

Karen E Daniels

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

91 papers	2,185 citations	27 h-index	43 g-index
101 ext. papers	2,595 ext. citations	3.9 avg, IF	5.49 L-index

#	Paper	IF	Citations
91	Delicate memory structure of origami switches. <i>Physical Review Research</i> , 2022 , 4,	3.9	3
90	Stress propagation in locally loaded packings of disks and pentagons. <i>Soft Matter</i> , 2021 , 17, 10120-10123	3.6	2
89	Interfacial Tension Modulation of Liquid Metal via Electrochemical Oxidation. <i>Advanced Intelligent Systems</i> , 2021 , 3, 2100024	6	17
88	Spongelike Rigid Structures in Frictional Granular Packings. <i>Physical Review Letters</i> , 2021 , 126, 088002	7.4	6
87	The effect of boundary roughness on dense granular flows. <i>EPJ Web of Conferences</i> , 2021 , 249, 03014	0.3	1
86	Particle dynamics in two-dimensional point-loaded granular media composed of circular or pentagonal grains. <i>EPJ Web of Conferences</i> , 2021 , 249, 06010	0.3	2
85	Probing regolith-covered surfaces in low gravity. <i>EPJ Web of Conferences</i> , 2021 , 249, 02005	0.3	0
84	Stick-slip Dynamics in Penetration Experiments on Simulated Regolith. <i>Planetary Science Journal</i> , 2021 , 2, 243	2.9	1
83	Gradient-induced droplet motion over soft solids. <i>IMA Journal of Applied Mathematics</i> , 2020 , 85, 495-512	1	4
82	Analysis of Self-Organized Patterned Surface Oxide Spots on Ejected Spatter Produced during Laser Powder Bed Fusion. <i>Additive Manufacturing</i> , 2020 , 35, 101320	6.1	3
81	Overcoming Rayleigh-Plateau instabilities: Stabilizing and destabilizing liquid-metal streams via electrochemical oxidation. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2020 , 117, 19026-19032	11.5	20
80	Dynamics of a grain-scale intruder in a two-dimensional granular medium with and without basal friction. <i>Physical Review E</i> , 2019 , 100, 032905	2.4	11
79	Betweenness centrality as predictor for forces in granular packings. <i>Soft Matter</i> , 2019 , 15, 1793-1798	3.6	18
78	Protocol Dependence and State Variables in the Force-Moment Ensemble. <i>Physical Review Letters</i> , 2019 , 122, 038001	7.4	15
77	A Dual-Species Biofilm with Emergent Mechanical and Protective Properties. <i>Journal of Bacteriology</i> , 2019 , 201,	3.5	27
76	Forecasting failure locations in 2-dimensional disordered lattices. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019 , 116, 16742-16749	11.5	13
75	Enlightening force chains: a review of photoelasticimetry in granular matter. <i>Granular Matter</i> , 2019 , 21, 1	2.6	35

74	Viewing Earth's surface as a soft-matter landscape. <i>Nature Reviews Physics</i> , 2019 , 1, 716-730	23.6	29
73	Rigidity percolation control of the brittle-ductile transition in disordered networks. <i>Physical Review Materials</i> , 2019 , 3,	3.2	9
72	Force fluctuations at the transition from quasi-static to inertial granular flow. <i>Soft Matter</i> , 2019 , 15, 8533-8542	10	
71	Distinguishing deformation mechanisms in elastocapillary experiments. <i>Soft Matter</i> , 2019 , 15, 9426-9436	5.6	3
70	Network analysis of particles and grains. <i>Journal of Complex Networks</i> , 2018 , 6, 485-565	1.7	66
69	Nonlocal rheology of dense granular flow in annular shear experiments. <i>Soft Matter</i> , 2018 , 14, 3040-3048	3.6	30
68	Simulating surfactant spreading: Influence of a physically motivated equation of state. <i>European Journal of Applied Mathematics</i> , 2018 , 29, 30-54	1	5
67	Deformation of an elastic substrate due to a resting sessile droplet. <i>European Journal of Applied Mathematics</i> , 2018 , 29, 281-300	1	8
66	Symmetry-reversals in chiral active matter. <i>Soft Matter</i> , 2018 , 14, 5572-5580	3.6	14
65	Sounds of Failure: Passive Acoustic Measurements of Excited Vibrational Modes. <i>Physical Review Letters</i> , 2018 , 120, 218003	7.4	7
64	Photoelastic force measurements in granular materials. <i>Review of Scientific Instruments</i> , 2017 , 88, 051808	7	77
63	Capillary fracture of ultrasoft gels: variability and delayed nucleation. <i>Soft Matter</i> , 2017 , 13, 2962-2966	3.6	8
62	Oxidation-Mediated Fingering in Liquid Metals. <i>Physical Review Letters</i> , 2017 , 119, 174502	7.4	41
61	The role of force networks in granular materials. <i>EPJ Web of Conferences</i> , 2017 , 140, 01006	0.3	12
60	Preface: Focus on imaging methods in granular physics. <i>Review of Scientific Instruments</i> , 2017 , 88, 051701	1.7	21
59	Granular rheology: measuring boundary forces with laser-cut leaf springs. <i>EPJ Web of Conferences</i> , 2017 , 140, 03035	0.3	0
58	An experimental investigation of the force network ensemble. <i>EPJ Web of Conferences</i> , 2017 , 140, 02024	0.3	
57	Granular Materials in Space Exploration 2016 ,		3

