Daniel Lester

List of Publications by Year
in descending order

80 papers	1,874 citations	304602 22 h-index	289141 40 g-index
80 all docs	80 docs citations	80 times ranked	1407 citing authors

#	Article	IF	Citations
1	Cloning and expression of cytochrome P450 genes controlling flower colour. Nature, 1993, 366, 276-279.	13.7	367
2	Drop formation dynamics of constant low-viscosity, elastic fluids. Journal of Non-Newtonian Fluid Mechanics, 2002, 106, 29-59.	1.0	121
3	Estimation of the hindered settling functionR(?) from batch-settling tests. AICHE Journal, 2005, 51, 1158-1168.	1.8	84
4	Continuous time random walks for the evolution of Lagrangian velocities. Physical Review Fluids, 2016, 1, .	1.0	84
5	Is Chaotic Advection Inherent to Porous Media Flow?. Physical Review Letters, 2013, 111, 174101.	2.9	66
6	The mechanics of hydrothermal systems: I. Ore systems as chemical reactors. Ore Geology Reviews, 2012, 49, 1-44.	1.1	54
7	Toward enhanced subsurface intervention methods using chaotic advection. Journal of Contaminant Hydrology, 2012, 127, 15-29.	1.6	54
8	Chaotic mixing in three-dimensional porous media. Journal of Fluid Mechanics, 2016, 803, 144-174.	1.4	45
9	Sedimentation and consolidation of different density aggregates formed by polymer-bridging flocculation. Chemical Engineering Science, 2018, 184, 111-125.	1.9	43
10	Low Reynolds number scalar transport enhancement in viscous and non-Newtonian fluids. International Journal of Heat and Mass Transfer, 2009, 52, 655-664.	2.5	42
11	Rapid detection of Hendra virus antibodies: an integrated device with nanoparticle assay and chaotic micromixing. Lab on A Chip, 2017, 17, 169-177.	3.1	35
12	Mixing and heat transfer of highly viscous food products with a continuous chaotic duct flow. Journal of Food Engineering, 2009, 95, 21-29.	2.7	34
13	Lagrangian topology of a periodically reoriented potential flow: Symmetry, optimization, and mixing. Physical Review E, 2009, 80, 036208.	0.8	33
14	Stretching and folding sustain microscale chemical gradients in porous media. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 13359-13365.	3.3	32
15	Global parametric solutions of scalar transport. Journal of Computational Physics, 2008, 227, 3032-3057.	1.9	31
16	A spatiotemporally resolved infection risk model for airborne transmission of COVID-19 variants in indoor spaces. Science of the Total Environment, 2022, 812, 152592.	3.9	29
17	The mechanics of hydrothermal systems: II. Fluid mixing and chemical reactions. Ore Geology Reviews, 2012, 49, 45-71.	1.1	28
18	Scalar dispersion in a periodically reoriented potential flow: Acceleration via Lagrangian chaos. Physical Review E, 2010, 81, 046319.	0.8	27

