Troy Shinbrot

List of Publications by Year
in descending order

73 papers	4,740 citations	147801 31 h-index	95266 68 g-index
75 all docs	75 docs citations	75 times ranked	2843 citing authors

#	Article	IF	Citations
1	Using small perturbations to control chaos. Nature, 1993, 363, 411-417.	27.8	806
2	Using chaos to direct trajectories to targets. Physical Review Letters, 1990, 65, 3215-3218.	7.8	353
3	Long-standing and unresolved issues in triboelectric charging. Nature Reviews Chemistry, 2019, 3, 465-476.	30.2	229
4	Avalanche mixing of granular solids. Nature, 1995, 374, 39-41.	27.8	212
5	Transverse flow and mixing of granular materials in a rotating cylinder. Physics of Fluids, 1997, 9, 31-43.	4.0	212
6	Reverse Buoyancy in Shaken Granular Beds. Physical Review Letters, 1998, 81, 4365-4368.	7.8	212
7	Experimentally validated computations of flow, mixing and segregation of non-cohesive grains in 3D tumbling blenders. Powder Technology, 2000, 109, 58-71.	4.2	174
8	Chaos in a double pendulum. American Journal of Physics, 1992, 60, 491-499.	0.7	154
9	Noise to order. Nature, 2001, 410, 251-258.	27.8	144
10	Using the sensitive dependence of chaos (the â€˜â€˜butterfly effectâ€™â€™) to direct trajectories in an experimental chaotic system. Physical Review Letters, 1992, 68, 2863-2866.	7.8	136
11	Dry granular flows can generate surface features resembling those seen in Martian gullies. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 8542-8546.	7.1	109
12	Nonequilibrium Patterns in Granular Mixing and Segregation. Physics Today, 2000, 53, 25-30.	0.3	106
13	Mixing of granular materials in slowly rotated containers. AICHE Journal, 1996, 42, 3351-3363.	3.6	102
14	Progress in the control of chaos. Advances in Physics, 1995, 44, 73-111.	14.4	90
15	Spontaneous chaotic granular mixing. Nature, 1999, 397, 675-678.	27.8	87
16	Using chaos to direct orbits to targets in systems describable by a one-dimensional map. Physical Review A, 1992, 45, 4165-4168.	2.5	81
17	Competition between randomizing impacts and inelastic collisions in granular pattern formation. Nature, 1997, 389, 574-576.	27.8	77
18	Scaling surface velocities in rotating cylinders as a function of vessel radius, rotation rate, and particle size. Powder Technology, 2002, 126, 174-190.	4.2	77

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19	A Taylor vortex analogy in granular flows. Nature, 2004, 431, 433-437.	27.8	69
20	Deterministic and Stochastic Elements of Axonal Guidance. Annual Review of Biomedical Engineering, 2005, 7, 187-221.	12.3	61
21	Isolated mixing regions: origin, robustness and control. Chemical Engineering Science, 1997, 52, 1623-1636.	3.8	58
22	Using chaos to target stationary states of flows. Physics Letters, Section A: General, Atomic and Solid State Physics, 1992, 169, 349-354.	2.1	56
23	Shear instabilities in granular flows. Nature, 2002, 415, 302-305.	27.8	56
24	Electrical charging overcomes the bouncing barrier in planet formation. Nature Physics, 2020, 16, 225-229.	16.7	48
25	A 2D mechanistic model of breast ductal carcinoma in situ (DCIS) morphology and progression. Journal of Theoretical Biology, 2010, 263, 393-406.	1.7	47
26	Granular segregation in the double-cone blender: Transitions and mechanisms. Physics of Fluids, 2001, 13, 578-587.	4.0	43
27	Triboelectrification and Razorbacks: Geophysical Patterns Produced in Dry Grains. Physical Review Letters, 2006, 96, 178002.	7.8	42
28	Static in motion. Nature, 2008, 451, 773-774.	27.8	41
29	An observed correlation between flow and electrical properties of pharmaceutical blends. Powder Technology, 2009, 192, 157-165.	4.2	39
30	V-blender segregation patterns for free-flowing materials: effects of blender capacity and fill level. International Journal of Pharmaceutics, 2004, 269, 19-28.	5.2	37
31	Chaotic granular mixing. Chaos, 1999, 9, 611-620.	2.5	31
32	Electrostatic precursors to granular slip events. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 10806-10810.	7.1	30
33	Use of a static eliminator to improve powder flow. International Journal of Pharmaceutics, 2009, 369, 2-4.	5.2	29
34	A model of mixing and transport in wavy Taylor-Couette flow. Physica D: Nonlinear Phenomena, 1998, 121, 163-174.	2.8	28
35	Granular flow and dielectrophoresis: The effect of electrostatic forces on adhesion and flow of dielectric granular materials. Powder Technology, 2010, 199, 180-188.	4.2	27
36	Î±5Î²1 Integrin-Fibronectin Interactions Specify Liquid to Solid Phase Transition of 3D Cellular Aggregates. PLoS ONE, 2010, 5, e11830.	2.5	27