56	Friction and pressure-dependence of force chain communities in granular materials. <i>Granular Matter</i> , 2016 , 18, 1	2.6	9
55	Nonaffine deformation under compression and decompression of a flow-stabilized solid. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2016 , 2016, 084003	1.9	0
54	Solid capillarity: when and how does surface tension deform soft solids?. <i>Soft Matter</i> , 2016 , 12, 2993-6	3.6	63
53	Spatio-temporal patterns in inclined layer convection. <i>Journal of Fluid Mechanics</i> , 2016 , 794, 719-745	3.7	11
52	Topological and geometric measurements of force-chain structure. <i>Physical Review E</i> , 2016 , 94, 032909	2.4	24
51	Evolution of network architecture in a granular material under compression. <i>Physical Review E</i> , 2016 , 94, 032908	2.4	45
50	High refractive index immersion liquid for superresolution 3D imaging using sapphire-based aplanatic numerical aperture increasing lens optics. <i>Applied Optics</i> , 2016 , 55, 3165-9	1.7	8
49	Surfactant spreading on a thin liquid film: reconciling models and experiments. <i>Journal of Engineering Mathematics</i> , 2015 , 94, 63-79	1.2	9
48	Spatiotemporal measurement of surfactant distribution on gravity-capillary waves. <i>Journal of Fluid Mechanics</i> , 2015 , 777, 523-543	3.7	20
47	Extraction of force-chain network architecture in granular materials using community detection. <i>Soft Matter</i> , 2015 , 11, 2731-44	3.6	75
46	The Statistical Physics of Athermal Materials. <i>Annual Review of Condensed Matter Physics</i> , 2015 , 6, 63-83	19.7	79
45	Self-healing dynamics of surfactant coatings on thin viscous films. <i>Physics of Fluids</i> , 2014 , 26, 042109	4.4	10
44	Elastocapillary deformations on partially-wetting substrates: rival contact-line models. <i>Soft Matter</i> , 2014 , 10, 7361-9	3.6	66
43	Nonlinear elasticity of microsphere heaps. <i>Physical Review E</i> , 2014 , 90, 022304	2.4	4
42	Correlations between electrical and mechanical signals during granular stick-slip events. <i>Granular Matter</i> , 2014 , 16, 217-222	2.6	7
41	Focus on granular segregation. <i>New Journal of Physics</i> , 2013 , 15, 035017	2.9	11
40	Flow-driven formation of solid-like microsphere heaps. <i>Soft Matter</i> , 2013 , 9, 543-549	3.6	10
39	Acoustic measurement of a granular density of modes. <i>Soft Matter</i> , 2013 , 9, 1214-1219	3.6	15

