Scott W Mccue

List of Publications by Year
in descending order

112 papers	2,247 citations	218677 26 h-index	330143 37 g-index
114 all docs	114 docs citations	114 times ranked	1469 citing authors

#	Article	IF	Citations
1	Reproducibility of scratch assays is affected by the initial degree of confluence: Experiments, modelling and model selection. Journal of Theoretical Biology, 2016, 390, 136-145.	1.7	95
2	Spray droplet impaction outcomes for different plant species and spray formulations. Crop Protection, 2017, 99, 65-75.	2.1	93
3	Classical two-phase Stefan problem for spheres. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2008, 464, 2055-2076.	2.1	76
4	Impaction of spray droplets on leaves: influence of formulation and leaf character on shatter, bounce and adhesion. Experiments in Fluids, 2015, 56, 1.	2.4	73
5	Towards a model of sprayâ€“canopy interactions: Interception, shatter, bounce and retention of droplets on horizontal leaves. Ecological Modelling, 2014, 290, 94-101.	2.5	71
6	Mathematical Models for Cell Migration with Real-Time Cell Cycle Dynamics. Biophysical Journal, 2018, 114, 1241-1253.	0.5	53
7	Models of collective cell spreading with variable cell aspect ratio: A motivation for degenerate diffusion models. Physical Review E, 2011, 83, 021901.	2.1	48
8	What is the apparent angle of a Kelvin ship wave pattern?. Journal of Fluid Mechanics, 2014, 758, 468-485.	3.4	46
9	Modelling the interaction of keratinocytes and fibroblasts during normal and abnormal wound healing processes. Proceedings of the Royal Society B: Biological Sciences, 2012, 279, 3329-3338.	2.6	45
10	Spray retention on whole plants: modelling, simulations and experiments. Crop Protection, 2016, 88, 118-130.	2.1	45
11	Numerical investigation of controlling interfacial instabilities in non-standard Hele-Shaw configurations. Journal of Fluid Mechanics, 2019, 877, 1063-1097.	3.4	44
12	Revisiting the Fisherâ€“Kolmogorovâ€“Petrovskyâ€“Piskunov equation to interpret the spreadingâ€“extinction dichotomy. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2019, 475, 20190378.	2.1	43
13	A Fibrocontractive Mechanochemical Model of Dermal Wound Closure Incorporating Realistic Growth Factor Kinetics. Bulletin of Mathematical Biology, 2012, 74, 1143-1170.	1.9	41
14	Logistic Proliferation of Cells in Scratch Assays is Delayed. Bulletin of Mathematical Biology, 2017, 79, 1028-1050.	1.9	41
15	Extended logistic growth model for heterogeneous populations. Journal of Theoretical Biology, 2018, 445, 51-61.	1.7	40
16	Hole-closing model reveals exponents for nonlinear degenerate diffusivity functions in cell biology. Physica D: Nonlinear Phenomena, 2019, 398, 130-140.	2.8	39
17	Inferring parameters for a lattice-free model of cell migration and proliferation using experimental data. Journal of Theoretical Biology, 2018, 437, 251-260.	1.7	37
18	Gravity-driven fingering simulations for a thin liquid film flowing down the outside of a vertical cylinder. Physical Review E, 2013, 87, 053018.	2.1	36

