Lou Kondic

List of Publications by Year
in descending order

155 papers	3,780 citations	117625 34 h-index	155660 55 g-index
157 all docs	157 docs citations	157 times ranked	2409 citing authors

#	Article	IF	Citations
1	Particle Scale Dynamics in Granular Impact. Physical Review Letters, 2012, 109, 238302.	7.8	146
2	Self-Assembly versus Directed Assembly of Nanoparticles via Pulsed Laser Induced Dewetting of Patterned Metal Films. Nano Letters, 2011, 11, 2478-2485.	9.1	144
3	Non-Newtonian Hele-Shaw Flow and the Saffman-Taylor Instability. Physical Review Letters, 1998, 80, 1433-1436.	7.8	134
4	Computing Three-Dimensional Thin Film Flows Including Contact Lines. Journal of Computational Physics, 2002, 183, 274-306.	3.8	98
5	On evaporation of sessile drops with moving contact lines. Journal of Fluid Mechanics, 2011, 679, 219-246.	3.4	95
6	Instabilities in Gravity Driven Flow of Thin Fluid Films. SIAM Review, 2003, 45, 95-115.	9.5	90
7	Global models for moving contact lines. Physical Review E, 2000, 63, 011208.	2.1	88
8	Pattern formation in the flow of thin films down an incline: Constant flux configuration. Physics of Fluids, 2001, 13, 3168-3184.	4.0	88
9	Models of non-Newtonian Hele-Shaw flow. Physical Review E, 1996, 54, R4536-R4539.	2.1	86
10	Nonlinear Force Propagation During Granular Impact. Physical Review Letters, 2015, 114, 144502.	7.8	85
11	Persistence of force networks in compressed granular media. Physical Review E, 2013, 87, 042207.	2.1	80
12	Nanoparticle assembly via the dewetting of patterned thin metal lines: Understanding the instability mechanisms. Physical Review E, 2009, 79, 026302.	2.1	79
13	Pattern formation in non-Newtonian Heleâ€"Shaw flow. Physics of Fluids, 2001, 13, 1191-1212.	4.0	77
14	On the breakup of fluid films of finite and infinite extent. Physics of Fluids, 2007, 19, .	4.0	74
15	Topology of force networks in compressed granular media. Europhysics Letters, 2012, 97, 54001.	2.0	73
16	On the Breakup of Patterned Nanoscale Copper Rings into Droplets via Pulsed-Laser-Induced Dewetting: Competing Liquid-Phase Instability and Transport Mechanisms. Langmuir, 2010, 26, 11972-11979.	3.5	71
17	Predictability and granular materials. Physica D: Nonlinear Phenomena, 1999, 133, 1-17.	2.8	69
18	Contact Line Instabilities of Thin Liquid Films. Physical Review Letters, 2001, 86, 632-635.	7.8	69

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19	Theoretical studies of sonoluminescence radiation: Radiative transfer and parametric dependence. Physical Review E, 1995, 52, 4976-4990.	2.1	65
20	Dynamics of spherical particles on a surface: Collision-induced sliding and other effects. Physical Review E, 1999, 60, 751-770.	2.1	63
21	Microstructure evolution during impact on granular matter. Physical Review E, 2012, 85, 011305.	2.1	63
22	On the breakup of fluid rivulets. Physics of Fluids, 2009, 21, .	4.0	62
23	Granular friction, Coulomb failure, and the fluid-solid transition for horizontally shaken granular materials. Physical Review E, 2002, 65, 031302.	2.1	51
24	Quantifying force networks in particulate systems. Physica D: Nonlinear Phenomena, 2014, 283, 37-55.	2.8	48
25	Competing Liquid Phase Instabilities during Pulsed Laser Induced Self-Assembly of Copper Rings into Ordered Nanoparticle Arrays on SiO₂. Langmuir, 2011, 27, 13314-13323.	3.5	47
26	Thin films flowing down inverted substrates: Three-dimensional flow. Physics of Fluids, 2012, 24, 022105.	4.0	46
27	Dynamic Structure Formation at the Fronts of Volatile Liquid Drops. Physical Review Letters, 2006, 97, 186101.	7.8	42
28	Liquid-State Dewetting of Pulsed-Laser-Heated Nanoscale Metal Films and Other Geometries. Annual Review of Fluid Mechanics, 2020, 52, 235-262.	25.0	42
29	Onset of flow in a horizontally vibrated granular bed: Convection by horizontal shearing. Europhysics Letters, 1999, 45, 470-475.	2.0	41
30	Thin films flowing down inverted substrates: Two dimensional flow. Physics of Fluids, 2010, 22, .	4.0	40
31	Hierarchical Nanoparticle Ensembles Synthesized by Liquid Phase Directed Self-Assembly. Nano Letters, 2014, 14, 774-782.	9.1	40
32	Instability of Liquid Cu Films on a SiO₂ Substrate. Langmuir, 2013, 29, 9378-9387.	3.5	36
33	A volume of fluid method for simulating fluid/fluid interfaces in contact with solid boundaries. Journal of Computational Physics, 2015, 294, 243-257.	3.8	36
34	Simulations of two dimensional hopper flow. Granular Matter, 2014, 16, 235-242.	2.2	35
35	Evolution of force networks in dense particulate media. Physical Review E, 2014, 90, 052203.	2.1	35
36	Directed Liquid Phase Assembly of Highly Ordered Metallic Nanoparticle Arrays. ACS Applied Materials & Interfaces, 2014, 6, 5835-5843.	8.0	35