38	Equilibrating temperaturelike variables in jammed granular subsystems. <i>Physical Review Letters</i> , 2013 , 110, 058001	7.4	73
37	Local properties of patterned vegetation: quantifying endogenous and exogenous effects. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2013 , 371, 20120359		27
36	Capillary fracture of soft gels. <i>Physical Review E</i> , 2013 , 88, 042410	2.4	19
35	Rubble-Pile Near Earth Objects: Insights from Granular Physics 2013 , 271-286		1
34	Local properties of patterned vegetation: quantifying endogenous and exogenous effects. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2013 , 371, 20120359		
33	Equipartition of rotational and translational energy in a dense granular gas. <i>Physical Review Letters</i> , 2012 , 108, 018001	7.4	34
32	Influence of network topology on sound propagation in granular materials. <i>Physical Review E</i> , 2012 , 86, 041306	2.4	79
31	Trajectory entanglement in dense granular materials. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2012 , 2012, P06008	1.9	7
30	Granular Controls on Periodicity of Stick-Slip Events: Kinematics and Force-Chains in an Experimental Fault. <i>Pure and Applied Geophysics</i> , 2011 , 168, 2239-2257	2.2	58
29	Sound propagation and force chains in granular materials. <i>Europhysics Letters</i> , 2011 , 94, 54005	1.6	67
28	Local origins of volume fraction fluctuations in dense granular materials. <i>Physical Review E</i> , 2011 , 83, 041301	2.4	25
27	Shear-driven size segregation of granular materials: modeling and experiment. <i>Physical Review E</i> , 2010 , 81, 051301	2.4	68
26	The Gray-Thornton Model of Granular Segregation 2010 ,		1
25	Student Blogging about Physics. <i>Physics Teacher</i> , 2010 , 48, 366-367	0.4	1
24	Fluorescent visualization of a spreading surfactant. <i>New Journal of Physics</i> , 2010 , 12, 073029	2.9	34
23	A porous convection model for grass patterns. <i>American Naturalist</i> , 2010 , 175, E10-5	3.7	8
22	Universal shapes formed by two interacting cracks. <i>Physical Review Letters</i> , 2010 , 105, 125505	7.4	41
21	Equilibration of granular subsystems. <i>Soft Matter</i> , 2010 , 6, 3074	3.6	16

20	Scalar Conservation Laws with Nonconstant Coefficients with Application to Particle Size Segregation in Granular Flow. <i>Journal of Nonlinear Science</i> , 2010 , 20, 689-707	2.8	21
19	Generating ensembles of two-dimensional granular configurations. <i>Chaos</i> , 2009 , 19, 041108	3.3	
18	Boundary conditions and event scaling of granular stick-slip events 2009 ,		2
17	Generating ensembles and measuring mixing in a model granular system 2009 ,		2
16	Mixing and segregation rates in sheared granular materials. <i>Physical Review E</i> , 2009 , 80, 042301	2.4	66
15	Introduction: Sixth Annual Gallery of Nonlinear Images (Pittsburgh, Pennsylvania, 2009). <i>Chaos</i> , 2009 , 19, 041101	3.3	
14	Force chains in seismogenic faults visualized with photoelastic granular shear experiments. <i>Journal of Geophysical Research</i> , 2008 , 113,		95
13	Fluctuations, correlations and transitions in granular materials: statistical mechanics for a non-conventional system. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2008 , 366, 493-504	3	33
12	Competition and bistability of ordered undulations and undulation chaos in inclined layer convection. <i>Journal of Fluid Mechanics</i> , 2008 , 597, 261-282	3.7	17
11	Instabilities in droplets spreading on gels. <i>Physical Review Letters</i> , 2007 , 99, 124501	7.4	29
10	Characterization of a freezing/melting transition in a vibrated and sheared granular medium. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2006 , 2006, P07018-P07018	1.9	20
9	Starbursts and wispy drops: surfactants spreading on gels. <i>Chaos</i> , 2005 , 15, 041107	3.3	7
8	Hysteresis and competition between disorder and crystallization in sheared and vibrated granular flow. <i>Physical Review Letters</i> , 2005 , 94, 168001	7.4	86
7	Statistics of defect trajectories in spatio-temporal chaos in inclined layer convection and the complex Ginzburg-Landau equation. <i>Chaos</i> , 2004 , 14, 864-74	3.3	14
6	Defect turbulence and generalized statistical mechanics. <i>Physica D: Nonlinear Phenomena</i> , 2004 , 193, 208-217	3.3	82
5	Dynamics of meteor impacts. <i>Chaos</i> , 2004 , 14, S4	3.3	24
4	Statistics of defect motion in spatiotemporal chaos in inclined layer convection. <i>Chaos</i> , 2003 , 13, 55-63	3.3	19
3	Localized transverse bursts in inclined layer convection. <i>Physical Review Letters</i> , 2003 , 91, 114501	7.4	11

2	Defect turbulence in inclined layer convection. <i>Physical Review Letters</i> , 2002 , 88, 034501	7.4	61
1	Pattern formation in inclined layer convection. <i>Physical Review Letters</i> , 2000 , 84, 5320-3	7.4	46