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19	Beyond Passive. Advances in Applied Mechanics, 2012, , 109-188.	1.4	27
20	Anomalous transport and chaotic advection in homogeneous porous media. Physical Review E, 2014, 90, 063012.	0.8	26
21	A partially open porous media flow with chaotic advection: towards a model of coupled fields. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2010, 368, 217-230.	1.6	25
22	High precision suspension erosion modeling. Wear, 2010, 269, 449-457.	1.5	23
23	Evolution of solute blobs in heterogeneous porous media. Journal of Fluid Mechanics, 2018, 853, 621-646.	1.4	23
24	Chaotic mixing in crystalline granular media. Journal of Fluid Mechanics, 2019, 871, 562-594.	1.4	23
25	Quantification of erosion distributions in complex geometries. Wear, 2010, 268, 1066-1071.	1.5	22
26	Coupled continuous-time random walks for fluid stretching in two-dimensional heterogeneous media. Physical Review E, 2016, 94, 061102.	0.8	22
27	Field Trials of Chaotic Advection to Enhance Reagent Delivery. Ground Water Monitoring and Remediation, 2019, 39, 23-39.	0.6	22
28	An experimental and theoretical study of the mixing characteristics of a periodically reoriented irrotational flow. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2010, 368, 2147-2162.	1.6	21
29	Space-Group Symmetries Generate Chaotic Fluid Advection in Crystalline Granular Media. Physical Review Letters, 2018, 120, 024501.	2.9	21
30	An effective modeling tool for studying erosion. Wear, 2011, 270, 598-605.	1.5	19
31	[31] Cloning of novel cytochrome P450 gene sequences via polymerase chain reaction amplification. Methods in Enzymology, 1996, 272, 275-283.	0.4	18
32	Macroscopic dynamics of flocculated colloidal suspensions. Chemical Engineering Science, 2010, 65, 6362-6378.	1.9	18
33	The Handbook of Groundwater Engineering. , 0, , .		18
34	Wall adhesion and constitutive modeling of strong colloidal gels. Journal of Rheology, 2014, 58, 1247-1276.	1.3	16
35	Mixing of discontinuously deforming media. Chaos, 2016, 26, 023113.	1.0	16
36	Chaotic advection at the pore scale: Mechanisms, upscaling and implications for macroscopic transport. Advances in Water Resources, 2016, 97, 175-192.	1.7	16

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37	Detection of unstable periodic orbits in mineralising geological systems. Chaos, 2018, 28, 085711.	1.0	16
38	Temporal Fluctuations and Poroelasticity Can Generate Chaotic Advection in Natural Groundwater Systems. Water Resources Research, 2019, 55, 3347-3374.	1.7	16
39	Scalar Signatures of Chaotic Mixing in Porous Media. Physical Review Letters, 2021, 126, 034505.	2.9	16
40	Scaling forms of particle densities for LÃ©vy walks and strong anomalous diffusion. Physical Review E, 2015, 92, 032128.	0.8	15
41	Dynamic and rate-dependent yielding in model cohesive suspensions. Journal of Non-Newtonian Fluid Mechanics, 2015, 221, 40-54.	1.0	14
42	Groundwater cooling of a supercomputer in Perth, Western Australia: hydrogeological simulations and thermal sustainability. Hydrogeology Journal, 2015, 23, 1831-1849.	0.9	12
43	Impact of sleeping position, gravitational force & effective tissue stiffness on obstructive sleep apnoea. Journal of Biomechanics, 2020, 104, 109715.	0.9	12
44	Creating analytically divergence-free velocity fields from grid-based data. Journal of Computational Physics, 2016, 323, 75-94.	1.9	11
45	A novel CFD-DEM upscaling method for prediction of scour under live-bed conditions. Ocean Engineering, 2021, 220, 108442.	1.9	10
46	On oscillating flows in randomly heterogeneous porous media. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2010, 368, 197-216.	1.6	9
47	Bifurcations and degenerate periodic points in a three dimensional chaotic fluid flow. Chaos, 2016, 26, 053106.	1.0	9
48	Hydrodynamic Dispersion and Lamb Surfaces in Darcy Flow. Transport in Porous Media, 2019, 130, 903-922.	1.2	9
49	Constitutive modelling and pipeline flow of thixotropic viscoplastic wastewater sludge. Water Research, 2020, 184, 116126.	5.3	9
50	Control mechanisms for the global structure of scalar dispersion in chaotic flows. Physical Review E, 2014, 90, 022908.	0.8	8
51	Fluid deformation in random steady three-dimensional flow. Journal of Fluid Mechanics, 2018, 855, 770-803.	1.4	8
52	Transport in a partially open porous media flow. Proceedings of SPIE, 2007, , .	0.8	7
53	Stochastic relationships for periodic responses in randomly heterogeneous aquifers. Water Resources Research, 2011, 47, .	1.7	7
54	Correction of wall adhesion effects in batch settling of strong colloidal gels. Journal of Non-Newtonian Fluid Mechanics, 2015, 221, 18-27.	1.0	7

