Anotida Madzvamuse

List of Publications by Year
in descending order

70 papers	1,710 citations	331670 21 h-index	315739 38 g-index
78 all docs	78 docs citations	78 times ranked	1212 citing authors

#	Article	IF	Citations
1	A mathematical analysis of an activator-inhibitor Rho GTPase model. Journal of Computational Dynamics, 2022, 9, 133.	1.1	4
2	Force Estimation during Cell Migration Using Mathematical Modelling. Journal of Imaging, 2022, 8, 199.	3.0	1
3	A Model for the Proliferationâ€"Quiescence Transition in Human Cells. Mathematics, 2022, 10, 2426.	2.2	1
4	Bulk-surface virtual element method for systems of PDEs in two-space dimensions. Numerische Mathematik, 2021, 147, 305-348.	1.9	11
5	Turing Pattern Formation Under Heterogeneous Distributions of Parameters for an Activator-Depleted Reaction Model. Journal of Nonlinear Science, 2021, 31, 1.	2.1	2
6	An integrated framework for quantifying immune-tumour interactions in a 3D co-culture model. Communications Biology, 2021, 4, 781.	4.4	9
7	Predicting and forecasting the impact of local outbreaks of COVID-19: use of SEIR-D quantitative epidemiological modelling for healthcare demand and capacity. International Journal of Epidemiology, 2021, 50, 1103-1113.	1.9	20
8	Dynamics of Shadow System of a Singular Giererâ€"Meinhardt System on an Evolving Domain. Journal of Nonlinear Science, 2021, 31, 1.	2.1	23
9	Investigating Optimal Time Step Intervals of Imaging for Data Quality through a Novel Fully-Automated Cell Tracking Approach. Journal of Imaging, 2020, 6, 66.	3.0	2
10	Integrating Actin and Myosin II in a Viscous Model for Cell Migration. Frontiers in Applied Mathematics and Statistics, 2020, 6, .	1.3	2
11	A moving grid finite element method applied to a mechanobiochemical model for 3D cell migration. Applied Numerical Mathematics, 2020, 158, 336-359.	2.1	7
12	A Hybrid Multiscale Model for Cancer Invasion of the Extracellular Matrix. Multiscale Modeling and Simulation, 2020, 18, 824-850.	1.6	26
13	Characterizing the Effects of Self- and Cross-Diffusion on Stationary Patterns of a Predatorâ€"Prey System. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2020, 30, 2050041.	1.7	1
14	Optogenetic Tuning Reveals Rho Amplification-Dependent Dynamics of a Cell Contraction Signal Network. Cell Reports, 2020, 33, 108467.	6.4	31
15	Stability Analysis and Parameter Classification of a Reaction-Diffusion Model on an Annulus. Journal of Applied Nonlinear Dynamics, 2020, 9, 589-617.	0.3	2
16	Cell migration through three-dimensional confining pores: speed accelerations by deformation and recoil of the nucleus. Philosophical Transactions of the Royal Society B: Biological Sciences, 2019, 374, 20180225.	4.0	62
17	A sensor kinase controls turgor-driven plant infection by the rice blast fungus. Nature, 2019, 574, 423-427.	27.8	87
18	Preserving invariance properties of reactionâ€"diffusion systems on stationary surfaces. IMA Journal of Numerical Analysis, 2019, 39, 235-270.	2.9	10

