James A Glazier

List of Publications by Year
in descending order

142 papers	9,447 citations	44444 50 h-index	48101 92 g-index
155 all docs	155 docs citations	155 times ranked	6388 citing authors

#	Article	IF	Citations
1	A multiscale multicellular spatiotemporal model of local influenza infection and immune response. Journal of Theoretical Biology, 2022, 532, 110918.	0.8	7
2	Exact solution for the Anisotropic Ornsteinâ€"Uhlenbeck process. Physica A: Statistical Mechanics and Its Applications, 2022, 587, 126526.	1.2	0
3	Computational modelling of nephron progenitor cell movement and aggregation during kidney organogenesis. Mathematical Biosciences, 2022, 344, 108759.	0.9	3
4	Transcriptogram analysis reveals relationship between viral titer and gene sets responses during Corona-virus infection. NAR Genomics and Bioinformatics, 2022, 4, lqac020.	1.5	2
5	Multiscale Model of Antiviral Timing, Potency, and Heterogeneity Effects on an Epithelial Tissue Patch Infected by SARS-CoV-2. Viruses, 2022, 14, 605.	1.5	8
6	Building digital twins of the human immune system: toward a roadmap. Npj Digital Medicine, 2022, 5, .	5.7	43
7	Addressing <i>barriers in comprehensiveness, accessibility, reusability, interoperability and reproducibility of computational models in systems biology</i>. Briefings in Bioinformatics, 2022, 23, .	3.2	10
8	Development of a coupled simulation toolkit for computational radiation biology based on Geant4 and CompuCell3D. Physics in Medicine and Biology, 2021, 66, 045026.	1.6	5
9	Using digital twins in viral infection. Science, 2021, 371, 1105-1106.	6.0	73
10	A mechanical model of early somite segmentation. IScience, 2021, 24, 102317.	1.9	10
11	Deep Learning Approaches to Surrogates for Solving the Diffusion Equation for Mechanistic Real-World Simulations. Frontiers in Physiology, 2021, 12, 667828.	1.3	1
12	Generation of multicellular spatiotemporal models of population dynamics from ordinary differential equations, with applications in viral infection. BMC Biology, 2021, 19, 196.	1.7	11
13	Advancing therapies for viral infections using mechanistic computational models of the dynamic interplay between the virus and host immune response. Current Opinion in Virology, 2021, 50, 103-109.	2.6	8
14	Multicellular spatial model of RNA virus replication and interferon responses reveals factors controlling plaque growth dynamics. PLoS Computational Biology, 2021, 17, e1008874.	1.5	8
15	Unification of aggregate growth models by emergence from cellular and intracellular mechanisms. Royal Society Open Science, 2020, 7, 192148.	1.1	4
16	CompuCell3D Simulations Reproduce Mesenchymal Cell Migration on Flat Substrates. Biophysical Journal, 2020, 118, 2801-2815.	0.2	20
17	Parameterizing cell movement when the instantaneous cell migration velocity is ill-defined. Physica A: Statistical Mechanics and Its Applications, 2020, 550, 124493.	1.2	7
18	Mitochondrial depolarization and repolarization in the early stages of acetaminophen hepatotoxicity in mice. Toxicology, 2020, 439, 152464.	2.0	7

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19	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.	1.5	40
20	A computational model of liver tissue damage and repair. PLoS ONE, 2020, 15, e0243451.	1.1	9
21	Title is missing!. , 2020, 16, e1008451.		0
22	Title is missing!. , 2020, 16, e1008451.		0
23	Title is missing!. , 2020, 16, e1008451.		0
24	Title is missing!. , 2020, 16, e1008451.		0
25	A computational model of liver tissue damage and repair. , 2020, 15, e0243451.		0
26	A computational model of liver tissue damage and repair. , 2020, 15, e0243451.		0
27	A computational model of liver tissue damage and repair. , 2020, 15, e0243451.		0
28	A computational model of liver tissue damage and repair. , 2020, 15, e0243451.		0
29	Learning Everywhere: Pervasive Machine Learning for Effective High-Performance Computation. , 2019, , .		28
30	The 2019 mathematical oncology roadmap. Physical Biology, 2019, 16, 041005.	0.8	147
31	Spatial Temporal Analysis of Fieldwise Flow in Microvasculature. Journal of Visualized Experiments, 2019, , .	0.2	6
32	A simple automated method for continuous fieldwise measurement of microvascular hemodynamics. Microvascular Research, 2019, 123, 7-13.	1.1	10
33	Molecular jenga: the percolation phase transition (collapse) in virus capsids. Physical Biology, 2018, 15, 056005.	0.8	9
34	Factors Mediating Learning and Application of Computational Modeling by Life Scientists. , 2018, , .		5
35	Qualitative Findings from Study of Interdisciplinary Education in Computational Modeling for Life Sciences Student Researchers from Emerging Research Institutions. , 2018, , .		4
36	Modeling of xenobiotic transport and metabolism in virtual hepatic lobule models. PLoS ONE, 2018, 13, e0198060.	1.1	28

