Markus R Owen

List of Publications by Year
in descending order

75	4,089	117625 34	118850 62
papers	citations	h-index	g-index

82	82	82	4515
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	The Virtual Root: Mathematical Modeling of Auxin Transport in the Arabidopsis Root Tip Using the Open-Source Software SimuPlant. Methods in Molecular Biology, 2022, 2395, 147-164.	0.9	1
2	Exorcising Malthusian ghosts: Vaccinating the Nexus to advance integrated water, energy and food resource resilience. Current Research in Environmental Sustainability, 2022, 4, 100108.	3.5	1
3	Modelling the emergence of cities andÂurban patterning using coupled integro-differential equations. Journal of the Royal Society Interface, 2022, 19, 20220176.	3.4	0
4	Differential biosynthesis and cellular permeability explain longitudinal gibberellin gradients in growing roots. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	32
5	Agent-based modelling of juvenile eel migration via selective tidal stream transport. Ecological Modelling, 2021, 443, 109448.	2.5	9
6	A Mechanistic Investigation into Ischemia-Driven Distal Recurrence of Glioblastoma. Bulletin of Mathematical Biology, 2020, 82, 143.	1.9	5
7	Speed Switch in Glioblastoma Growth Rate due to Enhanced Hypoxia-Induced Migration. Bulletin of Mathematical Biology, 2020, 82, 43.	1.9	7
8	Switching behaviour in vascular smooth muscle cellâ€“matrix adhesion during oscillatory loading. Journal of Theoretical Biology, 2020, 502, 110387.	1.7	4
9	Identifying the spatial and temporal dynamics of molecularly-distinct glioblastoma sub-populations. Mathematical Biosciences and Engineering, 2020, 17, 4905-4941.	1.9	7
10	Capturing the Dynamics of a Hybrid Multiscale Cancer Model with a Continuum Model. Bulletin of Mathematical Biology, 2018, 80, 1435-1475.	1.9	1
11	Effect of Loading History on Airway Smooth Muscle Cell-Matrix Adhesions. Biophysical Journal, 2018, 114, 2679-2690.	0.5	11
12	Mathematical modelling of cytokines, MMPs and fibronectin fragments in osteoarthritic cartilage. Journal of Mathematical Biology, 2017, 75, 985-1024.	1.9	13
13	Root hydrotropism is controlled via a cortex-specific growth mechanism. Nature Plants, 2017, 3, 17057.	9.3	183
14	O<scp>pen</scp>S<scp>im</scp>R<scp>oot</scp>: widening the scope and application of root architectural models. New Phytologist, 2017, 215, 1274-1286.	7.3	158
15	Dynamic regulation of auxin oxidase and conjugating enzymes <i>AtDAO1</i> and <i>GH3</i> modulates auxin homeostasis. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 11022-11027.	7.1	119
16	The spatiotemporal order of signaling events unveils the logic of development signaling. Bioinformatics, 2016, 32, 2313-2320.	4.1	6
17	Modelling cell cycle synchronisation in networks of coupled radial glial cells. Journal of Theoretical Biology, 2015, 377, 85-97.	1.7	4
18	Mathematical analysis of a model for the growth of the bovine corpus luteum. Journal of Mathematical Biology, 2014, 69, 1515-1546.	1.9	5