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19	Surface reconstruction of wheat leaf morphology from three-dimensional scanned data. Functional Plant Biology, 2015, 42, 444.	2.1	35
20	Single phase limit for melting nanoparticles. Applied Mathematical Modelling, 2009, 33, 2349-2367.	4.2	34
21	Asymptotic and Numerical Results for a Model of Solvent-Dependent Drug Diffusion through Polymeric Spheres. SIAM Journal on Applied Mathematics, 2011, 71, 2287-2311.	1.8	33
22	The Extinction Problem for Three-dimensional Inward Solidification. Journal of Engineering Mathematics, 2005, 52, 389-409.	1.2	30
23	Critical time scales for advection-diffusion-reaction processes. Physical Review E, 2012, 85, 041135.	2.1	30
24	Micro/nanoparticle melting with spherical symmetry and surface tension. IMA Journal of Applied Mathematics, 2009, 74, 439-457.	1.6	29
25	The effect of surface tension and kinetic undercooling on a radially-symmetric melting problem. Applied Mathematics and Computation, 2014, 229, 41-52.	2.2	29
26	The role of initial geometry in experimental models of wound closing. Chemical Engineering Science, 2018, 179, 221-226.	3.8	29
27	Extinction behaviour for twoâ€“dimensional inward-solidification problems. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2003, 459, 977-999.	2.1	28
28	Modelling water droplet movement on a leaf surface. Mathematics and Computers in Simulation, 2011, 81, 1553-1571.	4.4	28
29	Bubble extinction in Hele-Shaw flow with surface tension and kinetic undercooling regularization. Nonlinearity, 2013, 26, 1639-1665.	1.4	28
30	Stochastic simulation tools and continuum models for describing two-dimensional collective cell spreading with universal growth functions. Physical Biology, 2016, 13, 056003.	1.8	28
31	Free surface flow past topography: A beyond-all-orders approach. European Journal of Applied Mathematics, 2012, 23, 441-467.	2.9	26
32	A Bayesian Computational Approach to Explore the Optimal Duration of a Cell Proliferation Assay. Bulletin of Mathematical Biology, 2017, 79, 1888-1906.	1.9	26
33	Evaporating droplets on inclined plant leaves and synthetic surfaces: Experiments and mathematical models. Journal of Colloid and Interface Science, 2021, 592, 329-341.	9.4	26
34	A two-compartment mechanochemical model of the roles of transforming growth factor <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si0127.gif" overflow="scroll"><mml:mi>Î²</mml:mi></mml:math> and tissue tension in dermal wound healing. Journal of Theoretical Biology, 2011, 272, 145-159.	1.7	25
35	Spectrograms of ship wakes: identifying linear and nonlinear wave signals. Journal of Fluid Mechanics, 2017, 811, 189-209.	3.4	25
36	Moments of action provide insight into critical times for advection-diffusion-reaction processes. Physical Review E, 2012, 86, 031136.	2.1	24

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37	Characterizing transport through a crowded environment with different obstacle sizes. Journal of Chemical Physics, 2014, 140, 054108.	3.0	24
38	Including nonequilibrium interface kinetics in a continuum model for melting nanoscaled particles. Scientific Reports, 2014, 4, 7066.	3.3	24
39	Time-frequency analysis of ship wave patterns in shallow water: modelling and experiments. Ocean Engineering, 2018, 158, 123-131.	4.3	24
40	Mathematical models incorporating a multi-stage cell cycle replicate normally-hidden inherent synchronization in cell proliferation. Journal of the Royal Society Interface, 2019, 16, 20190382.	3.4	24
41	Exact sharp-fronted travelling wave solutions of the Fisherâ€“KPP equation. Applied Mathematics Letters, 2021, 114, 106918.	2.7	23
42	Examining Go-or-Grow Using Fluorescent Cell-Cycle Indicators and Cell-Cycle-Inhibiting Drugs. Biophysical Journal, 2020, 118, 1243-1247.	0.5	22
43	Free-surface flow past arbitrary topography and an inverse approach for wave-free solutions. IMA Journal of Applied Mathematics, 2013, 78, 685-696.	1.6	21
44	Jacobian-free Newtonâ€“Krylov methods with GPU acceleration for computing nonlinear ship wave patterns. Journal of Computational Physics, 2014, 269, 297-313.	3.8	21
45	Free-surface flows emerging from beneath a semi-infinite plate with constant vorticity. Journal of Fluid Mechanics, 2002, 461, 387-407.	3.4	18
46	A sharp-front moving boundary model for malignant invasion. Physica D: Nonlinear Phenomena, 2020, 412, 132639.	2.8	18
47	Bow and stern flows with constant vorticity. Journal of Fluid Mechanics, 1999, 399, 277-300.	3.4	17
48	Coulombâ€“Mohr Granular Materials: Quasi-static Flows and the Highly Frictional Limit. Applied Mechanics Reviews, 2008, 61, .	10.1	17
49	Nanoparticle Melting as a Stefan Moving Boundary Problem. Journal of Nanoscience and Nanotechnology, 2009, 9, 885-888.	0.9	17
50	Stochastic models of cell invasion with fluorescent cell cycle indicators. Physica A: Statistical Mechanics and Its Applications, 2018, 510, 375-386.	2.6	17
51	Contracting bubbles in Hele-Shaw cells with a power-law fluid. Nonlinearity, 2011, 24, 613-641.	1.4	16
52	Clinical strategies for the alleviation of contractures from a predictive mathematical model of dermal repair. Wound Repair and Regeneration, 2012, 20, 194-202.	3.0	16
53	Exponential asymptotics of free surface flow due to a line source. IMA Journal of Applied Mathematics, 2013, 78, 697-713.	1.6	15
54	Free Surface Problems for Static Coulomb-Mohr Granular Solids. Mathematics and Mechanics of Solids, 2005, 10, 651-672.	2.4	14

