Kevin J Painter

List of Publications by Citations

73 papers	3,663 citations	29 h-index	60 g-index
79 ext. papers	4,201 ext. citations	2.9 avg, IF	5.92 L-index

#	Paper	IF	Citations
73	A user's guide to PDE models for chemotaxis. *Journal of Mathematical Biology*, **2009**, 58, 183-217	2	913
72	A continuum approach to modelling cell-cell adhesion. *Journal of Theoretical Biology*, **2006**, 243, 98-113	2.3	240
71	Global Existence for a Parabolic Chemotaxis Model with Prevention of Overcrowding. *Advances in Applied Mathematics*, **2001**, 26, 280-301	0.8	221
70	Spatial pattern formation in chemical and biological systems. *Journal of the Chemical Society, Faraday Transactions*, **1997**, 93, 3601-3610		214
69	Stripe formation in juvenile Pomacanthus explained by a generalized turing mechanism with chemotaxis. *Proceedings of the National Academy of Sciences of the United States of America*, **1999**, 96, 5549-54	11.5	178
68	Spatio-temporal chaos in a chemotaxis model. *Physica D: Nonlinear Phenomena*, **2011**, 240, 363-375	3.3	132
67	Modelling the movement of interacting cell populations. *Journal of Theoretical Biology*, **2003**, 225, 327-339	2.3	96
66	Mathematical modelling of glioma growth: the use of Diffusion Tensor Imaging (DTI) data to predict the anisotropic pathways of cancer invasion. *Journal of Theoretical Biology*, **2013**, 323, 25-39	2.3	92
65	Modelling cell migration strategies in the extracellular matrix. *Journal of Mathematical Biology*, **2009**, 58, 511-43	2	82
64	Cryptic patterning of avian skin confers a developmental facility for loss of neck feathering. *PLoS Biology*, **2011**, 9, e1001028	9.7	79
63	CONVERGENCE OF A CANCER INVASION MODEL TO A LOGISTIC CHEMOTAXIS MODEL. *Mathematical Models and Methods in Applied Sciences*, **2013**, 23, 165-198	3.5	72
62	Continuous models for cell migration in tissues and applications to cell sorting via differential chemotaxis. *Bulletin of Mathematical Biology*, **2009**, 71, 1117-47	2.1	69
61	Development and applications of a model for cellular response to multiple chemotactic cues. *Journal of Mathematical Biology*, **2000**, 41, 285-314	2	68
60	Pattern formation in a generalized chemotactic model. *Bulletin of Mathematical Biology*, **1998**, 60, 1-26	2.1	64
59	The impact of adhesion on cellular invasion processes in cancer and development. *Journal of Theoretical Biology*, **2010**, 264, 1057-67	2.3	62
58	From a discrete to a continuous model of biological cell movement. *Physical Review E*, **2004**, 69, 021910	2.4	62
57	Hierarchical patterning modes orchestrate hair follicle morphogenesis. *PLoS Biology*, **2017**, 15, e2002117	9.7	54