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37	Modeling evaporation of sessile drops with moving contact lines. Physical Review E, 2008, 78, 065301.	2.1	33
38	Numerical Simulation of Ejected Molten Metal Nanoparticles Liquified by Laser Irradiation: Interplay of Geometry and Dewetting. Physical Review Letters, 2013, 111, 034501.	7.8	33
39	Dense granular flow â€" A collaborative study. Powder Technology, 2015, 284, 571-584.	4.2	32
40	Interaction network analysis in shear thickening suspensions. Physical Review Fluids, 2020, 5, .	2.5	32
41	Flow of thin films on patterned surfaces: Controlling the instability. Physical Review E, 2002, 65, 045301.	2.1	31
42	Ambient pressure and single-bubble sonoluminescence. Physical Review E, 1998, 57, R32-R35.	2.1	30
43	Direct numerical simulation of variable surface tension flows using a Volume-of-Fluid method. Journal of Computational Physics, 2018, 352, 615-636.	3.8	29
44	Ambient Pressure Effect on Single-Bubble Sonoluminescence. Physical Review Letters, 1999, 83, 1870-1873.	7.8	26
45	Velocity Profiles in Repulsive Athermal Systems under Shear. Physical Review Letters, 2005, 94, 016001.	7.8	26
46	Directed Assembly of One- and Two-Dimensional Nanoparticle Arrays from Pulsed Laser Induced Dewetting of Square Waveforms. ACS Applied Materials & Interfaces, 2013, 5, 4450-4456.	8.0	26
47	Structure of force networks in tapped particulate systems of disks and pentagons. I. Clusters and loops. Physical Review E, 2016, 93, 062902.	2.1	26
48	Microstructure evolution in density relaxation by tapping. Physical Review E, 2010, 81, 061301.	2.1	25
49	Competition between Collapse and Breakup in Nanometer-Sized Thin Rings Using Molecular Dynamics and Continuum Modeling. Langmuir, 2012, 28, 13960-13967.	3.5	25
50	Granular response to impact: Topology of the force networks. Physical Review E, 2018, 97, 012906.	2.1	25
51	Steady flow dynamics during granular impact. Physical Review E, 2016, 93, 050901.	2.1	24
52	Segregation by friction. Europhysics Letters, 2003, 61, 742-748.	2.0	23
53	On undercompressive shocks and flooding in countercurrent two-layer flows. Journal of Fluid Mechanics, 2005, 532, 217-242.	3.4	23
54	How Frost Forms and Grows on Lubricated Micro- and Nanostructured Surfaces. ACS Nano, 2021, 15, 4658-4668.	14.6	23

