Luigi Preziosi

List of Publications by Year
in descending order

85 papers	4,051 citations	147726 31 h-index	118793 62 g-index
87 all docs	87 docs citations	87 times ranked	2592 citing authors

#	Article	IF	Citations
1	Effective interface conditions for continuum mechanical models describing the invasion of multiple cell populations through thin membranes. Applied Mathematics Letters, 2022, 125, 107708.	1.5	3
2	Passive and active fiber reorientation in anisotropic materials. International Journal of Engineering Science, 2022, 176, 103688.	2.7	9
3	Degenerate parabolic models for sand slides. Applied Mathematical Modelling, 2021, 89, 1627-1639.	2.2	2
4	A nonlinear elastic description of cell preferential orientations over a stretched substrate. Biomechanics and Modeling in Mechanobiology, 2021, 20, 631-649.	1.4	10
5	Multi-level Mathematical Models for Cell Migration in Confined Environments. Springer Proceedings in Mathematics and Statistics, 2021, , 124-140.	0.1	2
6	A Cellular Potts Model for Analyzing Cell Migration across Constraining Pillar Arrays. Axioms, 2021, 10, 32.	0.9	7
7	Control of tumor growth distributions through kinetic methods. Journal of Theoretical Biology, 2021, 514, 110579.	0.8	15
8	A hybrid integro-differential model for the early development of the zebrafish posterior lateral line. Journal of Theoretical Biology, 2021, 514, 110578.	0.8	2
9	Cell orientation under stretch: Stability of a linear viscoelastic model. Mathematical Biosciences, 2021, 337, 108630.	0.9	7
10	Stability of a non-local kinetic model for cell migration with density-dependent speed. Mathematical Medicine and Biology, 2021, 38, 83-105.	0.8	1
11	A fully Eulerian multiphase model of windblown sand coupled with morphodynamic evolution: Erosion, transport, deposition, and avalanching. Applied Mathematical Modelling, 2020, 79, 68-84.	2.2	12
12	Kinetic models with non-local sensing determining cell polarization and speed according to independent cues. Journal of Mathematical Biology, 2020, 80, 373-421.	0.8	27
13	Collective migration and patterning during early development of zebrafish posterior lateral line. Philosophical Transactions of the Royal Society B: Biological Sciences, 2020, 375, 20190385.	1.8	8
14	Multi-scale analysis and modelling of collective migration in biological systems. Philosophical Transactions of the Royal Society B: Biological Sciences, 2020, 375, 20190377.	1.8	29
15	Modelling physical limits of migration by a kinetic model with non-local sensing. Journal of Mathematical Biology, 2020, 80, 1759-1801.	0.8	8
16	Modeling sand slides by a mechanics-based degenerate parabolic equation. Mathematics and Mechanics of Solids, 2019, 24, 2558-2575.	1.5	6
17	Homogenized out-of-plane shear response of three-scale fiber-reinforced composites. Computing and Visualization in Science, 2019, 20, 85-93.	1.2	26
18	A three dimensional model of multicellular aggregate compression. Soft Matter, 2019, 15, 10005-10019.	1.2	10

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19	Derivation and Application of Effective Interface Conditions for Continuum Mechanical Models of Cell Invasion through Thin Membranes. SIAM Journal on Applied Mathematics, 2019, 79, 2011-2031.	0.8	9
20	Influence of the mechanical properties of the necrotic core on the growth and remodelling of tumour spheroids. International Journal of Non-Linear Mechanics, 2019, 108, 20-32.	1.4	20
21	Wind-blown particulate transport: A review of computational fluid dynamics models. Mathematics in Engineering, 2019, 1, 508-547.	0.5	10
22	How Nucleus Mechanics and ECM Microstructure Influence the Invasion of Single Cells and Multicellular Aggregates. Bulletin of Mathematical Biology, 2018, 80, 1017-1045.	0.9	14
23	Three scales asymptotic homogenization and its application to layered hierarchical hard tissues. International Journal of Solids and Structures, 2018, 130-131, 190-198.	1.3	60
24	Shield for Sand: An Innovative Barrier for Windblown Sand Mitigation. Recent Patents on Engineering, 2018, 12, 237-246.	0.3	11
25	Evaluating the influence of mechanical stress on anticancer treatments through a multiphase porous media model. Journal of Theoretical Biology, 2017, 421, 179-188.	0.8	25
26	Coherent modelling switch between pointwise and distributed representations of cell aggregates. Journal of Mathematical Biology, 2017, 74, 783-808.	0.8	15
27	A node-based version of the cellular Potts model. Computers in Biology and Medicine, 2016, 76, 94-112.	3.9	4
28	Plasticity of Cell Migration In Vivo and In Silico. Annual Review of Cell and Developmental Biology, 2016, 32, 491-526.	4.0	201
29	Mathematical Models of the Interaction of Cells and Cell Aggregates with the Extracellular Matrix. Lecture Notes in Mathematics, 2016, , 131-210.	0.1	3
30	Windblown sand saltation: A statistical approach to fluid threshold shear velocity. Aeolian Research, 2016, 23, 79-91.	1.1	39
31	Predicting the growth of glioblastoma multiforme spheroids using a multiphase porous media model. Biomechanics and Modeling in Mechanobiology, 2016, 15, 1215-1228.	1.4	63
32	A Cellular Potts Model of single cell migration in presence of durotaxis. Mathematical Biosciences, 2016, 275, 57-70.	0.9	34
33	Relevance of Cell-ECM Interactions: From a Biological Perspective to the Mathematical Modeling. ITM Web of Conferences, 2015, 5, 00004.	0.4	0
34	A hybrid model of cell migration in zebrafish embryogenesis. ITM Web of Conferences, 2015, 5, 00013.	0.4	2
35	A multiphase first order model for non-equilibrium sand erosion, transport and sedimentation. Applied Mathematics Letters, 2015, 45, 69-75.	1.5	12
36	A multiphase model of tumour segregation in situ by a heterogeneous extracellular matrix. International Journal of Non-Linear Mechanics, 2015, 75, 22-30.	1.4	18