56	A Nonlocal Model for Contact Attraction and Repulsion in Heterogeneous Cell Populations. *Bulletin of Mathematical Biology*, **2015**, 77, 1132-65	2.1	52
55	The Intersection of Theory and Application in Elucidating Pattern Formation in Developmental Biology. *Mathematical Modelling of Natural Phenomena*, **2009**, 4, 3-82	3	51
54	A chemotactic model for the advance and retreat of the primitive streak in avian development. *Bulletin of Mathematical Biology*, **2000**, 62, 501-25	2.1	45
53	Global existence for chemotaxis with finite sampling radius. *Discrete and Continuous Dynamical Systems - Series B*, **2007**, 7, 125-144	1.3	45
52	Mathematical models for chemotaxis and their applications in self-organisation phenomena. *Journal of Theoretical Biology*, **2019**, 481, 162-182	2.3	44
51	Feather arrays are patterned by interacting signalling and cell density waves. *PLoS Biology*, **2019**, 17, e3000132	9.7	42
50	Occurrence vs. Absence of Taxis-Driven Instabilities in a May--Nowak Model for Virus Infection. *SIAM Journal on Applied Mathematics*, **2019**, 79, 1990-2010	1.8	41
49	Towards an integrated experimental-theoretical approach for assessing the mechanistic basis of hair and feather morphogenesis. *Interface Focus*, **2012**, 2, 433-50	3.9	41
48	Boundedness of solutions of a non-local reaction–diffusion model for adhesion in cell aggregation and cancer invasion. *European Journal of Applied Mathematics*, **2009**, 20, 123-144	1	41
47	Adding adhesion to a chemical signaling model for somite formation. *Bulletin of Mathematical Biology*, **2009**, 71, 1-24	2.1	41
46	Reconciling diverse mammalian pigmentation patterns with a fundamental mathematical model. *Nature Communications*, **2016**, 7, 10288	17.4	36
45	Travelling waves in hyperbolic chemotaxis equations. *Bulletin of Mathematical Biology*, **2011**, 73, 1695-1733	2.1	31
44	Navigating the flow: individual and continuum models for homing in flowing environments. *Journal of the Royal Society Interface*, **2015**, 12,	4.1	28
43	Aggregation under local reinforcement: From lattice to continuum. *European Journal of Applied Mathematics*, **2004**, 15, 545-576	1	25
42	A space-jump derivation for non-local models of cell-cell adhesion and non-local chemotaxis. *Journal of Mathematical Biology*, **2018**, 76, 429-456	2	24
41	A single-cell-based model of multicellular growth using the immersed boundary method. *Contemporary Mathematics*, **2008**, 1-15	1.6	23
40	Travelling waves in hybrid chemotaxis models. *Bulletin of Mathematical Biology*, **2014**, 76, 377-400	2.1	22
39	Mathematical models for cell migration: a non-local perspective. *Philosophical Transactions of the Royal Society B: Biological Sciences*, **2020**, 375, 20190379	5.8	22

38	A mathematical model for lymphangiogenesis in normal and diabetic wounds. *Journal of Theoretical Biology*, **2015**, 383, 61-86	2.3	21
37	Transport and Anisotropic Diffusion Models for Movement in Oriented Habitats. *Lecture Notes in Mathematics*, **2013**, 177-222	0.4	21
36	A chemotaxis model of feather primordia pattern formation during avian development. *Journal of Theoretical Biology*, **2018**, 437, 225-238	2.3	21
35	The contributions of interlocking loops and extensive nonlinearity to the properties of circadian clock models. *PLoS ONE*, **2010**, 5, e13867	3.7	18
34	Mathematical Modeling of Cell Adhesion and Its Applications Mathematical Modeling of Cell Adhesion and Its Applications. *Chapman & Hall/CRC Mathematical and Computational Biology Series*, **2010**, 319-349		18
33	Localization in lattice and continuum models of reinforced random walks. *Applied Mathematics Letters*, **2003**, 16, 375-381	3.5	16
32	Moments of von Mises and Fisher distributions and applications. *Mathematical Biosciences and Engineering*, **2017**, 14, 673-694	2.1	16
31	Pattern formation in discrete cell tissues under long range filopodia-based direct cell to cell contact. *Mathematical Biosciences*, **2016**, 273, 1-15	3.9	16
30	Fractional Patlak--Keller--Segel Equations for Chemotactic Superdiffusion. *SIAM Journal on Applied Mathematics*, **2018**, 78, 1155-1173	1.8	15
29	Anisotropic diffusion in oriented environments can lead to singularity formation. *European Journal of Applied Mathematics*, **2013**, 24, 371-413	1	15
28	Space-time fractional diffusion in cell movement models with delay. *Mathematical Models and Methods in Applied Sciences*, **2019**, 29, 65-88	3.5	15
27	Multiscale models for movement in oriented environments and their application to hilltopping in butterflies. *Theoretical Ecology*, **2014**, 7, 53-75	1.6	12
26	Cellular automata and integrodifferential equation models for cell renewal in mosaic tissues. *Journal of the Royal Society Interface*, **2010**, 7, 1525-35	4.1	12
25	Stippling the Skin: Generation of Anatomical Periodicity by Reaction-Diffusion Mechanisms. *Mathematical Modelling of Natural Phenomena*, **2009**, 4, 83-102	3	12
24	Efficiency of island homing by sea turtles under multimodal navigating strategies. *Ecological Modelling*, **2019**, 391, 40-52	3	12
23	Spatio-temporal Models of Lymphangiogenesis in Wound Healing. *Bulletin of Mathematical Biology*, **2016**, 78, 1904-1941	2.1	11
22	Global solvability and explicit bounds for non-local adhesion models. *European Journal of Applied Mathematics*, **2018**, 29, 645-684	1	10
21	Consistent robustness analysis (CRA) identifies biologically relevant properties of regulatory network models. *PLoS ONE*, **2010**, 5, e15589	3.7	6