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19	Modelling the coupling between intracellular calcium release and the cell cycle during cortical brain development. Journal of Theoretical Biology, 2014, 347, 17-32.	1.7	11
20	STAT1-cooperative DNA binding distinguishes type 1 from type 2 interferon signaling. Nature Immunology, 2014, 15, 168-176.	14.5	75
21	Comparing Stochastic Differential Equations and Agent-Based Modelling and Simulation for Early-Stage Cancer. PLoS ONE, 2014, 9, e95150.	2.5	57
22	On-lattice agent-based simulation of populations of cells within the open-source Chaste framework. Interface Focus, 2013, 3, 20120081.	3.0	20
23	Mathematical modelling of cytokine-mediated inflammation in rheumatoid arthritis. Mathematical Medicine and Biology, 2013, 30, 311-337.	1.2	33
24	Sequential induction of auxin efflux and influx carriers regulates lateral root emergence. Molecular Systems Biology, 2013, 9, 699.	7.2	104
25	Damped propagation of cell polarization explains distinct PCP phenotypes of epithelial patterning. Scientific Reports, 2013, 3, 2528.	3.3	6
26	Influence of slow oscillation on hippocampal activity and ripples through cortico-hippocampal synaptic interactions, analyzed by a cortical-CA3-CA1 network model. Frontiers in Computational Neuroscience, 2013, 7, 3.	2.1	31
27	Is a Persistent Global Bias Necessary for the Establishment of Planar Cell Polarity?. PLoS ONE, 2013, 8, e60064.	2.5	11
28	Growth-induced hormone dilution can explain the dynamics of plant root cell elongation. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 7577-7582.	7.1	95
29	Root gravitropism is regulated by a transient lateral auxin gradient controlled by a tipping-point mechanism. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 4668-4673.	7.1	304
30	Modeling Regulatory Networks to Understand Plant Development: Small Is Beautiful. Plant Cell, 2012, 24, 3876-3891.	6.6	31
31	A mathematical model of the bovine oestrous cycle: Simulating outcomes of dietary and pharmacological interventions. Journal of Theoretical Biology, 2012, 313, 115-126.	1.7	8
32	Mathematical modeling elucidates the role of transcriptional feedback in gibberellin signaling. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 7571-7576.	7.1	119
33	Modeling sharp waveâ€ripple complexes through a CA3â€CA1 network model with chemical synapses. Hippocampus, 2012, 22, 995-1017.	1.9	90
34	Mathematical Modeling Predicts Synergistic Antitumor Effects of Combining a Macrophage-Based, Hypoxia-Targeted Gene Therapy with Chemotherapy. Cancer Research, 2011, 71, 2826-2837.	0.9	84
35	Multiscale Modelling of Vascular Tumour Growth in 3D: The Roles of Domain Size and Boundary Conditions. PLoS ONE, 2011, 6, e14790.	2.5	150
36	Assessing cortico-hippocampal functional connectivity under anesthesia and kainic acid using generalized partial directed coherence. Biological Cybernetics, 2010, 102, 327-340.	1.3	31

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37	Modelling and Analysis of Planar Cell Polarity. Bulletin of Mathematical Biology, 2010, 72, 645-680.	1.9	32
38	Mathematical Modelling of the Aux/IAA Negative Feedback Loop. Bulletin of Mathematical Biology, 2010, 72, 1383-1407.	1.9	56
39	Oscillatory dynamics in a model of vascular tumour growth - implications for chemotherapy. Biology Direct, 2010, 5, 27.	4.6	16
40	Mathematical modelling of signalling in a two-ligand G-protein coupled receptor system: Agonistâ€“antagonist competition. Mathematical Biosciences, 2010, 223, 115-132.	1.9	9
41	MACROPHAGES AND TUMOURS: FRIENDS OR FOE?. , 2010, , .		0
42	Angiogenesis and vascular remodelling in normal and cancerous tissues. Journal of Mathematical Biology, 2009, 58, 689-721.	1.9	178
43	Mathematical Modeling of Glucose Homeostasis and Its Relationship With Energy Balance and Body Fat. Obesity, 2009, 17, 632-639.	3.0	17
44	Sensory gating and its modulation by cannabinoids: electrophysiological, computational and mathematical analysis. Cognitive Neurodynamics, 2008, 2, 159-170.	4.0	14
45	Multiscale Modelling of Solid Tumour Growth. , 2008, , 1-25.		5
46	Bumps and rings in a two-dimensional neural field: splitting and rotational instabilities. New Journal of Physics, 2007, 9, 378-378.	2.9	86
47	A simulation model of rhizome networks for Fallopia japonica (Japanese knotweed) in the United Kingdom. Ecological Modelling, 2007, 200, 421-432.	2.5	32
48	The role of cannabinoids in the neurobiology of sensory gating: A firing rate model study. Neurocomputing, 2007, 70, 1902-1906.	5.9	6
49	Combined microarray analysis uncovers self-renewal related signaling in mouse embryonic stem cells. Systems and Synthetic Biology, 2007, 1, 171-181.	1.0	20
50	Macrophage-Based Anti-Cancer Therapy: Modelling Different Modes of Tumour Targeting. Bulletin of Mathematical Biology, 2007, 69, 1747-1776.	1.9	35
51	Modelling the Role of Angiogenesis and Vasculogenesis in Solid Tumour Growth. Bulletin of Mathematical Biology, 2007, 69, 2737-2772.	1.9	40
52	Structural Adaptation in Normal and Cancerous Vasculature. , 2007, , 165-178.		1
53	Multiscale Modelling of Tumour Growth and Therapy: The Influence of Vessel Normalisation on Chemotherapy. Computational and Mathematical Methods in Medicine, 2006, 7, 85-119.	1.3	71
54	MODELLING THE RESPONSE OF VASCULAR TUMOURS TO CHEMOTHERAPY: A MULTISCALE APPROACH. Mathematical Models and Methods in Applied Sciences, 2006, 16, 1219-1241.	3.3	52

