Ruth Baker

List of Publications by Citations

186 papers	4,998 citations	35 h-index	62 g-index
225 ext. papers	6,214 ext. citations	4.2 avg, IF	5.98 L-index

#	Paper	IF	Citations
186	Cyclic dermal BMP signalling regulates stem cell activation during hair regeneration. *Nature*, **2008**, 451, 340-4	50.4	507
185	Vertex models of epithelial morphogenesis. *Biophysical Journal*, **2014**, 106, 2291-304	2.9	299
184	A random cell motility gradient downstream of FGF controls elongation of an amniote embryo. *Nature*, **2010**, 466, 248-52	50.4	216
183	Self-organizing and stochastic behaviors during the regeneration of hair stem cells. *Science*, **2011**, 332, 586-9	33.3	154
182	Developmental biology. The Turing model comes of molecular age. *Science*, **2006**, 314, 1397-8	33.3	143
181	Turing's model for biological pattern formation and the robustness problem. *Interface Focus*, **2012**, 2, 487-96	3.9	138
180	Multiscale mechanisms of cell migration during development: theory and experiment. *Development (Cambridge)*, **2012**, 139, 2935-44	6.6	104
179	Reptile scale paradigm: Evo-Devo, pattern formation and regeneration. *International Journal of Developmental Biology*, **2009**, 53, 813-26	1.9	101
178	Mechanistic models versus machine learning, a fight worth fighting for the biological community?. *Biology Letters*, **2018**, 14,	3.6	97
177	A clock and wavefront mechanism for somite formation. *Developmental Biology*, **2006**, 293, 116-26	3.1	95
176	Interactions between Shh, Sostdc1 and Wnt signaling and a new feedback loop for spatial patterning of the teeth. *Development (Cambridge)*, **2011**, 138, 1807-16	6.6	91
175	Neural crest migration is driven by a few trailblazer cells with a unique molecular signature narrowly confined to the invasive front. *Development (Cambridge)*, **2015**, 142, 2014-25	6.6	86
174	Multi-cellular rosettes in the mouse visceral endoderm facilitate the ordered migration of anterior visceral endoderm cells. *PLoS Biology*, **2012**, 10, e1001256	9.7	86
173	Correcting mean-field approximations for birth-death-movement processes. *Physical Review E*, **2010**, 82, 041905	2.4	83
172	Quantifying the roles of cell motility and cell proliferation in a circular barrier assay. *Journal of the Royal Society Interface*, **2013**, 10, 20130007	4.1	79
171	Self-organization process in newborn skin organoid formation inspires strategy to restore hair regeneration of adult cells. *Proceedings of the National Academy of Sciences of the United States of America*, **2017**, 114, E7101-E7110	11.5	69
170	From microscopic to macroscopic descriptions of cell migration on growing domains. *Bulletin of Mathematical Biology*, **2010**, 72, 719-62	2.1	69

169	VEGF signals induce trailblazer cell identity that drives neural crest migration. *Developmental Biology*, **2015**, 407, 12-25	3.1	57
168	Mechanocellular models of epithelial morphogenesis. *Philosophical Transactions of the Royal Society B: Biological Sciences*, **2017**, 372,	5.8	55
167	Age-related changes in speed and mechanism of adult skeletal muscle stem cell migration. *Stem Cells*, **2012**, 30, 1182-95	5.8	54
166	Spots and stripes: pleomorphic patterning of stem cells via p-ERK-dependent cell chemotaxis shown by feather morphogenesis and mathematical simulation. *Developmental Biology*, **2009**, 334, 369-82	3.1	50
165	The influence of receptor-mediated interactions on reaction-diffusion mechanisms of cellular self-organisation. *Bulletin of Mathematical Biology*, **2012**, 74, 935-57	2.1	49
164	Stochastic reaction and diffusion on growing domains: understanding the breakdown of robust pattern formation. *Physical Review E*, **2011**, 84, 046216	2.4	48
163	Partial differential equations for self-organization in cellular and developmental biology. *Nonlinearity*, **2008**, 21, R251-R290	1.7	48
162	The clock and wavefront model revisited. *Journal of Theoretical Biology*, **2011**, 283, 227-38	2.3	43
161	Corrected mean-field models for spatially dependent advection-diffusion-reaction phenomena. *Physical Review E*, **2011**, 83, 051922	2.4	43
160	Mean-field descriptions of collective migration with strong adhesion. *Physical Review E*, **2012**, 85, 051922	2.4	42
159	Are in vitro estimates of cell diffusivity and cell proliferation rate sensitive to assay geometry?. *Journal of Theoretical Biology*, **2014**, 356, 71-84	2.3	39
158	Multiple types of data are required to identify the mechanisms influencing the spatial expansion of melanoma cell colonies. *BMC Systems Biology*, **2013**, 7, 137	3.5	39
157	Models of collective cell spreading with variable cell aspect ratio: a motivation for degenerate diffusion models. *Physical Review E*, **2011**, 83, 021901	2.4	39
156	Simulation and inference algorithms for stochastic biochemical reaction networks: from basic concepts to state-of-the-art. *Journal of the Royal Society Interface*, **2019**, 16, 20180943	4.1	38
155	A mathematical investigation of a Clock and Wavefront model for somitogenesis. *Journal of Mathematical Biology*, **2006**, 52, 458-82	2	38
154	Reconciling diverse mammalian pigmentation patterns with a fundamental mathematical model. *Nature Communications*, **2016**, 7, 10288	17.4	36
153	Modeling the skin pattern of fishes. *Physical Review E*, **2009**, 79, 031908	2.4	36
152	A mechanism for morphogen-controlled domain growth. *Journal of Mathematical Biology*, **2007**, 54, 597-622	2	35

