James M Osborne

List of Publications by Year
in descending order

57 papers	2,491 citations	279798 23 h-index	223800 46 g-index
65 all docs	65 docs citations	65 times ranked	3104 citing authors

#	Article	IF	Citations
1	Seven challenges in the multiscale modeling of multicellular tissues. WIREs Mechanisms of Disease, 2022, 14, e1527.	3.3	20
2	Modelling Cellular Interactions and Dynamics During Kidney Morphogenesis. Bulletin of Mathematical Biology, 2022, 84, 8.	1.9	1
3	Push or Pull? Cell Proliferation and Migration During Wound Healing. Frontiers in Systems Biology, 2022, 2, .	0.7	3
4	A mathematical model of cell fate selection on a dynamic tissue. Journal of Theoretical Biology, 2021, 514, 110535.	1.7	4
5	Maintaining the proliferative cell niche in multicellular models of epithelia. Journal of Theoretical Biology, 2021, 527, 110807.	1.7	4
6	A rigid body framework for multicellular modeling. Nature Computational Science, 2021, 1, 754-766.	8.0	8
7	A simple history-dependent remeshing technique to increase finite element model stability in elastic surface deformations. Journal of Computational and Applied Mathematics, 2021, 405, 113876.	2.0	0
8	Modelling the effect of subcellular mutations on the migration of cells in the colorectal crypt. BMC Bioinformatics, 2020, 21, 95.	2.6	4
9	A modular framework for multiscale, multicellular, spatiotemporal modeling of acute primary viral infection and immune response in epithelial tissues and its application to drug therapy timing and effectiveness. PLoS Computational Biology, 2020, 16, e1008451.	3.2	40
10	Chaste: Cancer, Heart and Soft Tissue Environment. Journal of Open Source Software, 2020, 5, 1848.	4.6	58
11	Title is missing!. , 2020, 16, e1008451.		0
12	Title is missing!. , 2020, 16, e1008451.		0
13	Title is missing!. , 2020, 16, e1008451.		0
14	Title is missing!. , 2020, 16, e1008451.		0
15	Addressing Interdisciplinary Difficulties in Developmental Biology/Mathematical Collaborations: A Neural Crest Example. Methods in Molecular Biology, 2019, 1976, 21-36.	0.9	1
16	Stochastic clonal expansion of â€œsuperstarsâ€•enhances the reserve capacity of enteric nervous system precursor cells. Developmental Biology, 2018, 444, S287-S296.	2.0	4
17	A Multicellular Model of Intestinal Crypt Buckling and Fission. Bulletin of Mathematical Biology, 2018, 80, 335-359.	1.9	12
18	Cooperation, competition and antibiotic resistance in bacterial colonies. ISME Journal, 2018, 12, 1582-1593.	9.8	160

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19	A Fully Discrete Open Source Framework for the Simulation of Vascular Remodelling. , 2018, 2018, 4552-4555.		2
20	Cell morphology drives spatial patterning in microbial communities. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, E280-E286.	7.1	136
21	Interkinetic nuclear migration and basal tethering facilitates post-mitotic daughter separation in intestinal organoids. Journal of Cell Science, 2017, 130, 3862-3877.	2.0	18
22	Comparing individual-based approaches to modelling the self-organization of multicellular tissues. PLoS Computational Biology, 2017, 13, e1005387.	3.2	185
23	The role of the Hes1 crosstalk hub in Notch-Wnt interactions of the intestinal crypt. PLoS Computational Biology, 2017, 13, e1005400.	3.2	44
24	Reversible host cell remodeling underpins deformability changes in malaria parasite sexual blood stages. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 4800-4805.	7.1	73
25	How computational models contribute to our understanding of the germ line. Molecular Reproduction and Development, 2016, 83, 944-957.	2.0	3
26	The influence of hydrostatic pressure on tissue engineered bone development. Journal of Theoretical Biology, 2016, 394, 149-159.	1.7	8
27	Paneth Cell-Rich Regions Separated by a Cluster of Lgr5+ Cells Initiate Crypt Fission in the Intestinal Stem Cell Niche. PLoS Biology, 2016, 14, e1002491.	5.6	81
28	Computer Simulation, Visualization, and Image Processing of Cancer Data and Processes. Cancer Informatics, 2015, 14s4, CIN.S37982.	1.9	0
29	Mechano-logical model of <i>C. elegans</i> germ line suggests feedback on the cell cycle. Development (Cambridge), 2015, 142, 3902-11.	2.5	28
30	Multiscale Model of Colorectal Cancer Using the Cellular Potts Framework. Cancer Informatics, 2015, 14s4, CIN.S19332.	1.9	12
31	CoGNaC: A Chaste Plugin for the Multiscale Simulation of Gene Regulatory Networks Driving the Spatial Dynamics of Tissues and Cancer. Cancer Informatics, 2015, 14s4, CIN.S19965.	1.9	12
32	Ten Simple Rules for a Successful Cross-Disciplinary Collaboration. PLoS Computational Biology, 2015, 11, e1004214.	3.2	46
33	A parallel implementation of an off-lattice individual-based model of multicellular populations. Computer Physics Communications, 2015, 192, 130-137.	7.5	25
34	Evaluation of the Growth Environment of a Hydrostatic Force Bioreactor for Preconditioning of Tissue-Engineered Constructs. Tissue Engineering - Part C: Methods, 2015, 21, 1-14.	2.1	27
35	Mechano-logical model of <i>C. elegans</i> germ line suggests feedback on the cell cycle. Journal of Cell Science, 2015, 128, e1.2-e1.2.	2.0	0
36	The Free Energy Landscape of Dimerization of a Membrane Protein, NanC. PLoS Computational Biology, 2014, 10, e1003417.	3.2	24