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37	A Notch positive feedback in the intestinal stem cell niche is essential for stem cell selfâ€renewal. Molecular Systems Biology, 2017, 13, 927.	3.2	44
38	Structural coupling of a Potts model cell. , 2017, , .		1
39	A MODELING AND SIMULATION LANGUAGE FOR BIOLOGICAL CELLS WITH COUPLED MECHANICAL AND CHEMICAL PROCESSES. , 2017, 2017, .		1
40	A Computational Model of Peripheral Photocoagulation for the Prevention of Progressive Diabetic Capillary Occlusion. Journal of Diabetes Research, 2016, 2016, 1-13.	1.0	4
41	Towards a multi-scale agent-based programming language methodology. , 2016, 2016, 1230-1240.		0
42	Virtual-tissue computer simulations define the roles of cell adhesion and proliferation in the onset of kidney cystic disease. Molecular Biology of the Cell, 2016, 27, 3673-3685.	0.9	35
43	Formalizing knowledge in multi-scale agent-based simulations. , 2016, 16, 115-122.		1
44	Transcriptome analysis reveals manifold mechanisms of cyst development in ADPKD. Human Genomics, 2016, 10, 37.	1.4	28
45	Progression of Diabetic Capillary Occlusion: A Model. PLoS Computational Biology, 2016, 12, e1004932.	1.5	24
46	Filopodial-Tension Model of Convergent-Extension of Tissues. PLoS Computational Biology, 2016, 12, e1004952.	1.5	24
47	A Liver-Centric Multiscale Modeling Framework for Xenobiotics. PLoS ONE, 2016, 11, e0162428.	1.1	44
48	3D simulations of wet foam coarsening evidence a self similar growth regime. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2015, 473, 109-114.	2.3	10
49	libRoadRunner: a high performance SBML simulation and analysis library. Bioinformatics, 2015, 31, 3315-3321.	1.8	130
50	Emergent Stratification in Solid Tumors Selects for Reduced Cohesion of Tumor Cells: A Multi-Cell, Virtual-Tissue Model of Tumor Evolution Using CompuCell3D. PLoS ONE, 2015, 10, e0127972.	1.1	32
51	The cell behavior ontology: describing the intrinsic biological behaviors of real and model cells seen as active agents. Bioinformatics, 2014, 30, 2367-2374.	1.8	35
52	Somites Without a Clock. Science, 2014, 343, 791-795.	6.0	125
53	Fabricating microfluidic valve master molds in SU-8 photoresist. Journal of Micromechanics and Microengineering, 2014, 24, 057001.	1.5	29
54	3D quantitative analyses of angiogenic sprout growth dynamics. Developmental Dynamics, 2013, 242, 518-526.	0.8	8

