

John Billingham

List of Publications by Year in descending order

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74
papers

1,168
citations

394421

19
h-index

454955

30
g-index

76
all docs

76
docs citations

76
times ranked

873
citing authors

#	ARTICLE	IF	CITATIONS
1	Slow travelling wave solutions of the nonlocal Fisher-KPP equation. <i>Nonlinearity</i> , 2020, 33, 2106-2142.	1.4	8
2	A dam break driven by a moving source: a simple model for a powder snow avalanche. <i>Journal of Fluid Mechanics</i> , 2019, 870, 353-388.	3.4	0
3	Geometrical modelling of pulsed laser ablation of high performance metallic alloys. <i>International Journal of Machine Tools and Manufacture</i> , 2019, 141, 78-88.	13.4	29
4	The effect of inclination on the development of slugging in channel flow. <i>IMA Journal of Applied Mathematics</i> , 2019, 84, 366-384.	1.6	1
5	Time-dependent manufacturing processes lead to a new class of inverse problems. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019, 116, 5341-5343.	7.1	16
6	The initial development of a jet caused by fluid, body and free surface interaction with a uniformly accelerated advancing or retreating plate. Part 1. The principal flow. <i>Journal of Fluid Mechanics</i> , 2018, 841, 109-145.	3.4	2
7	The initial development of a jet caused by fluid, body and free surface interaction with a uniformly accelerated advancing or retreating plate. Part 2. Well-posedness and stability of the principal flow. <i>Journal of Fluid Mechanics</i> , 2018, 841, 146-166.	3.4	2
8	The initial development of a jet caused by fluid, body and free surface interaction. Part 5. Parasitic capillary waves on an initially horizontal surface. <i>Journal of Fluid Mechanics</i> , 2018, 836, 850-872.	3.4	1
9	Thick drops climbing uphill on an oscillating substrate. <i>Journal of Fluid Mechanics</i> , 2018, 840, 131-153.	3.4	14
10	Novel approach based on continuous trench modelling to predict focused ion beam prepared freeform surfaces. <i>Journal of Materials Processing Technology</i> , 2018, 252, 636-642.	6.3	9
11	Investigation of the microstructure change due to phase transition in nanosecond pulsed laser processing of diamond. <i>Carbon</i> , 2018, 127, 349-365.	10.3	23
12	A study of surface swelling caused by graphitisation during pulsed laser ablation of carbon allotrope with high content of sp ³ bonds. <i>Journal Physics D: Applied Physics</i> , 2017, 50, 245301.	2.8	11
13	New models for energy beam machining enable accurate generation of free forms. <i>Science Advances</i> , 2017, 3, e1701201.	10.3	23
14	Waterjet and laser etching: the nonlinear inverse problem. <i>Royal Society Open Science</i> , 2017, 4, 161031.	2.4	18
15	A spectral boundary integral method for inviscid water waves in a finite domain. <i>International Journal for Numerical Methods in Fluids</i> , 2016, 82, 437-448.	1.6	1
16	Continuous trench, pulsed laser ablation for micro-machining applications. <i>International Journal of Machine Tools and Manufacture</i> , 2016, 107, 8-20.	13.4	42
17	Thin three-dimensional droplets on an oscillating substrate with contact angle hysteresis. <i>Physical Review E</i> , 2016, 93, 013123.	2.1	4
18	Flows of granular material in two-dimensional channels. <i>Journal of Engineering Mathematics</i> , 2016, 98, 49-70.	1.2	3