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37	A hybrid mathematical model for self-organizing cell migration in the zebrafish lateral line. Journal of Mathematical Biology, 2015, 71, 171-214.	0.8	29
38	Cell Migration, Biomechanics. , 2015, , 189-194.		0
39	Influence of nucleus deformability on cell entry into cylindrical structures. Biomechanics and Modeling in Mechanobiology, 2014, 13, 481-502.	1.4	27
40	A cellular Potts model for the MMP-dependent and -independent cancer cell migration in matrix microtracks of different dimensions. Computational Mechanics, 2014, 53, 485-497.	2.2	22
41	Using Mathematical Modelling as a Virtual Microscope to Support Biomedical Research. Springer INdAM Series, 2014, , 59-71.	0.4	1
42	Mechano-transduction in tumour growth modelling. European Physical Journal E, 2013, 36, 23.	0.7	23
43	Modeling the influence of nucleus elasticity on cell invasion in fiber networks and microchannels. Journal of Theoretical Biology, 2013, 317, 394-406.	0.8	42
44	Computational Models of Vascularization and Therapy in Tumor Growth. Studies in Mechanobiology, Tissue Engineering and Biomaterials, 2013, , 227-246.	0.7	0
45	A review of mathematical models for the formation of vascular networks. Journal of Theoretical Biology, 2013, 333, 174-209.	0.8	131
46	Behavior of cell aggregates under force-controlled compression. International Journal of Non-Linear Mechanics, 2013, 56, 50-55.	1.4	9
47	A Cellular Potts model simulating cell migration on and in matrix environments. Mathematical Biosciences and Engineering, 2013, 10, 235-261.	1.0	93
48	A Hybrid Model Describing Different Morphologies of Tumor Invasion Fronts. Mathematical Modelling of Natural Phenomena, 2012, 7, 78-104.	0.9	15
49	Multiscale Developments of the Cellular Potts Model. Multiscale Modeling and Simulation, 2012, 10, 342-382.	0.6	75
50	Modelling the compression and reorganization of cell aggregates. Mathematical Medicine and Biology, 2012, 29, 181-204.	0.8	33
51	The interplay between stress and growth in solid tumors. Mechanics Research Communications, 2012, 42, 87-91.	1.0	45
52	A multiscale hybrid approach for vasculogenesis and related potential blocking therapies. Progress in Biophysics and Molecular Biology, 2011, 106, 450-462.	1.4	51
53	A MULTIPHASE MODEL OF TUMOR AND TISSUE GROWTH INCLUDING CELL ADHESION AND PLASTIC REORGANIZATION. Mathematical Models and Methods in Applied Sciences, 2011, 21, 1901-1932.	1.7	69
54	A new model for snow avalanche dynamics based onÂnon-Newtonian fluids. Meccanica, 2010, 45, 753-765.	1.2	23