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55	Simulating droplet motion on virtual leaf surfaces. Royal Society Open Science, 2015, 2, 140528.	2.4	14
56	Modeling transport through an environment crowded by a mixture of obstacles of different shapes and sizes. Physica A: Statistical Mechanics and Its Applications, 2016, 449, 74-84.	2.6	14
57	A computational modelling framework to quantify the effects of passaging cell lines. PLoS ONE, 2017, 12, e0181941.	2.5	14
58	Extinction Behaviour of Contracting Bubbles in Porous Media. Quarterly Journal of Mechanics and Applied Mathematics, 2003, 56, 455-482.	1.3	13
59	Velocity-jump models with crowding effects. Physical Review E, 2011, 84, 061920.	2.1	13
60	New exact solutions for Hele-Shaw flow in doubly connected regions. Physics of Fluids, 2012, 24, 052101.	4.0	13
61	Wake angle for surface gravity waves on a finite depth fluid. Physics of Fluids, 2015, 27, .	4.0	13
62	A curve shortening flow rule for closed embedded plane curves with a prescribed rate of change in enclosed area. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2016, 472, 20150629.	2.1	13
63	Simulating spray droplet impaction outcomes: comparison with experimental data. Pest Management Science, 2020, 76, 3469-3476.	3.4	13
64	Invading and Receding Sharp-Fronted Travelling Waves. Bulletin of Mathematical Biology, 2021, 83, 35.	1.9	13
65	Accurate series solutions for gravity-driven Stokes waves. Physics of Fluids, 2010, 22, .	4.0	12
66	Minimising wave drag for free surface flow past a two-dimensional stern. Physics of Fluids, 2011, 23, 072101.	4.0	11
67	Simplified approach for calculating moments of action for linear reaction-diffusion equations. Physical Review E, 2013, 88, 054102.	2.1	11
68	Extending fields in a level set method by solving a biharmonic equation. Journal of Computational Physics, 2017, 343, 170-185.	3.8	11
69	Three-dimensional free-surface flow over arbitrary bottom topography. Journal of Fluid Mechanics, 2018, 846, 166-189.	3.4	11
70	Image analysis of shatter and pinning events on hardâ€toâ€wet leaf surfaces by drops containing surfactant. Pest Management Science, 2020, 76, 3477-3486.	3.4	11
71	Kelvin wake pattern at small Froude numbers. Journal of Fluid Mechanics, 2021, 915, .	3.4	11
72	Quadrature Domains and p-Laplacian Growth. Complex Analysis and Operator Theory, 2009, 3, 453-469.	0.6	10

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73	Corner and finger formation in Hele-Shaw flow with kinetic undercooling regularisation. European Journal of Applied Mathematics, 2014, 25, 707-727.	2.9	10
74	Saffman-Taylor fingers with kinetic undercooling. Physical Review E, 2015, 91, 023016.	2.1	10
75	Short, flat-tipped, viscous fingers: novel interfacial patterns in a Hele-Shaw channel with an elastic boundary. Journal of Fluid Mechanics, 2018, 834, 1-4.	3.4	10
76	Travelling wave analysis of cellular invasion into surrounding tissues. Physica D: Nonlinear Phenomena, 2021, 428, 133026.	2.8	10
77	Linear stern waves in finite depth channels. Quarterly Journal of Mechanics and Applied Mathematics, 2000, 53, 629-643.	1.3	9
78	Efficient computation of twoâ€dimensional steady freeâ€surface flows. International Journal for Numerical Methods in Fluids, 2018, 86, 607-624.	1.6	9
79	Mean exit time for diffusion on irregular domains. New Journal of Physics, 2021, 23, 043030.	2.9	9
80	The effect of surface tension on steadily translating bubbles in an unbounded Hele-Shaw cell. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2017, 473, 20170050.	2.1	9
81	Moving Boundary Problems for Quasi-Steady Conduction Limited Melting. SIAM Journal on Applied Mathematics, 2019, 79, 2107-2131.	1.8	8
82	Persistency of debris accumulation in tidal estuaries using Lagrangian coherent structures. Science of the Total Environment, 2021, 781, 146808.	8.0	8
83	New stress and velocity fields for highly frictional granular materials. IMA Journal of Applied Mathematics, 2004, 70, 92-118.	1.6	7
84	Perturbation solutions for flow through symmetrical hoppers with inserts and asymmetrical wedge hoppers. Journal of Engineering Mathematics, 2005, 52, 63-91.	1.2	7
85	A novel mathematical model of heterogeneous cell proliferation. Journal of Mathematical Biology, 2021, 82, 34.	1.9	7
86	A REVIEW OF ONE-PHASE HELE-SHAW FLOWS AND A LEVEL-SET METHOD FOR NONSTANDARD CONFIGURATIONS. ANZIAM Journal, 2021, 63, 269-307.	0.2	7
87	An accurate numerical scheme for the contraction of a bubble in a Hele--Shaw cell. ANZIAM Journal, 0, 54, 309.	0.0	7
88	Discrete families of Saffmanâ€"Taylor fingers with exotic shapes. Results in Physics, 2015, 5, 103-104.	4.1	6
89	Comment on â€œLocal accumulation times for source, diffusion, and degradation models in two and three dimensionsâ€•[J. Chem. Phys. 138, 104121 (2013)]. Journal of Chemical Physics, 2013, 139, 017101.	3.0	5
90	A model for one-dimensional morphoelasticity and its application to fibroblast-populated collagen lattices. Biomechanics and Modeling in Mechanobiology, 2017, 16, 1743-1763.	2.8	5

