Paul Macklin

List of Publications by Year
in descending order

48 papers	3,745 citations	257450 24 h-index	254184 43 g-index
76 all docs	76 docs citations	76 times ranked	4061 citing authors

#	Article	IF	Citations
1	Supporting <i>Computational Apprenticeship</i> Through Educational and Software Infrastructure: A Case Study in aÂMathematical Oncology Research Lab. Primus, 2022, 32, 446-467.	0.5	0
2	Elucidating tumor-stromal metabolic crosstalk in colorectal cancer through integration of constraint-based models and LC-MS metabolomics. Metabolic Engineering, 2022, 69, 175-187.	7.0	10
3	Agent-based computational modeling of glioblastoma predicts that stromal density is central to oncolytic virus efficacy. IScience, 2022, 25, 104395.	4.1	23
4	Impact of tumor-parenchyma biomechanics on liver metastatic progression: a multi-model approach. Scientific Reports, 2021, 11, 1710.	3.3	17
5	High-throughput microscopy reveals the impact of multifactorial environmental perturbations on colorectal cancer cell growth. GigaScience, 2021, 10, .	6.4	7
6	A persistent invasive phenotype in post-hypoxic tumor cells is revealed by fate mapping and computational modeling. IScience, 2021, 24, 102935.	4.1	18
7	Forecasting cancer: from precision to predictive medicine. Med, 2021, 2, 1004-1010.	4.4	8
8	Envisioning the future of precision oncology trials. Nature Cancer, 2021, 2, 9-11.	13.2	19
9	Digital twins for predictive oncology will be a paradigm shift for precision cancer care. Nature Medicine, 2021, 27, 2065-2066.	30.7	65
10	OrgDyn: feature- and model-based characterization of spatial and temporal organoid dynamics. Bioinformatics, 2020, 36, 3292-3294.	4.1	6
11	The Cancer Microbiome: Distinguishing Direct and Indirect Effects Requires a Systemic View. Trends in Cancer, 2020, 6, 192-204.	7.4	162
12	The human body at cellular resolution: the NIH Human Biomolecular Atlas Program. Nature, 2019, 574, 187-192.	27.8	393
13	Key challenges facing data-driven multicellular systems biology. GigaScience, 2019, 8, .	6.4	30
14	Learning-accelerated discovery of immune-tumour interactions. Molecular Systems Design and Engineering, 2019, 4, 747-760.	3.4	41
15	The 2019 mathematical oncology roadmap. Physical Biology, 2019, 16, 041005.	1.8	147
16	A Review of Cell-Based Computational Modeling in Cancer Biology. JCO Clinical Cancer Informatics, 2019, 3, 1-13.	2.1	238
17	Students' Use of Metacognitive Skills in Undergraduate Research Experiences in Computational Modeling. , 2019, , .		2
18	PhysiBoSS: a multi-scale agent-based modelling framework integrating physical dimension and cell signalling. Bioinformatics, 2019, 35, 1188-1196.	4.1	88