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55	An elasto-visco-plastic model of cell aggregates. Journal of Theoretical Biology, 2010, 262, 35-47.	0.8	100
56	Multiphase modeling of tumor growth with matrix remodeling and fibrosis. Mathematical and Computer Modelling, 2010, 52, 969-976.	2.0	16
57	Individual Cell-Based Model for In-Vitro Mesothelial Invasion of Ovarian Cancer. Mathematical Modelling of Natural Phenomena, 2010, 5, 203-223.	0.9	31
58	Cell adhesion mechanisms and stress relaxation in the mechanics of tumours. Biomechanics and Modeling in Mechanobiology, 2009, 8, 397-413.	1.4	113
59	Individual cell-based models of cell scatter of ARO and MLP-29 cells in response to hepatocyte growth factor. Journal of Theoretical Biology, 2009, 260, 151-160.	0.8	19
60	Multiphase modelling of tumour growth and extracellular matrix interaction: mathematical tools and applications. Journal of Mathematical Biology, 2009, 58, 625-656.	0.8	155
61	Mathematical modelling of the Warburg effect in tumour cords. Journal of Theoretical Biology, 2009, 258, 578-590.	0.8	35
62	Contact inhibition of growth described using a multiphase model and an individual cell based model. Applied Mathematics Letters, 2009, 22, 1483-1490.	1.5	25
63	Multiphase and Multiscale Trends in Cancer Modelling. Mathematical Modelling of Natural Phenomena, 2009, 4, 1-11.	0.9	58
64	Review: Rheological properties of biological materials. Comptes Rendus Physique, 2009, 10, 790-811.	0.3	79
65	Multiphase Models of Tumour Growth. Modeling and Simulation in Science, Engineering and Technology, 2008, , 1-31.	0.4	21
66	On the Modeling of the Viscoelastic Response of Embryonic Tissues. Mathematics and Mechanics of Solids, 2008, 13, 81-91.	1.5	8
67	Modeling cell movement in anisotropic and heterogeneous network tissues. Networks and Heterogeneous Media, 2007, 2, 333-357.	0.5	62
68	Mathematical modelling of the loss of tissue compression responsiveness and its role in solid tumour development. Mathematical Medicine and Biology, 2006, 23, 197-229.	0.8	161
69	Hybrid and multiscale modelling. Journal of Mathematical Biology, 2006, 53, 977-978.	0.8	6
70	Mechanics and Chemotaxis in the Morphogenesis of Vascular Networks. Bulletin of Mathematical Biology, 2006, 68, 1819-1836.	0.9	61
71	Exogenous control of vascular network formation in vitro: a mathematical model. Networks and Heterogeneous Media, 2006, 1, 621-637.	0.5	14
72	A Review of Vasculogenesis Models. Journal of Theoretical Medicine, 2005, 6, 1-19.	0.5	64

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73	Modeling the early stages of vascular network assembly. EMBO Journal, 2003, 22, 1771-1779.	3.5	280
74	A two-phase model of solid tumour growth. Applied Mathematics Letters, 2003, 16, 567-573.	1.5	176
75	Percolation, Morphogenesis, and Burgers Dynamics in Blood Vessels Formation. Physical Review Letters, 2003, 90, 118101.	2.9	222
76	Multiscale Modeling and Mathematical Problems Related to Tumor Evolution and Medical Therapy. Journal of Theoretical Medicine, 2003, 5, 111-136.	0.5	81
77	Modelling solid tumour growth using the theory of mixtures. Mathematical Medicine and Biology, 2003, 20, 341-366.	0.8	351
78	ON THE CLOSURE OF MASS BALANCE MODELS FOR TUMOR GROWTH. Mathematical Models and Methods in Applied Sciences, 2002, 12, 737-754.	1.7	241
79	On Darcy's law for growing porous media. International Journal of Non-Linear Mechanics, 2002, 37, 485-491.	1.4	86
80	ADVECTION-DIFFUSION MODELS FOR SOLID TUMOUR EVOLUTION IN VIVO AND RELATED FREE BOUNDARY PROBLEM. Mathematical Models and Methods in Applied Sciences, 2000, 10, 379-407.	1.7	74
81	TUMOR/IMMUNE SYSTEM COMPETITION WITH MEDICALLY INDUCED ACTIVATION/DEACTIVATION. Mathematical Models and Methods in Applied Sciences, 1999, 09, 491-512.	1.7	36
82	Finite Deformation Models and Field Performance. Transport in Porous Media, 1999, 34, 17-27.	1.2	0
83	Flow of Waxy Crude Oils. , 1997, , 306-313.		4
84	On an invariance property of the solution to stokes first problem for viscoelastic fluids. Journal of Non-Newtonian Fluid Mechanics, 1989, 33, 225-228.	1.0	6
85	Stokes' first problem for viscoelastic fluids. Journal of Non-Newtonian Fluid Mechanics, 1987, 25, 239-259.	1.0	45