

Tomas Alarcon

List of Publications by Year in descending order

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Version: 2024-02-01

97
papers

3,056
citations

201575

27
h-index

175177

52
g-index

106
all docs

106
docs citations

106
times ranked

3198
citing authors

#	ARTICLE	IF	CITATIONS
1	A cellular automaton model for tumour growth in inhomogeneous environment. Journal of Theoretical Biology, 2003, 225, 257-274.	0.8	392
2	Modelling aspects of cancer dynamics: a review. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2006, 364, 1563-1578.	1.6	211
3	Angiogenesis and vascular remodelling in normal and cancerous tissues. Journal of Mathematical Biology, 2009, 58, 689-721.	0.8	178
4	A Multiple Scale Model for Tumor Growth. Multiscale Modeling and Simulation, 2005, 3, 440-475.	0.6	165
5	Multiscale Modelling of Vascular Tumour Growth in 3D: The Roles of Domain Size and Boundary Conditions. PLoS ONE, 2011, 6, e14790.	1.1	150
6	The Warburg effect version 2.0: Metabolic reprogramming of cancer stem cells. Cell Cycle, 2013, 12, 1166-1179.	1.3	146
7	A mathematical model of the effects of hypoxia on the cell-cycle of normal and cancer cells. Journal of Theoretical Biology, 2004, 229, 395-411.	0.8	128
8	Towards whole-organ modelling of tumour growth. Progress in Biophysics and Molecular Biology, 2004, 85, 451-472.	1.4	95
9	Metabostemness: A New Cancer Hallmark. Frontiers in Oncology, 2014, 4, 262.	1.3	95
10	Nuclear reprogramming of luminal-like breast cancer cells generates Sox2-overexpressing cancer stem-like cellular states harboring transcriptional activation of the mTOR pathway. Cell Cycle, 2013, 12, 3109-3124.	1.3	90
11	<i>In vitro</i> cell migration quantification method for scratch assays. Journal of the Royal Society Interface, 2019, 16, 20180709.	1.5	76
12	Multiscale Modelling of Tumour Growth and Therapy: The Influence of Vessel Normalisation on Chemotherapy. Computational and Mathematical Methods in Medicine, 2006, 7, 85-119.	0.7	71
13	Mesoscopic and continuum modelling of angiogenesis. Journal of Mathematical Biology, 2015, 70, 485-532.	0.8	64
14	3D hybrid modelling of vascular network formation. Journal of Theoretical Biology, 2017, 414, 254-268.	0.8	63
15	A mathematical model of Doxorubicin treatment efficacy for non-Hodgkin's lymphoma: investigation of the current protocol through theoretical modelling results. Bulletin of Mathematical Biology, 2005, 67, 79-99.	0.9	55
16	MODELLING THE RESPONSE OF VASCULAR TUMOURS TO CHEMOTHERAPY: A MULTISCALE APPROACH. Mathematical Models and Methods in Applied Sciences, 2006, 16, 1219-1241.	1.7	52
17	Stability analysis of multi-compartment models for cell production systems. Journal of Biological Dynamics, 2012, 6, 2-18.	0.8	48
18	Breast Cancer Dormancy Can Be Maintained by Small Numbers of Micrometastases. Cancer Research, 2010, 70, 4310-4317.	0.4	42