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19	Stochastic simplified modelling of abrasive waterjet footprints. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2016, 472, 20150836.	2.1	10
20	Stochastic modelling of abrasive waterjet footprints using finite element analysis. International Journal of Machine Tools and Manufacture, 2015, 95, 39-51.	13.4	30
21	The linear inverse problem in energy beam processing with an application to abrasive waterjet machining. International Journal of Machine Tools and Manufacture, 2015, 99, 34-42.	13.4	32
22	Resonance-driven oscillations in a flexible-channel flow with fixed upstream flux and a long downstream rigid segment. Journal of Fluid Mechanics, 2014, 746, 368-404.	3.4	14
23	Mathematical modelling of abrasive waterjet footprints for arbitrarily moving jets: Part II—Overlapped single and multiple straight paths. International Journal of Machine Tools and Manufacture, 2013, 68, 30-39.	13.4	55
24	Divergence-driven oscillations in a flexible-channel flow with fixed upstream flux. Journal of Fluid Mechanics, 2013, 723, 706-733.	3.4	17
25	A Reaction Diffusion Model for Inter-Species Competition and Intra-Species Cooperation. Mathematical Modelling of Natural Phenomena, 2013, 8, 154-181.	2.4	0
26	Inviscid coalescence in the presence of a surrounding fluid. IMA Journal of Applied Mathematics, 2012, 77, 678-696.	1.6	4
27	Mathematical modelling of abrasive waterjet footprints for arbitrarily moving jets: Part I—single straight paths. International Journal of Machine Tools and Manufacture, 2012, 53, 58-68.	13.4	61
28	Drops climbing uphill on an oscillating substrate. Journal of Fluid Mechanics, 2011, 674, 93-119.	3.4	27
29	Geometrical modelling of abrasive waterjet footprints: A study for 90° jet impact angle. CIRP Annals - Manufacturing Technology, 2010, 59, 341-346.	3.6	48
30	Surface-tension-driven flow in a half-plane. IMA Journal of Applied Mathematics, 2010, 75, 857-880.	1.6	1
31	A note on the unsteady motion under gravity of a corner point on a free surface: a generalization of Stokes' theory. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2009, 465, 165-173.	2.1	1
32	A multi-scale model for solute transport in a wavy-walled channel. Journal of Engineering Mathematics, 2009, 64, 25-48.	1.2	9
33	The initial development of a jet caused by fluid, body and free surface interaction. part 3. an inclined accelerating plate. Quarterly Journal of Mechanics and Applied Mathematics, 2008, 61, 581-614.	1.3	14
34	Three-dimensional elastohydrodynamics of a thin plate oscillating above a wall. Physical Review E, 2008, 78, 056310.	2.1	13
35	Gravity-driven thin-film flow using a new contact line model. IMA Journal of Applied Mathematics, 2007, 73, 4-36.	1.6	9
36	Foreword: Andy King. IMA Journal of Applied Mathematics, 2007, 73, 1-3.	1.6	1

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37	The development of slugging in two-layer hydraulic flows. IMA Journal of Applied Mathematics, 2007, 73, 274-322.	1.6	2
38	Numerical solutions of a model for the propagation of a surface-catalysed flame in a tube. IMA Journal of Applied Mathematics, 2007, 73, 107-122.	1.6	4
39	The initial development of a jet caused by fluid, body and free-surface interaction. Part 2. An impulsively moved plate. Journal of Fluid Mechanics, 2007, 578, 67-84.	3.4	20
40	Surface Tension-Driven Flow in a Slender Wedge. SIAM Journal on Applied Mathematics, 2006, 66, 1949-1977.	1.8	7
41	An asymptotic theory for the propagation of a surface-catalysed flame in a tube. Journal of Fluid Mechanics, 2006, 546, 363.	3.4	2
42	Three-dimensional flow due to a microcantilever oscillating near a wall: an unsteady slender-body analysis. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2006, 462, 913-933.	2.1	40
43	On a model for the motion of a contact line on a smooth solid surface. European Journal of Applied Mathematics, 2006, 17, 347-382.	2.9	18
44	Stochastic Elastohydrodynamics of a Microcantilever Oscillating Near a Wall. Physical Review Letters, 2006, 96, 050801.	7.8	39
45	Dynamics of the oil-air interface in hard disk drive bearings. IEEE Transactions on Magnetics, 2005, 41, 2884-2886.	2.1	3
46	A Multiphase Model for the Early Stages of the Hydration of Retarded Oilwell Cement. Journal of Engineering Mathematics, 2005, 53, 99-112.	1.2	8
47	The Initial Surface Tension-Driven Flow of a Wedge of Viscous Fluid. SIAM Journal on Applied Mathematics, 2005, 66, 510-532.	1.8	4
48	Surface-tension-driven flow outside a slender wedge with an application to the inviscid coalescence of drops. Journal of Fluid Mechanics, 2005, 533, .	3.4	16
49	Dynamics of a strongly nonlocal reaction-diffusion population model. Nonlinearity, 2004, 17, 313-346.	1.4	59
50	The effect of a retarder on the early stages of the hydration of tricalcium silicate. Journal of Engineering Mathematics, 2003, 45, 367-377.	1.2	11
51	On some eigenvalue problems in fuel-cell dynamics. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2003, 459, 241-261.	2.1	7
52	Nonlinear sloshing in zero gravity. Journal of Fluid Mechanics, 2002, 464, 365-391.	3.4	15
53	The effect of heat loss on the propagation of strongly exothermic combustion waves. Combustion Theory and Modelling, 2001, 5, 319-342.	1.9	9
54	Performance modelling of solid oxide fuel cells. Combustion Theory and Modelling, 2001, 5, 639-667.	1.9	3

