Corner Flow. *Physical Review Letters*, **1997**, 78, 2116-2119	7.4	4
53	Wetting Hysteresis at the Molecular Scale. *Physical Review Letters*, **1997**, 78, 1520-1523	7.4	29
52	Adhesion of solids. *Physical Review E*, **1997**, 56, 2626-2634	2.4	29
51	Simple model for deep bed filtration. *Physical Review E*, **1996**, 54, 4011-4020	2.4	14
50	Suppression of coalescence by shear and temperature gradients. *Physics of Fluids*, **1996**, 8, 15-28	4.4	82

49	Stokes drag and lubrication flows: A molecular dynamics study. *Physical Review E*, **1996**, 53, 4852-4864	2.4	36
48	Interfacial roughening induced by phase separation. *Physical Review Letters*, **1996**, 76, 1106-1109	7.4	33
47	Terraced spreading mechanisms for chain molecules. *Physical Review E*, **1996**, 53, 562-569	2.4	51
46	Scattering of superfluid vortex rings. *Physical Review Letters*, **1996**, 76, 4745-4748	7.4	45
45	Variational bounds for first-passage-time problems in stratified porous media. *Physical Review E*, **1995**, 52, 2718-2726	2.4	2
44	Stokes drag at the molecular level. *Physical Review Letters*, **1995**, 75, 232-235	7.4	23
43	Terraced spreading of chain molecules via molecular dynamics. *Physical Review Letters*, **1995**, 74, 928-931	7.4	91
42	Molecular-dynamics studies of systems of confined dumbbell molecules. *Physical Review E*, **1995**, 51, 441-453	2.4	13
41	First passage time in a two-layer system. *Journal of Statistical Physics*, **1995**, 79, 895-922	1.5	2
40	Path-integral variational methods for flow through porous media. *Physical Review E*, **1994**, 49, 1353-1366	2.4	5
39	Dynamics of rough surfaces with an arbitrary topology. *Physical Review E*, **1994**, 49, R937-R940	2.4	5
38	Molecular dynamics of interface rupture. *Physics of Fluids A, Fluid Dynamics*, **1993**, 5, 521-536		49
37	Vortex reconnection in superfluid helium. *Physical Review Letters*, **1993**, 71, 1375-1378	7.4	220
36	Molecular dynamics of phase separation in narrow channels. *Physical Review E*, **1993**, 47, R2265-R2268	2.4	23
35	Dynamical relaxation of the surface tension of miscible phases. *Physical Review Letters*, **1993**, 71, 3465-3468	7.4	17
34	Composition waves in confined geometries. *Physical Review E*, **1993**, 48, R2362-R2365	2.4	12
33	Freezing in confined geometries. *Applied Physics Letters*, **1992**, 61, 777-779	3.4	77
32	Dynamics of phase separation of binary fluids. *Physical Review A*, **1992**, 45, R5347-R5350	2.6	62

31	A molecular dynamics study of freezing in a confined geometry. *Journal of Chemical Physics*, **1992**, 97, 485-493	3.9	54
30	Terraced spreading of simple liquids on solid surfaces. *Physical Review A*, **1992**, 46, 7738-7749	2.6	66
29	Dynamics of growing interfaces. *Physical Review Letters*, **1992**, 69, 3193-3195	7.4	36
28	Superdiffusion transport in stratified porous media. *Physics of Fluids A, Fluid Dynamics*, **1991**, 3, 1469-1469		
27	Molecular dynamics of drop spreading on a solid surface. *Physical Review Letters*, **1991**, 67, 3539-3542	7.4	89
26	Molecular dynamics of fluid flow at solid surfaces. *Physics of Fluids A, Fluid Dynamics*, **1989**, 1, 781-794		343
25	Pattern selection in fingered growth phenomena. *Advances in Physics*, **1988**, 37, 255-339	18.4	831
24	Molecular dynamics of Poiseuille flow and moving contact lines. *Physical Review Letters*, **1988**, 60, 1282-1285	7.4	286
23	Theory of dynamic permeability and tortuosity in fluid-saturated porous media. *Journal of Fluid Mechanics*, **1987**, 176, 379	3.7	1443
22	New pore-size parameter characterizing transport in porous media. *Physical Review Letters*, **1986**, 57, 2564-2567	7.4	358
21	Steady-state dendritic crystal growth. *Physical Review A*, **1986**, 33, 3352-3357	2.6	111
20	Dendritic growth in a channel. *Physical Review A*, **1986**, 34, 4980-4987	2.6	77
19	Hydrodynamic dispersion in network models of porous media. *Physical Review Letters*, **1986**, 57, 996-999	7.4	93
18	Immiscible fluid displacement in small networks. *Journal of Colloid and Interface Science*, **1985**, 108, 304-330	3.5	42
17	Geometrical models of interface evolution. III. Theory of dendritic growth. *Physical Review A*, **1985**, 31, 1712-1717	2.6	105
16	Interface moving through a random background. *Physical Review B*, **1985**, 32, 280-292	3.3	104
15	Geometrical models of interface evolution. II. Numerical simulation. *Physical Review A*, **1984**, 30, 3161-3174	2.6	122
14	Numerical simulation of two-dimensional snowflake growth. *Physical Review A*, **1984**, 30, 2820-2823	2.6	77

13	Simple models of interface growth. *Physica D: Nonlinear Phenomena*, **1984**, 12, 241-244	3.3	2
12	Geometrical models of interface evolution. *Physical Review A*, **1984**, 29, 1335-1342	2.6	223
11	Conductivity and permeability of rocks. *Physical Review B*, **1984**, 30, 6606-6614	3.3	259
10	Steady-state dendritic growth at non-zero capillarity. *Scripta Metallurgica*, **1984**, 18, 463-466		5
9	Geometrical Approach to Moving-Interface Dynamics. *Physical Review Letters*, **1983**, 51, 1111-1114	7.4	178
8	Resistance of Random Walks. *Physical Review Letters*, **1983**, 51, 1115-1118	7.4	26
7	Viscosity renormalization in the Brinkman equation. *Physics of Fluids*, **1983**, 26, 2864		127
6	Creeping flow in two-dimensional networks. *Journal of Fluid Mechanics*, **1982**, 119, 219-247	3.7	127
5	Capillary displacement and percolation in porous media. *Journal of Fluid Mechanics*, **1982**, 119, 249-267	3.7	392
4	Energy scales and diffraction scattering. *Physical Review D*, **1975**, 12, 785-791	4.9	8
3	Multiperipheral model of direct muon production. *Physical Review D*, **1975**, 11, 3134-3144	4.9	4
2	Comment on Positive Regge-Cut Discontinuities. *Physical Review D*, **1973**, 7, 558-560	4.9	3
1	Multiperipheral Model of Meson and Baryon Multiplicities. *Physical Review D*, **1973**, 7, 3317-3323	4.9	2