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19	Abnormal morphology biases hematocrit distribution in tumor vasculature and contributes to heterogeneity in tissue oxygenation. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 27811-27819.	3.3	40
20	Suppression of endogenous lipogenesis induces reversion of the malignant phenotype and normalized differentiation in breast cancer. Oncotarget, 2016, 7, 71151-71168.	0.8	40
21	The LSD1 inhibitor iadademstat (ORY-1001) targets SOX2-driven breast cancer stem cells: a potential epigenetic therapy in luminal-B and HER2-positive breast cancer subtypes. Aging, 2020, 12, 4794-4814.	1.4	38
22	A design principle for vascular beds: the effects of complex blood rheology. Microvascular Research, 2005, 69, 156-172.	1.1	34
23	Oncometabolic Nuclear Reprogramming of Cancer Stemness. Stem Cell Reports, 2016, 6, 273-283.	2.3	34
24	Stochastic resonance in nonpotential systems. Physical Review E, 1998, 57, 4979-4985.	0.8	33
25	Gerometabolites: The pseudohypoxic aging side of cancer oncometabolites. Cell Cycle, 2014, 13, 699-709.	1.3	33
26	A multiscale model of complex endothelial cell dynamics in early angiogenesis. PLoS Computational Biology, 2021, 17, e1008055.	1.5	31
27	Metabostemness: Metaboloepigenetic reprogramming of cancer stem-cell functions. Oncoscience, 2014, 1, 803-806.	0.9	31
28	Activation of the methylation cycle in cells reprogrammed into a stem cell-like state. Oncoscience, 2016, 2, 958-967.	0.9	30
29	A multiscale model of epigenetic heterogeneity-driven cell fate decision-making. PLoS Computational Biology, 2019, 15, e1006592.	1.5	28
30	Hybrid approaches for multiple-species stochastic reaction-diffusion models. Journal of Computational Physics, 2015, 299, 429-445.	1.9	26
31	Germline <i>BRCA1</i> mutation reprograms breast epithelial cell metabolism towards mitochondrial-dependent biosynthesis: evidence for metformin-based "starvation" strategies in <i>BRCA1</i> carriers. Oncotarget, 2016, 7, 52974-52992.	0.8	26
32	The impact of cell crowding and active cell movement on vascular tumour growth. Networks and Heterogeneous Media, 2006, 1, 515-535.	0.5	26
33	Mathematical models of the VEGF receptor and its role in cancer therapy. Journal of the Royal Society Interface, 2007, 4, 283-304.	1.5	24
34	Senescence-Inflammatory Regulation of Reparative Cellular Reprogramming in Aging and Cancer. Frontiers in Cell and Developmental Biology, 2017, 5, 49.	1.8	23
35	Epigenetic regulation of cell fate reprogramming in aging and disease: A predictive computational model. PLoS Computational Biology, 2018, 14, e1006052.	1.5	23
36	Quiescence: a mechanism for escaping the effects of drug on cell populations. Journal of the Royal Society Interface, 2011, 8, 99-106.	1.5	22

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37	Stochastic models of receptor oligomerization by bivalent ligand. <i>Journal of the Royal Society Interface</i> , 2006, 3, 545-559.	1.5	18
38	Tumor Cell-Intrinsic Immunometabolism and Precision Nutrition in Cancer Immunotherapy. <i>Cancers</i> , 2020, 12, 1757.	1.7	17
39	The topology of robustness and evolvability in evolutionary systems with genotype-phenotype map. <i>Journal of Theoretical Biology</i> , 2014, 356, 144-162.	0.8	16
40	Minimum Action Path Theory Reveals the Details of Stochastic Transitions Out of Oscillatory States. <i>Physical Review Letters</i> , 2018, 120, 128102.	2.9	15
41	Mitostemness. <i>Cell Cycle</i> , 2018, 17, 918-926.	1.3	15
42	Xenopatients 2.0: Reprogramming the epigenetic landscapes of patient-derived cancer genomes. <i>Cell Cycle</i> , 2014, 13, 358-370.	1.3	14
43	Noise-induced bistability in the fate of cancer phenotypic quasispecies: a bit-strings approach. <i>Scientific Reports</i> , 2018, 8, 1027.	1.6	14
44	20 Mathematical modelling of angiogenesis and vascular adaptation. <i>Studies in Multidisciplinarity</i> , 2005, , 369-387.	0.0	13
45	The effects of intrinsic noise on the behaviour of bistable cell regulatory systems under quasi-steady state conditions. <i>Journal of Chemical Physics</i> , 2015, 143, 074105.	1.2	13
46	A mesoscopic approach to the "negative" viscosity effect in ferrofluids. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1999, 270, 403-412.	1.2	12
47	Stochastic modelling of viral blips in HIV-1-infected patients: Effects of inhomogeneous density fluctuations. <i>Journal of Theoretical Biology</i> , 2015, 371, 79-89.	0.8	12
48	Stochastic modelling of the eradication of the HIV-1 infection by stimulation of latently infected cells in patients under highly active anti-retroviral therapy. <i>Journal of Mathematical Biology</i> , 2016, 73, 919-946.	0.8	12
49	Front microrheology of the non-Newtonian behaviour of blood: scaling theory of erythrocyte aggregation by aging. <i>Soft Matter</i> , 2017, 13, 3042-3047.	1.2	12
50	What Can Be Learnt about Disease Progression in Breast Cancer Dormancy from Relapse Data?. <i>PLoS ONE</i> , 2013, 8, e62320.	1.1	12
51	Coarse-graining and hybrid methods for efficient simulation of stochastic multi-scale models of tumour growth. <i>Journal of Computational Physics</i> , 2017, 350, 974-991.	1.9	11
52	Capillary Filling at the Microscale: Control of Fluid Front Using Geometry. <i>PLoS ONE</i> , 2016, 11, e0153559.	1.1	10
53	Stochastic quasi-steady state approximations for asymptotic solutions of the chemical master equation. <i>Journal of Chemical Physics</i> , 2014, 140, 184109.	1.2	9
54	From invasion to latency: intracellular noise and cell motility as key controls of the competition between resource-limited cellular populations. <i>Journal of Mathematical Biology</i> , 2016, 72, 123-156.	0.8	9