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37	Ten Simple Rules for Effective Computational Research. PLoS Computational Biology, 2014, 10, e1003506.	3.2	47
38	The interplay between tissue growth and scaffold degradation in engineered tissue constructs. Journal of Mathematical Biology, 2013, 67, 1199-1225.	1.9	20
39	Implementing vertex dynamics models of cell populations in biology within a consistent computational framework. Progress in Biophysics and Molecular Biology, 2013, 113, 299-326.	2.9	135
40	Connecting Models to Data in Multiscale Multicellular Tissue Simulations. Procedia Computer Science, 2013, 18, 712-721.	2.0	9
41	Validity of the Cauchy-Born rule applied to discrete cellular-scale models of biological tissues. Physical Review E, 2013, 87, 042724.	2.1	10
42	Colorectal cancer through simulation and experiment. IET Systems Biology, 2013, 7, 57-73.	1.5	23
43	On-lattice agent-based simulation of populations of cells within the open-source Chaste framework. Interface Focus, 2013, 3, 20120081.	3.0	20
44	Hydrodynamic dispersion within porous biofilms. Physical Review E, 2013, 87, 012718.	2.1	29
45	Chaste: An Open Source C++ Library for Computational Physiology and Biology. PLoS Computational Biology, 2013, 9, e1002970.	3.2	375
46	Computational Models Reveal a Passive Mechanism for Cell Migration in the Crypt. PLoS ONE, 2013, 8, e80516.	2.5	49
47	A Two-Dimensional Model of the Colonic Crypt Accounting for the Role of the Basement Membrane and Pericryptal Fibroblast Sheath. PLoS Computational Biology, 2012, 8, e1002515.	3.2	39
48	On an infrastructure to support sharing and aggregating pre- and post-publication systems biology research data. Systems and Synthetic Biology, 2012, 6, 35-49.	1.0	3
49	Modelling the role of the basement membrane beneath a growing epithelial monolayer. Journal of Theoretical Biology, 2012, 298, 82-91.	1.7	30
50	A numerical method for the multiphase viscous flow equations. Computer Methods in Applied Mechanics and Engineering, 2010, 199, 3402-3417.	6.6	9
51	The Influence of Bioreactor Geometry and the Mechanical Environment on Engineered Tissues. Journal of Biomechanical Engineering, 2010, 132, 051006.	1.3	22
52	A hybrid approach to multi-scale modelling of cancer. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2010, 368, 5013-5028.	3.4	103
53	A computational study of discrete mechanical tissue models. Physical Biology, 2009, 6, 036001.	1.8	99
54	Chaste: A test-driven approach to software development for biological modelling. Computer Physics Communications, 2009, 180, 2452-2471.	7.5	207

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55	An integrative computational model for intestinal tissue renewal. Cell Proliferation, 2009, 42, 617-636.	5.3	142
56	Chaste: using agile programming techniques to develop computational biology software. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2008, 366, 3111-3136.	3.4	61
57	How quickly does a wound heal? Bayesian calibration of a mathematical model of venous leg ulcer healing. Mathematical Medicine and Biology, 0, , .	1.2	0