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55	Modelling aspects of cancer dynamics: a review. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2006, 364, 1563-1578.	3.4	211
56	The impact of cell crowding and active cell movement on vascular tumour growth. Networks and Heterogeneous Media, 2006, 1, 515-535.	1.1	26
57	Bumps, Breathers, and Waves in a Neural Network with Spike Frequency Adaptation. Physical Review Letters, 2005, 94, 148102.	7.8	99
58	Mathematical modelling of the use of macrophages as vehicles for drug delivery to hypoxic tumour sites. Journal of Theoretical Biology, 2004, 226, 377-391.	1.7	132
59	Intra-membrane ligand diffusion and cell shape modulate juxtacrine patterning. Journal of Theoretical Biology, 2004, 230, 99-117.	1.7	14
60	Oscillations and patterns in spatially discrete models for developmental intercellular signalling. Journal of Mathematical Biology, 2004, 48, 444-476.	1.9	61
61	A new interpretation of the Keller-Segel model based on multiphase modelling. Journal of Mathematical Biology, 2004, 49, 604-626.	1.9	45
62	Evans Functions for Integral Neural Field Equations with Heaviside Firing Rate Function. SIAM Journal on Applied Dynamical Systems, 2004, 3, 574-600.	1.6	129
63	Waves and bumps in neuronal networks with axo-dendritic synaptic interactions. Physica D: Nonlinear Phenomena, 2003, 178, 219-241.	2.8	142
64	Waves and propagation failure in discrete space models with nonlinear coupling and feedback. Physica D: Nonlinear Phenomena, 2002, 173, 59-76.	2.8	17
65	Mode locking in a periodically forced integrate-and-fire-or-burst neuron model. Physical Review E, 2001, 64, 041914.	2.1	37
66	The Mechanics of Lung Tissue under High-Frequency Ventilation. SIAM Journal on Applied Mathematics, 2001, 61, 1731-1761.	1.8	20
67	How Predation can Slow, Stop or Reverse a Prey Invasion. Bulletin of Mathematical Biology, 2001, 63, 655-684.	1.9	164
68	Spatiotemporal Patterning in Models of Juxtacrine Intercellular Signalling with Feedback. The IMA Volumes in Mathematics and Its Applications, 2001, , 165-192.	0.5	7
69	Mathematical Modelling of Juxtacrine Patterning. Bulletin of Mathematical Biology, 2000, 62, 293-320.	1.9	59
70	Lateral Induction by Juxtacrine Signaling Is a New Mechanism for Pattern Formation. Developmental Biology, 2000, 217, 54-61.	2.0	64
71	MATHEMATICAL MODELLING OF MACROPHAGE DYNAMICS IN TUMOURS. Mathematical Models and Methods in Applied Sciences, 1999, 09, 513-539.	3.3	64
72	How far can a juxtacrine signal travel?. Proceedings of the Royal Society B: Biological Sciences, 1999, 266, 579-585.	2.6	37

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73	Mathematical modelling of juxtacrine cell signalling. Mathematical Biosciences, 1998, 153, 125-150.	1.9	65
74	Modelling the macrophage invasion of tumours: Effects on growth and composition. Mathematical Medicine and Biology, 1998, 15, 165-185.	1.2	76
75	Pattern Formation and Spatiotemporal Irregularity in a Model for Macrophageâ€"Tumour Interactions. Journal of Theoretical Biology, 1997, 189, 63-80.	1.7	93