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55	On the initial stages of cement hydration. <i>Journal of Engineering Mathematics</i> , 2001, 40, 43-58.	1.2	17
56	The evolution of travelling waves from chemical-clock reactions. <i>Journal of Engineering Mathematics</i> , 2001, 39, 367-385.	1.2	3
57	The evolution of travelling waves from chemical-clock reactions. , 2001, , 367-385.		1
58	Zero Gravity Sloshing. <i>Fluid Mechanics and Its Applications</i> , 2001, , 47-54.	0.2	2
59	Steady-state solutions for strongly exothermic ignition in symmetric geometries. <i>IMA Journal of Applied Mathematics</i> , 2000, 65, 283-313.	1.6	7
60	Flow and reaction in solid oxide fuel cells. <i>Journal of Fluid Mechanics</i> , 2000, 411, 233-262.	3.4	16
61	On modelling the formation of micelles in the presence of a slow influx of monomer. <i>Quarterly Journal of Mechanics and Applied Mathematics</i> , 2000, 53, 285-297.	1.3	2
62	Phase plane analysis of one-dimensional reaction diffusion waves with degenerate reaction terms. <i>Dynamical Systems</i> , 2000, 15, 23-33.	0.7	20
63	Chemical clock reactions: The effect of precursor consumption. <i>Journal of Mathematical Chemistry</i> , 1999, 26, 47-73.	1.5	11
64	Surface-tension-driven flow in fat fluid wedges and cones. <i>Journal of Fluid Mechanics</i> , 1999, 397, 45-71.	3.4	14
65	The Unsteady Motion of Three Phase Contact Lines. , 1999, , 99-110.		1
66	Modelling the response of a vibrating-element density meter in a two-phase mixture. <i>Journal of Fluid Mechanics</i> , 1997, 340, 343-360.	3.4	1
67	Uniform asymptotic expansions for the Barnes double gamma function. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 1997, 453, 1817-1829.	2.1	21
68	The interaction of a moving fluid/fluid interface with a flat plate. <i>Journal of Fluid Mechanics</i> , 1995, 296, 325-351.	3.4	18
69	Exploring complexity in some simple nonlinear chemical kinetic schemes. <i>Journal of Chemical Physics</i> , 1994, 100, 1921-1935.	3.0	9
70	Kinetics of self-replicating micelles. <i>Journal of the Chemical Society, Faraday Transactions</i> , 1994, 90, 1953.	1.7	18
71	Laminar, unidirectional flow of a thixotropic fluid in a circular pipe. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 1993, 47, 21-55.	2.4	48
72	Mathematical modelling of chemical clock reactions. <i>Journal of Engineering Mathematics</i> , 1993, 27, 113-145.	1.2	16

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73	Simple chemical clock reactions: application to cement hydration. Journal of the Chemical Society, Faraday Transactions, 1993, 89, 3021.	1.7	33
74	A note on the properties of a family of travelling-wave solutions arising in cubic autocatalysis. Dynamical Systems, 1991, 6, 33-49.	0.7	55