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55	Multiscale modeling goes out on a limb: in silico simulations of developmental mechanisms shared between somitogenesis and the developing embryonic avian limb bud. FASEB Journal, 2013, 27, 964.1.	0.2	0
56	Label-Free Microcavity Biosensors: Steps towards Personalized Medicine. Sensors, 2012, 12, 17262-17294.	2.1	5
57	Visualizing cells and their connectivity graphs for CompuCell3D. , 2012, , .		2
58	Multi-Scale Modeling of Tissues Using CompuCell3D. Methods in Cell Biology, 2012, 110, 325-366.	0.5	415
59	Adhesion Failures Determine the Pattern of Choroidal Neovascularization in the Eye: A Computer Simulation Study. PLoS Computational Biology, 2012, 8, e1002440.	1.5	39
60	Mathematical modeling of wound healing using Compucell3D multicell modeling environment. FASEB Journal, 2012, 26, 916.10.	0.2	0
61	Computer Simulations of Cell Sorting Due to Differential Adhesion. PLoS ONE, 2011, 6, e24999.	1.1	61
62	A Multi-cell, Multi-scale Model of Vertebrate Segmentation and Somite Formation. PLoS Computational Biology, 2011, 7, e1002155.	1.5	106
63	Modeling Gastrulation in the Chick Embryo: Formation of the Primitive Streak. PLoS ONE, 2010, 5, e10571.	1.1	63
64	Front Instabilities and Invasiveness of Simulated 3D Avascular Tumors. PLoS ONE, 2010, 5, e10641.	1.1	31
65	Computer Simulation of Cellular Patterning Within the Drosophila Pupal Eye. PLoS Computational Biology, 2010, 6, e1000841.	1.5	26
66	Workflows for parameter studies of multi-cell modeling. , 2010, , .		1
67	Bulk elastic properties of chicken embryos during somitogenesis. BioMedical Engineering OnLine, 2010, 9, 19.	1.3	27
68	Coarsening Foams Robustly Reach a Self-Similar Growth Regime. Physical Review Letters, 2010, 104, 248304.	2.9	60
69	Microfluidic Devices Integrating Microcavity Surface-Plasmon-Resonance Sensors: Glucose Oxidase Binding-Activity Detection. Analytical Chemistry, 2010, 82, 343-352.	3.2	25
70	3D Multi-Cell Simulation of Tumor Growth and Angiogenesis. PLoS ONE, 2009, 4, e7190.	1.1	235
71	Front Instabilities and Invasiveness of Simulated Avascular Tumors. Bulletin of Mathematical Biology, 2009, 71, 1189-1227.	0.9	49
72	Multicell Simulations of Development and Disease Using the CompuCell3D Simulation Environment. Methods in Molecular Biology, 2009, 500, 361-428.	0.4	53

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73	Coordinated Action of N-CAM, N-cadherin, EphA4, and ephrinB2 Translates Genetic Prepatterns into Structure during Somitogenesis in Chick. Current Topics in Developmental Biology, 2008, 81, 205-247.	1.0	31
74	Probing soap-film friction with two-phase foam flow. Philosophical Magazine Letters, 2008, 88, 679-691.	0.5	1
75	Contact-Inhibited Chemotaxis in De Novo and Sprouting Blood-Vessel Growth. PLoS Computational Biology, 2008, 4, e1000163.	1.5	185
76	Simulation of single-species bacterial-biofilm growth using the Glazier-Graner-Hogeweg model and the CompuCell3D modeling environment. Mathematical Biosciences and Engineering, 2008, 5, 355-388.	1.0	43
77	Compact Microfluidic Structures for Generating Spatial and Temporal Gradients. Analytical Chemistry, 2007, 79, 9471-9477.	3.2	43
78	Experimental Growth Law for Bubbles in a Moderately â€œWetâ€•3D Liquid Foam. Physical Review Letters, 2007, 99, 058304.	2.9	63
79	From Genes to Organisms Via the Cell: A Problem-Solving Environment for Multicellular Development. Computing in Science and Engineering, 2007, 9, 50-60.	1.2	61
80	The Glazier-Graner-Hogeweg Model: Extensions, Future Directions, and Opportunities for Further Study. , 2007, , 151-167.		28
81	Magnetization to Morphogenesis: A Brief History of the Glazier-Graner-Hogeweg Model. , 2007, , 79-106.		54
82	Adhesion between cells, diffusion of growth factors, and elasticity of the AER produce the paddle shape of the chick limb. Physica A: Statistical Mechanics and Its Applications, 2007, 373, 521-532.	1.2	59
83	A parallel implementation of the Cellular Potts Model for simulation of cell-based morphogenesis. Computer Physics Communications, 2007, 176, 670-681.	3.0	100
84	Cell elongation is key to in silico replication of in vitro vasculogenesis and subsequent remodeling. Developmental Biology, 2006, 289, 44-54.	0.9	213
85	Cell movement during chick primitive streak formation. Developmental Biology, 2006, 296, 137-149.	0.9	108
86	Viscous instabilities in flowing foams: a Cellular Potts Model approach. Journal of Statistical Mechanics: Theory and Experiment, 2006, 2006, P10008-P10008.	0.9	26
87	Dynamic mechanisms of blood vessel growth. Nonlinearity, 2006, 19, C1-C10.	0.6	72
88	A Parallel Implementation of the Cellular Potts Model for Simulation of Cell-Based Morphogenesis. Lecture Notes in Computer Science, 2006, , 58-67.	1.0	6
89	A cell-centered approach to developmental biology. Physica A: Statistical Mechanics and Its Applications, 2005, 352, 113-130.	1.2	201
90	Extraction of relevant physical parameters from 3D images of foams obtained by X-ray tomography. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2005, 263, 295-302.	2.3	61