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55	Accelerated geroncogenesis in hereditary breast-ovarian cancer syndrome. <i>Oncotarget</i> , 2016, 7, 11959-11971.	0.8	9
56	Modelling Cell Growth and its Modulation of the G1/S Transition. <i>Bulletin of Mathematical Biology</i> , 2007, 69, 197-214.	0.9	8
57	Stability Analysis of a Renewal Equation for Cell Population Dynamics with Quiescence. <i>SIAM Journal on Applied Mathematics</i> , 2014, 74, 1266-1297.	0.8	8
58	Microrheometer for Biofluidic Analysis: Electronic Detection of the Fluid-Front Advancement. <i>Micromachines</i> , 2021, 12, 726.	1.4	8
59	Bivalent chromatin as a therapeutic target in cancer: An in silico predictive approach for combining epigenetic drugs. <i>PLoS Computational Biology</i> , 2021, 17, e1008408.	1.5	8
60	Blood Rheological Characterization of $\hat{\beta}^2$ -Thalassemia Trait and Iron Deficiency Anemia Using Front Microrheometry. <i>Frontiers in Physiology</i> , 2021, 12, 761411.	1.3	8
61	Mathematical models of the fate of lymphoma B cells after antigen receptor ligation with specific antibodies. <i>Journal of Theoretical Biology</i> , 2006, 240, 54-71.	0.8	7
62	Stochastic Multiscale Models of Cell Population Dynamics: Asymptotic and Numerical Methods. <i>Mathematical Modelling of Natural Phenomena</i> , 2015, 10, 64-93.	0.9	7
63	Viral replication modes in single-peak fitness landscapes: A dynamical systems analysis. <i>Journal of Theoretical Biology</i> , 2019, 460, 170-183.	0.8	7
64	Pitting of malaria parasites in microfluidic devices mimicking spleen interendothelial slits. <i>Scientific Reports</i> , 2021, 11, 22099.	1.6	7
65	Membrane rigidity regulates E. coli proliferation rates. <i>Scientific Reports</i> , 2022, 12, 933.	1.6	7
66	Energy Transduction in Periodically Driven Non-Hermitian Systems. <i>Physical Review Letters</i> , 2000, 85, 3995-3998.	2.9	6
67	Stochastic multi-scale models of competition within heterogeneous cellular populations: Simulation methods and mean-field analysis. <i>Journal of Theoretical Biology</i> , 2016, 407, 161-183.	0.8	6
68	The dynamics of shapes of vesicle membranes with time dependent spontaneous curvature. <i>PLoS ONE</i> , 2020, 15, e0227562.	1.1	6
69	Noise-induced stabilization of saddle-node ghosts. <i>New Journal of Physics</i> , 2020, 22, 093064.	1.2	6
70	Multiscale Modelling of Solid Tumour Growth. , 2008, , 1-25.		5
71	Age Structure Can Account for Delayed Logistic Proliferation of Scratch Assays. <i>Bulletin of Mathematical Biology</i> , 2019, 81, 2706-2724.	0.9	5
72	Robustness of differentiation cascades with symmetric stem cell division. <i>Journal of the Royal Society Interface</i> , 2014, 11, 20140264.	1.5	4