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19	Bayesian Parameter Identification for Turing Systems on Stationary and Evolving Domains. Bulletin of Mathematical Biology, 2019, 81, 81-104.	1.9	15
20	A coupled bulk-surface model for cell polarisation. Journal of Theoretical Biology, 2019, 481, 119-135.	1.7	48
21	High Accuracy Benchmark Problems for Allen-Cahn and Cahn-Hilliard Dynamics. Communications in Computational Physics, 2019, 26, 947-972.	1.7	24
22	Two Interlinked Bistable Switches Govern Mitotic Control in Mammalian Cells. Current Biology, 2018, 28, 3824-3832.e6.	3.9	62
23	Parameter identification through mode isolation for reactionâ€"diffusion systems on arbitrary geometries. International Journal of Biomathematics, 2018, 11, 1850053.	2.9	6
24	Numerical Preservation of Velocity Induced Invariant Regions for Reactionâ€"Diffusion Systems on Evolving Surfaces. Journal of Scientific Computing, 2018, 77, 971-1000.	2.3	9
25	A mathematical understanding of how cytoplasmic dynein walks on microtubules. Royal Society Open Science, 2018, 5, 171568.	2.4	5
26	Domain-Dependent Stability Analysis of a Reactionâ€"Diffusion Model on Compact Circular Geometries. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2018, 28, 1830024.	1.7	4
27	Domain-growth-induced patterning for reaction-diffusion systems with linear cross-diffusion. Discrete and Continuous Dynamical Systems - Series B, 2018, 23, 2775-2801.	0.9	2
28	A Robust and Efficient Adaptive Multigrid Solver for the Optimal Control of Phase Field Formulations of Geometric Evolution Laws. Communications in Computational Physics, 2017, 21, 65-92.	1.7	8
29	Projected Finite Elements for Systems of Reaction-Diffusion Equations on Closed Evolving Spheroidal Surfaces. Communications in Computational Physics, 2017, 21, 718-747.	1.7	6
30	Lumped finite elements for reactionâ€"cross-diffusion systems on stationary surfaces. Computers and Mathematics With Applications, 2017, 74, 3008-3023.	2.7	15
31	Classification of parameter spaces for a reaction-diffusion model on stationary domains. Chaos, Solitons and Fractals, 2017, 103, 33-51.	5.1	11
32	Cross-Diffusion in Reaction-Diffusion Models: Analysis, Numerics, and Applications. Mathematics in Industry, 2017, , 385-392.	0.3	0
33	Analysis and Simulations of Coupled Bulk-surface Reaction-Diffusion Systems on Exponentially Evolving Volumes. Mathematical Modelling of Natural Phenomena, 2016, 11, 4-32.	2.4	3
34	A note on how to develop interdisciplinary collaborations between experimentalists and theoreticians. Interface Focus, 2016, 6, 20160069.	3.0	0
35	A computational framework for particle and whole cell tracking applied to a real biological dataset. Journal of Biomechanics, 2016, 49, 1290-1304.	2.1	8
36	Wave of chaos in a spatial eco-epidemiological system: Generating realistic patterns of patchiness in rabbitâ€"lynx dynamics. Mathematical Biosciences, 2016, 281, 98-119.	1.9	10

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37	The bulk-surface finite element method for reactionâ€“diffusion systems on stationary volumes. Finite Elements in Analysis and Design, 2016, 108, 9-21.	3.2	24
38	Keratin Dynamics: Modeling the Interplay between Turnover and Transport. PLoS ONE, 2015, 10, e0121090.	2.5	16
39	A Model for Selection of Eyespots on Butterfly Wings. PLoS ONE, 2015, 10, e0141434.	2.5	12
40	Whole cell tracking through the optimal control of geometric evolution laws. Journal of Computational Physics, 2015, 297, 495-514.	3.8	9
41	Projected finite elements for reactionâ€“diffusion systems on stationary closed surfaces. Applied Numerical Mathematics, 2015, 96, 45-71.	2.1	9
42	Stability analysis and simulations of coupled bulk-surface reactionâ€“diffusion systems. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2015, 471, 20140546.	2.1	39
43	Cross-diffusion-driven instability for reaction-diffusion systems: analysis and simulations. Journal of Mathematical Biology, 2015, 70, 709-743.	1.9	76
44	Stability analysis of reaction-diffusion models on evolving domains: The effects of cross-diffusion. Discrete and Continuous Dynamical Systems, 2015, 36, 2133-2170.	0.9	18
45	The Stability Analyses of the Mathematical Models of Hepatitis C Virus Infection. Modern Applied Science, 2014, 9, .	0.6	7
46	Exhibiting cross-diffusion-induced patterns for reaction-diffusion systems on evolving domains and surfaces. Physical Review E, 2014, 90, 043307.	2.1	20
47	Fully implicit time-stepping schemes and non-linear solvers for systems of reactionâ€“diffusion equations. Applied Mathematics and Computation, 2014, 244, 361-374.	2.2	15
48	Mathematical modelling and numerical simulations of actin dynamics in the eukaryotic cell. Journal of Mathematical Biology, 2013, 66, 547-593.	1.9	22
49	The moving grid finite element method applied to cell movement and deformation. Finite Elements in Analysis and Design, 2013, 74, 76-92.	3.2	19
50	Implicit--Explicit Timestepping with Finite Element Approximation of Reaction--Diffusion Systems on Evolving Domains. SIAM Journal on Numerical Analysis, 2013, 51, 2309-2330.	2.3	29
51	A mechanochemical model of striae distensae. Mathematical Biosciences, 2012, 240, 141-147.	1.9	40
52	Characterization of turing diffusion-driven instability on evolving domains. Discrete and Continuous Dynamical Systems, 2012, 32, 3975-4000.	0.9	18
53	From the Cell Membrane to the Nucleus: Unearthing Transport Mechanisms for Dynein. Bulletin of Mathematical Biology, 2012, 74, 2032-2061.	1.9	5
54	Global existence for semilinear reactionâ€“diffusion systems on evolving domains. Journal of Mathematical Biology, 2012, 64, 41-67.	1.9	23