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91	A Framework for Three-Dimensional Simulation of Morphogenesis. IEEE/ACM Transactions on Computational Biology and Bioinformatics, 2005, 2, 273-288.	1.9	101
92	Solving the advection-diffusion equations in biological contexts using the cellular Potts model. Physical Review E, 2005, 72, 041909.	0.8	31
93	Analysis of tissue flow patterns during primitive streak formation in the chick embryo. Developmental Biology, 2005, 284, 37-47.	0.9	79
94	On multiscale approaches to three-dimensional modelling of morphogenesis. Journal of the Royal Society Interface, 2005, 2, 237-253.	1.5	118
95	Introduction to Proceedings of the Workshop â€œBiocomplexity VI: Complex Behavior in Unicellular Organismsâ€. Biofilms, 2004, 1, 227-228.	0.6	0
96	Self-Similar Mitochondrial DNA. Cell Biochemistry and Biophysics, 2004, 41, 041-062.	0.9	14
97	Dynamical mechanisms for skeletal pattern formation in the vertebrate limb. Proceedings of the Royal Society B: Biological Sciences, 2004, 271, 1713-1722.	1.2	124
98	The rheology of two-dimensional foams. Rheologica Acta, 2004, 43, 442-448.	1.1	44
99	Non-Turing stripes and spots: a novel mechanism for biological cell clustering. Physica A: Statistical Mechanics and Its Applications, 2004, 341, 482-494.	1.2	33
100	Interplay between activatorâ€“inhibitor coupling and cell-matrix adhesion in a cellular automaton model for chondrogenic patterning. Developmental Biology, 2004, 271, 372-387.	0.9	66
101	Cell-Oriented Modeling of In Vitro Capillary Development. Lecture Notes in Computer Science, 2004, , 425-434.	1.0	29
102	A texture tensor to quantify deformations. Granular Matter, 2003, 5, 67-70.	1.1	48
103	A texture tensor to quantify deformations: the example of two-dimensional flowing foams. Granular Matter, 2003, 5, 71-74.	1.1	52
104	Dynamics and topological aspects of a reconstructed two-dimensional foam time series using Potts Model on a pinned lattice. Journal of Computational Physics, 2003, 192, 1-20.	1.9	5
105	Simulating convergent extension by way of anisotropic differential adhesion. Journal of Theoretical Biology, 2003, 222, 247-259.	0.8	111
106	Improving the realism of the cellular Potts model in simulations of biological cells. Physica A: Statistical Mechanics and Its Applications, 2003, 329, 451-458.	1.2	100
107	The fractal structure of the mitochondrial genomes. Physica A: Statistical Mechanics and Its Applications, 2002, 311, 221-230.	1.2	17
108	Anomalous diffusion and non-Gaussian velocity distribution of Hydra cells in cellular aggregates. Physica A: Statistical Mechanics and Its Applications, 2001, 293, 549-558.	1.2	228