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73	Noise-induced bistability in the quasi-neutral coexistence of viral RNAs under different replication modes. <i>Journal of the Royal Society Interface</i> , 2018, 15, 20180129.	1.5	4
74	An integrated detection method for flow viscosity measurements in microdevices. <i>IEEE Transactions on Biomedical Engineering</i> , 2020, 68, 1-1.	2.5	4
75	Periodic modulation induced increase of reaction rates in autocatalytic systems. <i>Journal of Chemical Physics</i> , 1998, 108, 7367-7374.	1.2	3
76	Stochastic resonance in a suspension of magnetic dipoles under shear flow. <i>Physical Review E</i> , 2001, 63, 041112.	0.8	3
77	Nuclear reprogramming of cancer stem cells: Corrupting the epigenetic code of cell identity with oncometabolites. <i>Molecular and Cellular Oncology</i> , 2016, 3, e1160854.	0.3	3
78	In silico clinical trials for anti-aging therapies. <i>Aging</i> , 2019, 11, 6591-6601.	1.4	3
79	Low temperature viscosity in elongated ferrofluids. <i>Journal of Chemical Physics</i> , 1997, 107, 10253-10259.	1.2	2
80	Invasion in multi-type populations: the role of phenotypic robustness and fluctuations. <i>Mathematical Medicine and Biology</i> , 2012, 29, 3-20.	0.8	2
81	Phase-field modelling of the dynamics of Z-ring formation in liposomes: Onset of constriction and coarsening. <i>European Physical Journal E</i> , 2015, 38, 61.	0.7	2
82	Comment on "Morphogenetic action through flux-limited spreading" by Verbeni, S��nchez, Mollica, Siegl-Cachedenier, Carleton, Guerrero, Ruiz i Altaba, and Soler. <i>Physics of Life Reviews</i> , 2013, 10, 493-494.	1.5	1
83	Growth rate and shape as possible control mechanisms for the selection of mode development in optimal biological branching processes. <i>European Physical Journal: Special Topics</i> , 2016, 225, 2581-2589.	1.2	1
84	Evolutionary escape on complex genotype-phenotype networks. <i>Journal of Theoretical Biology</i> , 2016, 394, 18-31.	0.8	1
85	Surviving evolutionary escape on complex genotype-phenotype networks. <i>Journal of Mathematical Biology</i> , 2016, 72, 623-647.	0.8	1
86	Critical slowing down close to a global bifurcation of a curve of quasi-neutral equilibria. <i>Communications in Nonlinear Science and Numerical Simulation</i> , 2022, 104, 106032.	1.7	1
87	Structural Adaptation in Normal and Cancerous Vasculature. , 2007, , 165-178.		1
88	Vorticity ratchet. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2003, 325, 55-61.	1.2	0
89	de la Cruz et��al. Reply. <i>Physical Review Letters</i> , 2019, 122, 059802.	2.9	0
90	MODELLING ASPECTS OF VASCULAR CANCER DEVELOPMENT. , 2006, , .		0

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91	Mathematical Modeling of the VEGF Receptor. , 2012, , 3-35.		0
92	Spatiotemporal Dynamics of Cancer Phenotypic Quasispecies Under Targeted Therapy. SEMA SIMAI Springer Series, 2021, , 1-20.	0.4	0
93	A Method to Coarse-Grain MultiAgent Stochastic Systems with Regions of Multistability. Multiscale Modeling and Simulation, 2022, 20, 404-432.	0.6	0
94	A multiscale model of complex endothelial cell dynamics in early angiogenesis. , 2021, 17, e1008055.		0
95	A multiscale model of complex endothelial cell dynamics in early angiogenesis. , 2021, 17, e1008055.		0
96	A multiscale model of complex endothelial cell dynamics in early angiogenesis. , 2021, 17, e1008055.		0
97	A multiscale model of complex endothelial cell dynamics in early angiogenesis. , 2021, 17, e1008055.		0