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55	Impact of discontinuous deformation upon the rate of chaotic mixing. Physical Review E, 2017, 95, 022213.	0.8	7
56	The frictional pebble game: An algorithm for rigidity percolation in saturated frictional assemblies. Journal of Computational Physics, 2018, 369, 225-236.	1.9	7
57	Can diatom girdle band pores act as a hydrodynamic viral defense mechanism?. Journal of Biological Physics, 2019, 45, 213-234.	0.7	7
58	Localized shear generates three-dimensional transport. Chaos, 2017, 27, 043102.	1.0	6
59	The Lagrangian kinematics of three-dimensional Darcy flow. Journal of Fluid Mechanics, 2021, 918, .	1.4	5
60	Topological mixing of yield stress materials. Physical Review Fluids, 2019, 4, .	1.0	5
61	Characterising sedimentation velocity of primary waste water solids and effluents. Water Research, 2022, 219, 118555.	5.3	5
62	Laboratory Modeling of Equipment Erosion by Sand Particles. , 2009, , .		4
63	Hydrodynamic drift ratchet scalability. AICHE Journal, 2017, 63, 2358-2366.	1.8	4
64	An efficient boundary element formulation for doubly-periodic two-dimensional Stokes flow with pressure boundary conditions. Journal of Computational Physics, 2018, 365, 18-36.	1.9	4
65	When Do Complex Transport Dynamics Arise in Natural Groundwater Systems?. Water Resources Research, 2020, 56, e2019WR025982.	1.7	4
66	Normal stress differences in the consolidation of strong colloidal gels. Rheologica Acta, 2021, 60, 59-76.	1.1	4
67	Strain softening of concentrated cohesive particulate suspensions prior to yield. Journal of Rheology, 2021, 65, 355-370.	1.3	4
68	Simultaneous optimisation of residence time, heat and mass transfer in laminar duct flows. Chemical Engineering Science, 2018, 191, 511-524.	1.9	3
69	Effect of inhalation on oropharynx collapse via flow visualisation. Journal of Biomechanics, 2021, 118, 110200.	0.9	3
70	Superposed shear and compression of strong colloidal gels. Journal of Rheology, 2021, 65, 837-853.	1.3	3
71	A Primer on the Dynamical Systems Approach to Transport in Porous Media. Transport in Porous Media, 2023, 146, 55-84.	1.2	3
72	Complete parametric scalar dispersion. Proceedings of SPIE, 2007, , .	0.8	2

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73	Lagrangian topology of reoriented potential flows. Proceedings of SPIE, 2008, , .	0.8	2
74	Correction of wall adhesion effects in the centrifugal compression of strong colloidal gels. AICHE Journal, 2017, 63, 1520-1528.	1.8	2
75	Lagrangian Complexity Persists with Multimodal Flow Forcing in Compressible Porous Systems. Transport in Porous Media, 2020, 135, 555-586.	1.2	2
76	Global organization of three-dimensional, volume-preserving flows: Constraints, degenerate points, and Lagrangian structure. Chaos, 2020, 30, 033124.	1.0	2
77	Consolidation of strong colloidal gels under arbitrary compressive loadings. Soft Matter, 2021, 17, 2242-2255.	1.2	2
78	PROSPECTS FOR EFFICIENT ENHANCED HEAT TRANSFER IN AN OPEN CHAOTIC FLOW. , 2006, , .		2
79	Predictions of the change in extinction coefficient for prolate particles under shear. Journal of Chemical Physics, 2001, 115, 5679-5689.	1.2	1
80	Comment on â€œPlume spreading in groundwater by stretching and foldingâ€•by D. C. Mays and R. M. Neupauer. Water Resources Research, 2013, 49, 1189-1191.	1.7	1