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55	Nonlinear dynamics and transient growth of driven contact lines. Physics of Fluids, 1999, 11, 3560-3562.	4.0	22
56	Elastic energy, fluctuations and temperature for granular materials. Europhysics Letters, 2004, 67, 205-211.	2.0	22
57	Instability of a transverse liquid rivulet on an inclined plane. Physics of Fluids, 2012, 24, .	4.0	22
58	Modelling spreading dynamics of nematic liquid crystals in three spatial dimensions. Journal of Fluid Mechanics, 2013, 729, 214-230.	3.4	22
59	Interfacial instability of thin ferrofluid films under a magnetic field. Journal of Fluid Mechanics, 2014, 755, .	3.4	22
60	Fully nonlinear dynamics of stochastic thin-film dewetting. Physical Review E, 2015, 92, 061002.	2.1	22
61	Spreading of a thin two-dimensional strip of fluid on a vertical plane: Experiments and modeling. Physical Review E, 2004, 70, 026309.	2.1	21
62	Note on the hydrodynamic description of thin nematic films: Strong anchoring model. Physics of Fluids, 2013, 25, .	4.0	21
63	Stability of a liquid ring on a substrate. Journal of Fluid Mechanics, 2013, 718, 246-279.	3.4	19
64	Transitions in Poiseuille flow of nematic liquid crystal. International Journal of Non-Linear Mechanics, 2015, 75, 15-21.	2.6	19
65	Structure of force networks in tapped particulate systems of disks and pentagons. II. Persistence analysis. Physical Review E, 2016, 93, 062903.	2.1	19
66	Comparison of Navier-Stokes simulations with long-wave theory: Study of wetting and dewetting. Physics of Fluids, 2013, 25, 112103.	4.0	18
67	A numerical approach for the direct computation of flows including fluid-solid interaction: Modeling contact angle, film rupture, and dewetting. Physics of Fluids, 2016, 28, .	4.0	18
68	Instabilities in the flow of thin films on heterogeneous surfaces. Physics of Fluids, 2004, 16, 3341-3360.	4.0	16
69	Stability study of a constant-volume thin film flow. Physical Review E, 2007, 76, 046308.	2.1	16
70	Parallel assembly of particles and wires on substrates by dictating instability evolution in liquid metal films. Nanoscale, 2012, 4, 7376.	5.6	16
71	Stabilization of nonlinear velocity profiles in athermal systems undergoing planar shear flow. Physical Review E, 2005, 72, 041504.	2.1	15
72	Modeling and simulations of the spreading and destabilization of nematic droplets. Physics of Fluids, 2011, 23, .	4.0	15

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73	Instability of Nano- and Microscale Liquid Metal Filaments: Transition from Single Droplet Collapse to Multidroplet Breakup. Langmuir, 2015, 31, 13609-13617.	3.5	15
74	Characterizing granular networks using topological metrics. Physical Review E, 2018, 97, 042903.	2.1	15
75	Modeling and design optimization for pleated membrane filters. Physical Review Fluids, 2020, 5, .	2.5	15
76	Dependence of single-bubble sonoluminescence on ambient pressure. Ultrasonics, 2000, 38, 566-569.	3.9	14
77	Flow of thin films on patterned surfaces. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2003, 214, 1-11.	4.7	14
78	Substrate melting during laser heating of nanoscale metal films. International Journal of Heat and Mass Transfer, 2017, 113, 237-245.	4.8	14
79	Dynamics of a grain-scale intruder in a two-dimensional granular medium with and without basal friction. Physical Review E, 2019, 100, 032905.	2.1	14
80	Intruder in a two-dimensional granular system: Effects of dynamic and static basal friction on stick-slip and clogging dynamics. Physical Review E, 2020, 101, 012909.	2.1	14
81	On velocity profiles and stresses in sheared and vibrated granular systems under variable gravity. Physics of Fluids, 2006, 18, 121509.	4.0	13
82	Interfacial dynamics of thin viscoelastic films and drops. Journal of Non-Newtonian Fluid Mechanics, 2016, 237, 26-38.	2.4	13
83	Scaling properties of force networks for compressed particulate systems. Physical Review E, 2016, 93, 042903.	2.1	13
84	Velocity profiles, stresses, and Bagnold scaling of sheared granular system in zero gravity. Physics of Fluids, 2005, 17, 073304.	4.0	12
85	Dynamics of thin fluid films controlled by thermal fluctuations. European Physical Journal: Special Topics, 2015, 224, 379-387.	2.6	12
86	Exploiting the Marangoni Effect To Initiate Instabilities and Direct the Assembly of Liquid Metal Filaments. Langmuir, 2017, 33, 8123-8128.	3.5	12
87	Stability of thin fluid films characterised by a complex form of effective disjoining pressure. Journal of Fluid Mechanics, 2018, 841, 925-961.	3.4	11
88	On the influence of pore connectivity on performance of membrane filters. Journal of Fluid Mechanics, 2020, 902, .	3.4	11
89	Evolution of droplets of perfectly wetting liquid under the influence of thermocapillary forces. Physical Review E, 2011, 83, 046302.	2.1	10
90	On the influence of initial geometry on the evolution of fluid filaments. Physics of Fluids, 2015, 27, .	4.0	10