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55	The surface finite element method for pattern formation on evolving biological surfaces. Journal of Mathematical Biology, 2011, 63, 1095-1119.	1.9	84
56	Modeling parr-mark pattern formation during the early development of Amago trout. Physical Review E, 2011, 84, 041923.	2.1	22
57	Analysis of stability and convergence of finite-difference methods for a reaction-diffusion problem on a one-dimensional growing domain. IMA Journal of Numerical Analysis, 2011, 31, 212-232.	2.9	12
58	Stability analysis of non-autonomous reaction-diffusion systems: the effects of growing domains. Journal of Mathematical Biology, 2010, 61, 133-164.	1.9	89
59	Turing instability conditions for growing domains with divergence free mesh velocity. Nonlinear Analysis: Theory, Methods & Applications, 2009, 71, e2250-e2257.	1.1	12
60	Stability analysis of Reaction-Diffusion Systems with constant coefficients on growing domains. International Journal of Dynamical Systems and Differential Equations, 2008, 1, 250.	0.0	17
61	Velocity-induced numerical solutions of reaction-diffusion systems on continuously growing domains. Journal of Computational Physics, 2007, 225, 100-119.	3.8	72
62	Time-stepping schemes for moving grid finite elements applied to reactionâ€“diffusion systems on fixed and growing domains. Journal of Computational Physics, 2006, 214, 239-263.	3.8	98
63	A Moving Grid Finite Element Method for the Simulation of Pattern Generation by Turing Models on Growing Domains. Journal of Scientific Computing, 2005, 24, 247-262.	2.3	65
64	A moving grid finite element method applied to a model biological pattern generator. Journal of Computational Physics, 2003, 190, 478-500.	3.8	96
65	Pigmentation pattern formation in butterflies: experiments and models. Comptes Rendus - Biologies, 2003, 326, 717-727.	0.2	56
66	The Moving Grid Finite Element Method Applied to Biological Problems. , 2003, , 59-65.		3
67	A predictive model for color pattern formation in the butterfly wing of {it Papilio dardanus}. Hiroshima Mathematical Journal, 2002, 32, 325.	0.3	11
68	A Numerical Approach to the Study of Spatial Pattern Formation in the Ligaments of Arcoid Bivalves. Bulletin of Mathematical Biology, 2002, 64, 501-530.	1.9	41
69	Growth patterns of noetiid ligaments: implications of developmental models for the origin of an evolutionary novelty among arcoid bivalves. Geological Society Special Publication, 2000, 177, 279-289.	1.3	8
70	A model for colour pattern formation in the butterfly wing of Papilio dardanus. Proceedings of the Royal Society B: Biological Sciences, 2000, 267, 851-859.	2.6	57