20	Models for Pigment Pattern Formation in the Skin of Fishes. *The IMA Volumes in Mathematics and Its Applications*, **2001**, 59-81	0.5	6
19	Merging-emerging systems can describe spatio-temporal patterning in a chemotaxis model. *Discrete and Continuous Dynamical Systems - Series B*, **2013**, 18, 2513-2536	1.3	5
18	How does cellular contact affect differentiation mediated pattern formation?. *Bulletin of Mathematical Biology*, **2011**, 73, 1529-58	2.1	5
17	The impact of short- and long-range perception on population movements. *Journal of Theoretical Biology*, **2019**, 460, 227-242	2.3	5
16	Modelling chase-and-run migration in heterogeneous populations. *Journal of Mathematical Biology*, **2020**, 80, 423-456	2	5
15	From Random Walks to Fully Anisotropic Diffusion Models for Cell and Animal Movement. *Modeling and Simulation in Science, Engineering and Technology*, **2018**, 103-141	0.8	4
14	Leadership Through Influence: What Mechanisms Allow Leaders to Steer a Swarm?. *Bulletin of Mathematical Biology*, **2021**, 83, 69	2.1	3
13	Systems for intricate patterning of the vertebrate anatomy. *Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences*, **2021**, 379, 20200270	3	2
12	Nonlocal and local models for taxis in cell migration: a rigorous limit procedure. *Journal of Mathematical Biology*, **2020**, 81, 1251-1298	2	2
11	A stochastic model of corneal epithelium maintenance and recovery following perturbation. *Journal of Mathematical Biology*, **2019**, 78, 1245-1276	2	2
10	Modelling collective navigation via non-local communication. *Journal of the Royal Society Interface*, **2021**, 18, 20210383	4.1	2
9	Trade-offs between chemotaxis and proliferation shape the phenotypic structuring of invading waves. *International Journal of Non-Linear Mechanics*, **2022**, 139, 103885	2.8	1
8	A space-jump derivation for non-local models of cell-cell adhesion and non-local chemotaxis		1
7	Direction-dependent turning leads to anisotropic diffusion and persistence. *European Journal of Applied Mathematics*,1-37	1	1
6	The impact of rheotaxis and flow on the aggregation of organisms. *Journal of the Royal Society Interface*, **2021**, 18, 20210582	4.1	0
5	Stable Steady-State Solutions of Some Biological Aggregation Models. *SIAM Journal on Applied Mathematics*, **2021**, 81, 1248-1263	1.8	0
4	Multiscale phenomena and patterns in biological systems: special issue in honour of Hans Othmer. *Journal of Mathematical Biology*, **2020**, 80, 275-281	2	
3	Aggregation of biological particles under radial directional guidance. *Journal of Theoretical Biology*, **2017**, 427, 77-89	2.3	

2	Macroscopic descriptions of follower-leader systems. *Kinetic and Related Models*, **2021**, 14, 981	2.4
1	Spatiotemporal Pattern Formation in Early Development: A Review of Primitive Streak Formation and Somitogenesis. *The IMA Volumes in Mathematics and Its Applications*, **2001**, 11-37	0.5