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91	Modeling flow of nematic liquid crystal down an incline. Journal of Engineering Mathematics, 2015, 94, 97-113.	1.2	10
92	Influence of thermal effects on stability of nanoscale films and filaments on thermally conductive substrates. Physics of Fluids, 2018, 30, .	4.0	10
93	On nontrivial traveling waves in thin film flows including contact lines. Physica D: Nonlinear Phenomena, 2005, 209, 135-144.	2.8	9
94	Instability of nanometric fluid films on a thermally conductive substrate. Physical Review Fluids, 2016, 1, .	2.5	9
95	Capillary focusing close to a topographic step: shape and instability of confined liquid filaments. Microfluidics and Nanofluidics, 2015, 18, 911-917.	2.2	8
96	Oscillatory thermocapillary instability of a film heated by a thick substrate. Journal of Fluid Mechanics, 2019, 872, 928-962.	3.4	8
97	Simultaneous Decomposition and Dewetting of Nanoscale Alloys: A Comparison of Experiment and Theory. Langmuir, 2021, 37, 2575-2585.	3.5	8
98	Frost spreading and pattern formation on microstructured surfaces. Physical Review E, 2021, 104, 044901.	2.1	8
99	Unstable spreading of a fluid filament on a vertical plane: Experiments and simulations. Physica D: Nonlinear Phenomena, 2005, 209, 49-61.	2.8	7
100	Towards an optimal model for a bistable nematic liquid crystal display device. Journal of Engineering Mathematics, 2013, 80, 21-38.	1.2	7
101	Energy dissipation in sheared wet granular assemblies. Physical Review E, 2018, 98, .	2.1	7
102	Surface, Interface, and Temperature Effects on the Phase Separation and Nanoparticle Self Assembly of Bi-Metallic Ni0.5Ag0.5: A Molecular Dynamics Study. Nanomaterials, 2019, 9, 1040.	4.1	7
103	Understanding slow compression and decompression of frictionless soft granular matter by network analysis. Soft Matter, 2022, 18, 1868-1884.	2.7	7
104	Stability of a finite-length rivulet under partial wetting conditions. Journal of Physics: Conference Series, 2009, 166, 012009.	0.4	6
105	Percolation and jamming transitions in particulate systems with and without cohesion. Physical Review E, 2015, 92, 032204.	2.1	6
106	Long-wave linear stability theory for two-fluid channel flow including compressibility effects. IMA Journal of Applied Mathematics, 2006, 71, 715-739.	1.6	5
107	Bifurcation properties of nematic liquid crystals exposed to an electric field: Switchability, bistability, and multistability. Physical Review E, 2013, 88, 012509.	2.1	5
108	Electric-field variations within a nematic-liquid-crystal layer. Physical Review E, 2014, 90, 012503.	2.1	5

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109	Three-dimensional coating flow of nematic liquid crystal on an inclined substrate. European Journal of Applied Mathematics, 2015, 26, 647-669.	2.9	5
110	Effects of flexoelectricity and weak anchoring on a Freedericksz transition cell. Physical Review E, 2017, 95, 012701.	2.1	5
111	Thin viscoelastic dewetting films of Jeffreys type subjected to gravity and substrate interactions. European Physical Journal E, 2019, 42, 12.	1.6	5
112	Failure of confined granular media due to pullout of an intruder: from force networks to a system wide response. Soft Matter, 2020, 16, 7685-7695.	2.7	5
113	Thin liquid films in a funnel. Journal of Fluid Mechanics, 2021, 924, .	3.4	5
114	On undercompressive shocks in constrained two-layer flows. Physica D: Nonlinear Phenomena, 2005, 209, 245-259.	2.8	4
115	Probing dense granular materials by space-time dependent perturbations. Physical Review E, 2009, 79, 041304.	2.1	4
116	Defect modeling in spreading nematic droplets. Physical Review E, 2012, 85, 012702.	2.1	4
117	Evolution of force networks in dense granular matter close to jamming. EPJ Web of Conferences, 2017, 140, 15014.	0.3	4
118	Computing dynamics of thin films via large scale GPU-based simulations. Journal of Computational Physics: X, 2019, 2, 100001.	0.7	4
119	The Role of Phase Separation on Rayleigh-Plateau Type Instabilities in Alloys. Journal of Physical Chemistry C, 2021, 125, 5723-5731.	3.1	4
120	Granular impact dynamics: Fluctuations at short time-scales. , 2013, , .		3
121	Substrate-induced gliding in a nematic liquid crystal layer. Physical Review E, 2015, 92, 062513.	2.1	3
122	Instabilities of nanoscale patterned metal films. European Physical Journal: Special Topics, 2015, 224, 369-378.	2.6	3
123	On the dewetting of liquefied metal nanostructures. Journal of Engineering Mathematics, 2015, 94, 5-18.	1.2	3
124	Self-assembly of a drop pattern from a two-dimensional grid of nanometric metallic filaments. Physical Review E, 2018, 98, .	2.1	3
125	Effects of spatially-varying substrate anchoring on instabilities and dewetting of thin nematic liquid crystal films. Soft Matter, 2020, 16, 10187-10197.	2.7	3
126	Dielectrowetting of a thin nematic liquid crystal layer. Physical Review E, 2021, 103, 032702.	2.1	3