#	ARTICLE	IF	CITATIONS
19	xml2jupyter: Mapping parameters between XML and Jupyter widgets. Journal of Open Source Software, 2019, 4, 1408.	4.6	18
20	High-throughput cancer hypothesis testing with an integrated PhysiCell-EMEWS workflow. BMC Bioinformatics, 2018, 19, 483.	2.6	54
21	Correlating nuclear morphometric patterns with estrogen receptor status in breast cancer pathologic specimens. Npj Breast Cancer, 2018, 4, 32.	5.2	27
22	PhysiCell: An open source physics-based cell simulator for 3-D multicellular systems. PLoS Computational Biology, 2018, 14, e1005991.	3.2	303
23	When Seeing Isn't Believing: How Math Can Guide Our Interpretation of Measurements and Experiments. Cell Systems, 2017, 5, 92-94.	6.2	24
24	Agent-Based Modeling of Cancer Stem Cell Driven Solid Tumor Growth. Methods in Molecular Biology, 2016, 1516, 335-346.	0.9	38
25	Progress Towards Computational 3-D Multicellular Systems Biology. Advances in Experimental Medicine and Biology, 2016, 936, 225-246.	1.6	27
26	An Evolutionary Model of Tumor Cell Kinetics and the Emergence of Molecular Heterogeneity Driving Gompertzian Growth. SIAM Review, 2016, 58, 716-736.	9.5	33
27	Quantifying differences in cell line population dynamics using CellPD. BMC Systems Biology, 2016, 10, 92.	3.0	21
28	BioFVM: an efficient, parallelized diffusive transport solver for 3-D biological simulations. Bioinformatics, 2016, 32, 1256-1258.	4.1	85
29	Improved patient-specific calibration for agent-based cancer modeling. Journal of Theoretical Biology, 2013, 317, 422-424.	1.7	20
30	The Need for Integrative Computational Oncology: An Illustrated Example through MMP-Mediated Tissue Degradation. Frontiers in Oncology, 2013, 3, 194.	2.8	9
31	Modeling Multiscale Necrotic and Calcified Tissue Biomechanics in Cancer Patients: Application to Ductal Carcinoma In Situ (DCIS). Studies in Mechanobiology, Tissue Engineering and Biomaterials, 2013, , 349-380.	1.0	12
32	An agent-based model for elasto-plastic mechanical interactions between cells, basement membrane and extracellular matrix. Mathematical Biosciences and Engineering, 2013, 10, 75-101.	1.9	36
33	Integrative physical oncology. Wiley Interdisciplinary Reviews: Systems Biology and Medicine, 2012, 4, 1-14.	6.6	29
34	Patient-calibrated agent-based modelling of ductal carcinoma in situ (DCIS): From microscopic measurements to macroscopic predictions of clinical progression. Journal of Theoretical Biology, 2012, 301, 122-140.	1.7	207
35	Multiscale Cancer Modeling. Annual Review of Biomedical Engineering, 2011, 13, 127-155.	12.3	353
36	A Novel, Patient-Specific Mathematical Pathology Approach for Assessment of Surgical Volume: Application to Ductal Carcinoma<i>in situ</i>of The Breast. Analytical Cellular Pathology, 2011, 34, 247-263.	1.4	39

#	Article	IF	Citations
37	A novel, patient-specific mathematical pathology approach for assessment of surgical volume: application to ductal carcinoma in situ of the breast. Analytical Cellular Pathology, 2011, 34, 247-63.	1.4	40
38	Multiscale modelling and nonlinear simulation of vascular tumour growth. Journal of Mathematical Biology, 2009, 58, 765-798.	1.9	319
39	LECTURE NOTES ON NONLINEAR TUMOR GROWTH: MODELING AND SIMULATION. Lecture Notes Series, Institute for Mathematical Sciences, 2009, , 69-133.	0.2	0
40	Agent-Based Modeling of Ductal Carcinoma In Situ: Application to Patient-Specific Breast Cancer Modeling. , 2009, , 77-111.		9
41	A New Ghost Cell/Level Set Method for Moving Boundary Problems: Application to Tumor Growth. Journal of Scientific Computing, 2008, 35, 266-299.	2.3	76
42	Nonlinear Modeling and Simulation of Tumor Growth. Modeling and Simulation in Science, Engineering and Technology, 2008, , 1-69.	0.6	10
43	Computer simulation of glioma growth and morphology. NeuroImage, 2007, 37, S59-S70.	4.2	212
44	Nonlinear simulation of the effect of microenvironment on tumor growth. Journal of Theoretical Biology, 2007, 245, 677-704.	1.7	174
45	An improved geometry-aware curvature discretization for level set methods: Application to tumor growth. Journal of Computational Physics, 2006, 215, 392-401.	3.8	67
46	Evolving interfaces via gradients of geometry-dependent interior Poisson problems: application to tumor growth. Journal of Computational Physics, 2005, 203, 191-220.	3.8	83
47	Quantification of cancer cell migration with an integrated experimental-computational pipeline. F1000Research, 0, 7, 1296.	1.6	1
48	Introduction: Open Source Cell Simulators. ScienceOpen Research, 0, , .	0.6	0