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91	Numerical study of two ill-posed one phase Stefan problems. ANZIAM Journal, 0, 52, 430.	0.0	5
92	CRITICAL TIMESCALES AND TIME INTERVALS FOR COUPLED LINEAR PROCESSES. ANZIAM Journal, 2013, 54, 127-142.	0.2	4
93	Selection of a Hele-Shaw Bubble via Exponential Asymptotics. SIAM Journal on Applied Mathematics, 2020, 80, 289-311.	1.8	4
94	Implicit reconstructions of thin leaf surfaces from large, noisy point clouds. Applied Mathematical Modelling, 2021, 98, 416-434.	4.2	4
95	Drug diffusion from polymeric delivery devices: a problem with two moving boundaries. ANZIAM Journal, 0, 52, 549.	0.0	4
96	Optimal fluid injection strategies for in situ mineral leaching in two-dimensions. , 1999, 36, 185-206.		3
97	Preface to fourth Special Issue on Practical Asymptotics. Journal of Engineering Mathematics, 2009, 63, 153-154.	1.2	3
98	Travelling waves for a velocity-jump model of cell migration and proliferation. Mathematical Biosciences, 2013, 244, 98-106.	1.9	3
99	Velocity-jump processes with proliferation. Journal of Physics A: Mathematical and Theoretical, 2013, 46, 015003.	2.1	3
100	A review of one-phase Hele-Shaw flows and a level-set method for nonstandard configurations. ANZIAM Journal, 0, 63, 269-307.	0.0	3
101	Lie group symmetry analysis for granular media stress equations. Journal of Mathematical Analysis and Applications, 2005, 301, 135-157.	1.0	2
102	Symmetry analysis for uniaxial compression of a hypoplastic granular material. Zeitschrift Fur Angewandte Mathematik Und Physik, 2005, 56, 1061-1083.	1.4	2
103	Application of a continuum theory to vertical vibrations of a layer of granular material. International Journal of Engineering Science, 2009, 47, 1216-1231.	5.0	2
104	Interfacial dynamics and pinch-off singularities for axially symmetric Darcy flow. Physical Review E, 2019, 100, 053109.	2.1	2
105	A Cellular Automata Model to Investigate Immune Cellâ€"Tumor Cell Interactions in Growing Tumors in Two Spatial Dimensions. Springer Proceedings in Mathematics and Statistics, 2014, , 223-251.	0.2	2
106	Spectrogram analysis of surface elevation signals due to accelerating ships. Physical Review Fluids, 2021, 6, .	2.5	2
107	A Continuum Mathematical Model of Substrate-Mediated Tissue Growth. Bulletin of Mathematical Biology, 2022, 84, 49.	1.9	2
108	Exact time-dependent solutions of a Fisherâ€"KPP-like equation obtained with nonclassical symmetry analysis. Applied Mathematics Letters, 2022, 132, 108151.	2.7	2

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109	Numerical solutions for thin film flow down the outside and inside of a vertical cylinder. ANZIAM Journal, 0, 54, 377.	0.0	1
110	Traveling waves, blowâ€up, and extinction in the Fisherâ€“Stefan model. Studies in Applied Mathematics, 2022, 148, 964-986.	2.4	1
111	Free surface flow into a horizontal slot with zero gravity. Physics of Fluids, 2000, 12, 2145-2147.	4.0	0
112	Assimilation of GPS-tracked drifter data to improve the Eulerian velocity fields in an estuary. Estuarine, Coastal and Shelf Science, 2021, 262, 107575.	2.1	0