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109	Cell sorting is analogous to phase ordering in fluids. Proceedings of the National Academy of Sciences of the United States of America, 2000, 97, 9467-9471.	3.3	238
110	Model of Convergent Extension in Animal Morphogenesis. Physical Review Letters, 2000, 85, 2022-2025.	2.9	76
111	Diffusion and Deformations of Single Hydra Cells in Cellular Aggregates. Biophysical Journal, 2000, 79, 1903-1914.	0.2	103
112	Hysteresis and avalanches in two-dimensional foam rheology simulations. Physical Review E, 1999, 59, 5819-5832.	0.8	77
113	Evidence against â€˜ultrahardâ€™ thermal turbulence at very high Rayleigh numbers. Nature, 1999, 398, 307-310.	13.7	138
114	Possible Cooperation of Differential Adhesion and Chemotaxis in Mound Formation of Dictyostelium. Biophysical Journal, 1998, 75, 2615-2625.	0.2	80
115	Thermal Turbulence in Mercury. Physical Review Letters, 1996, 76, 1465-1468.	2.9	118
116	Single Cell Motion in Aggregates of Embryonic Cells. Physical Review Letters, 1996, 76, 3032-3035.	2.9	107
117	Reconstructing phylogeny from the multifractal spectrum of mitochondrial DNA. Physical Review E, 1995, 51, 2665-2668.	0.8	27
118	Grain growth from homogeneous initial conditions: Anomalous grain growth and special scaling states. Physical Review E, 1995, 52, R3333-R3336.	0.8	23
119	Magnetic Resonance Images of Coarsening Inside a Foam. Physical Review Letters, 1995, 75, 573-576.	2.9	71
120	Quantitative Comparison between Differential Adhesion Models and Cell Sorting in the Presence and Absence of Fluctuations. Physical Review Letters, 1995, 75, 2244-2247.	2.9	132
121	Spatially Coherent States in Fractally Coupled Map Lattices. Physical Review Letters, 1995, 74, 3297-3300.	2.9	43
122	Three-dimensional magnetic resonance imaging of a liquid foam. Journal of Physics Condensed Matter, 1995, 7, L511-L516.	0.7	23
123	Effective multifractal spectrum of a random walk. Physical Review E, 1994, 49, 1860-1864.	0.8	31
124	Construction of candidate minimal-area space-filling partitions. Philosophical Magazine Letters, 1994, 70, 351-356.	0.5	4
125	Grain growth in three dimensions depends on grain topology. Physical Review Letters, 1993, 70, 2170-2173.	2.9	115
126	Simulation of the differential adhesion driven rearrangement of biological cells. Physical Review E, 1993, 47, 2128-2154.	0.8	671

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127	Relation between volume, number of faces and three-dimensional growth laws in coarsening cellular patterns. Philosophical Magazine Letters, 1993, 68, 363-365.	0.5	28
128	The kinetics of cellular patterns. Journal of Physics Condensed Matter, 1992, 4, 1867-1894.	0.7	179
129	Global fractal dimension of human DNA sequences treated as pseudorandom walks. Physical Review A, 1992, 45, 8902-8913.	1.0	104
130	Simulation of biological cell sorting using a two-dimensional extended Potts model. Physical Review Letters, 1992, 69, 2013-2016.	2.9	1,117
131	Effects of lattice anisotropy and temperature on domain growth in the two-dimensional Potts model. Physical Review A, 1991, 43, 2662-2668.	1.0	169
132	Dispersive chaos. Journal of Statistical Physics, 1991, 64, 945-960.	0.5	33
133	Interactions of nonlinear pulses in convection in binary fluids. Physical Review A, 1991, 43, 4269-4280.	1.0	30
134	Dispersive chaos in one-dimensional traveling-wave convection. Physical Review Letters, 1990, 65, 1579-1582.	2.9	77
135	Interaction of localized pulses of traveling-wave convection with propagating disturbances. Physical Review A, 1990, 42, 7504-7506.	1.0	24
136	Coarsening in the two-dimensional soap froth and the large-<i>Q</i>Potts model: A detailed comparison. The Philosophical Magazine: Physics of Condensed Matter B, Statistical Mechanics, Electronic, Optical and Magnetic Properties, 1990, 62, 615-645.	0.6	148
137	Soap froth revisited: Dynamic scaling in the two-dimensional froth. Physical Review Letters, 1989, 62, 1318-1321.	2.9	184
138	Nonideal effects in the two-dimensional soap froth. Physical Review A, 1989, 40, 7398-7401.	1.0	54
139	Trajectory Scaling Functions at the Onset of Chaos: Experimental Results. Physical Review Letters, 1988, 61, 539-542.	2.9	16
140	f(Î±) curves: Experimental results. Physical Review A, 1988, 37, 523-530.	1.0	28
141	Dynamics of two-dimensional soap froths. Physical Review A, 1987, 36, 306-312.	1.0	224
142	Structure of Arnold tongues and the f(Î±) spectrum for period doubling: Experimental results. Physical Review A, 1986, 34, 1621-1624.	1.0	63