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37	Self-sustaining charging of identical colliding particles. Physical Review E, 2014, 89, 052208.	2.1	26
38	A Simple Model for Granular Convection. Physical Review Letters, 1997, 79, 829-832.	7.8	23
39	Geometric method to create coherent structures in chaotic flows. Physical Review Letters, 1993, 71, 843-846.	7.8	22
40	Periodic Knolls and Valleys: Coexistence of Solid and Liquid States in Granular Suspensions. Physical Review Letters, 2004, 92, 224502.	7.8	22
41	In silico zebrafish pattern formation. Developmental Biology, 2008, 315, 397-403.	2.0	22
42	Synchronization of coupled maps and stable windows. Physical Review E, 1994, 50, 3230-3233.	2.1	20
43	A chaotic attractor in timing noise from the VELA pulsar?. Astrophysical Journal, 1990, 353, 588.	4.5	19
44	Size Sorting on the Rubble-Pile Asteroid Itokawa. Physical Review Letters, 2017, 118, 111101.	7.8	17
45	Segregation in granular materials and the direct measurement of surface forces using atomic force microscopy. Powder Technology, 2004, 145, 69-72.	4.2	16
46	Cellular automata model of gravity-driven granular flows. Granular Matter, 2007, 9, 219-229.	2.2	15
47	Effects of Polarization on Particle-Laden Flows. Physical Review Letters, 2018, 121, 124503.	7.8	15
48	Computational approaches to granular segregation in tumbling blenders. Powder Technology, 2001, 116, 224-231.	4.2	14
49	Electrostatic charging during the flow of grains from a cylinder. Powder Technology, 2009, 195, 158-165.	4.2	14
50	Cellular Morphogenesis In Silico. Biophysical Journal, 2009, 97, 958-967.	0.5	12
51	A look at charging mechanics. Journal of Electrostatics, 1985, 17, 113-123.	1.9	11
52	Role of voids in granular convection. Physical Review E, 1997, 55, 6121-6133.	2.1	11
53	Nonlinear granular electrostatics. Granular Matter, 2015, 17, 165-175.	2.2	10
54	Surface contact charging. Physical Review E, 2017, 96, 032912.	2.1	10

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55	Granular coarsening. Granular Matter, 1998, 1, 145-148.	2.2	9
56	Why Decussate? Topological Constraints on 3D Wiring. Anatomical Record, 2008, 291, 1278-1292.	1.4	9
57	AFM study of hydrophilicity on acetaminophen crystals. International Journal of Pharmaceutics, 2012, 438, 184-190.	5.2	9
58	Control of transport in a chaotic lattice. Physica D: Nonlinear Phenomena, 1996, 93, 191-209.	2.8	8
59	Using Variability to Regulate Long Term Biological Rhythms. Journal of Theoretical Biology, 1999, 196, 455-471.	1.7	7
60	Correlations between electrical and mechanical signals during granular stick-slip events. Granular Matter, 2014, 16, 217-222.	2.2	7
61	Dynamic pilot wave bound states. Chaos, 2019, 29, 113124.	2.5	7
62	Solids Mixing. , 0, , 887-985.		6
63	Granular flow transitions on sinusoidal surfaces. Journal of Fluid Mechanics, 2006, 556, 253.	3.4	6
64	Simulated morphogenesis of developmental folds due to proliferative pressure. Journal of Theoretical Biology, 2006, 242, 764-773.	1.7	6
65	The movable and the jammed. Nature Physics, 2013, 9, 263-264.	16.7	6
66	Multiple timescale contact charging. Physical Review Materials, 2018, 2, .	2.4	5
67	Exploitation of junior scientists must end. Nature, 1999, 399, 521-521.	27.8	3
68	Granular chaos and mixing: Whirled in a grain of sand. Chaos, 2015, 25, 097622.	2.5	3
69	Charging at a distance. Physical Review Materials, 2018, 2, .	2.4	3
70	Opportunities for agent based modeling of retinal stem cell transplantation. Neural Regeneration Research, 2022, 17, 1978.	3.0	3
71	Bennu and Ryugu: diamonds in the sky. Granular Matter, 2021, 23, 1.	2.2	2
72	MAPS, PDE'S AND SOLITARY WAVES. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 1995, 05, 955-970.	1.7	1

#	Article	IF	Citations
73	Network simulations of optical illusions. International Journal of Modern Physics C, 2017, 28, 1750018.	1.7	0