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127	On efficient asymptotic modelling of thin films on thermally conductive substrates. Journal of Fluid Mechanics, 2021, 915, .	3.4	3
128	On intermittency in sheared granular systems. Soft Matter, 2022, 18, 3583-3593.	2.7	3
129	A Graphical Representation of Membrane Filtration. SIAM Journal on Applied Mathematics, 2022, 82, 950-975.	1.8	3
130	Network-based membrane filters: Influence of network and pore size variability on filtration performance. Journal of Membrane Science, 2022, 657, 120668.	8.2	3
131	Temporal Dynamics in Density Relaxation. , 2010, , .		2
132	Correlating the force network evolution and dynamics in slider experiments. EPJ Web of Conferences, 2021, 249, 02007.	0.3	2
133	Quantitative measure of memory loss in complex spatiotemporal systems. Chaos, 2021, 31, 033126.	2.5	2
134	Instabilities of nematic liquid crystal films. Current Opinion in Colloid and Interface Science, 2021, 55, 101478.	7.4	2
135	Two Approaches to Quantification of Force Networks in Particulate Systems. Journal of Engineering Mechanics - ASCE, 2021, 147, 04021100.	2.9	2
136	Role of diffusion in crystallization of hard-sphere colloids. Physical Review E, 2021, 104, 054607.	2.1	2
137	Universal features of the stick-slip dynamics of an intruder moving through a confined granular medium. Physical Review E, 2022, 105, L042902.	2.1	2
138	Influence of thermal effects on the breakup of thin films of nanometric thickness. Physical Review Fluids, 2022, 7, .	2.5	2
139	Thin Liquid Films: Instabilities of Driven Coating Flows on a Rough Surface. Materials Research Society Symposia Proceedings, 1998, 543, 213.	0.1	1
140	Friction Based Segregation Of 2D Granular Assembly. Materials Research Society Symposia Proceedings, 1998, 543, 357.	0.1	1
141	On modeling evaporation. Annali Dell'Universita Di Ferrara, 2008, 54, 277-286.	1.3	1
142	Granular Impact. , 2015, , 319-351.		1
143	Director gliding in a nematic liquid crystal layer: Quantitative comparison with experiments. Physical Review E, 2018, 97, 032704.	2.1	1
144	Energy propagation through dense granular systems. Granular Matter, 2019, 21, 1.	2.2	1

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145	10.1063/1.3428753.1. , 2010, , .		1
146	Filtration with Multiple Species of Particles. Transport in Porous Media, 2022, 144, 401-427.	2.6	1
147	About Computations of Hele-Shaw Flow of Non-Newtonian Fluids. Materials Research Society Symposia Proceedings, 1998, 543, 207.	0.1	0
148	Friction and Flow in Granular Materials. Materials Research Society Symposia Proceedings, 2000, 627, 1.	0.1	0
149	Breakup of finite fluid films. Proceedings in Applied Mathematics and Mechanics, 2007, 7, 1090601-1090602.	0.2	0
150	Octopusâ€shaped instabilities of evaporating drops. Proceedings in Applied Mathematics and Mechanics, 2007, 7, 2100039-2100040.	0.2	0
151	Signal propagation through dense granular systems. Proceedings in Applied Mathematics and Mechanics, 2007, 7, 1090607-1090608.	0.2	0
152	Instabilities and Taylor dispersion in isothermal binary thin fluid films. Physics of Fluids, 2008, 20, 102103.	4.0	0
153	Energy Transport Through Dense Granular Matter. , 2009, , .		0
154	Density Relaxation of Granular Matter through Monte Carlo Simulations. , 2009, , .		0
155	Instabilities In The Flow Of Thin Liquid Films. Fluid Mechanics and Its Applications, 2001, , 161-168.	0.2	0