151	Using Experimental Data and Information Criteria to Guide Model Selection for Reaction-Diffusion Problems in Mathematical Biology. *Bulletin of Mathematical Biology*, **2019**, 81, 1760-1804	2.1	35
150	Experimental and modelling investigation of monolayer development with clustering. *Bulletin of Mathematical Biology*, **2013**, 75, 871-89	2.1	34
149	Macroscopic limits of individual-based models for motile cell populations with volume exclusion. *Physical Review E*, **2012**, 86, 031903	2.4	33
148	Inappropriate use of the quasi-reversible electrode kinetic model in simulation-experiment comparisons of voltammetric processes that approach the reversible limit. *Analytical Chemistry*, **2014**, 86, 8408-17	7.8	32
147	Simplified method for including spatial correlations in mean-field approximations. *Physical Review E* , **2013**, 87, 062702	2.4	31
146	Mathematical models for somite formation. *Current Topics in Developmental Biology*, **2008**, 81, 183-203	5.3	31
145	A comparison of fully automated methods of data analysis and computer assisted heuristic methods in an electrode kinetic study of the pathologically variable [Fe(CN)6](3-/4-) process by AC voltammetry. *Analytical Chemistry*, **2013**, 85, 11780-7	7.8	30
144	Nonlinear effects on Turing patterns: time oscillations and chaos. *Physical Review E*, **2012**, 86, 026201	2.4	29
143	Going from microscopic to macroscopic on nonuniform growing domains. *Physical Review E*, **2012**, 86, 021921	2.4	29
142	Incorporating chemical signalling factors into cell-based models of growing epithelial tissues. *Journal of Mathematical Biology*, **2012**, 65, 441-63	2	28
141	Critical time scales for advection-diffusion-reaction processes. *Physical Review E*, **2012**, 85, 041135	2.4	28
140	Multidisciplinary approaches to understanding collective cell migration in developmental biology. *Open Biology*, **2016**, 6,	7	27
139	Capabilities and Limitations of Tissue Size Control through Passive Mechanical Forces. *PLoS Computational Biology*, **2015**, 11, e1004679	5	27
138	Mathematical models of morphogen gradients and their effects on gene expression. *Wiley Interdisciplinary Reviews: Developmental Biology*, **2012**, 1, 715-30	5.9	27
137	The importance of volume exclusion in modelling cellular migration. *Journal of Mathematical Biology*, **2015**, 71, 691-711	2	26
136	The dynamics of Turing patterns for morphogen-regulated growing domains with cellular response delays. *Bulletin of Mathematical Biology*, **2011**, 73, 2527-51	2.1	26
135	Waves and patterning in developmental biology: vertebrate segmentation and feather bud formation as case studies. *International Journal of Developmental Biology*, **2009**, 53, 783-94	1.9	26
134	From segment to somite: segmentation to epithelialization analyzed within quantitative frameworks. *Developmental Dynamics*, **2007**, 236, 1392-402	2.9	25

133	Theoretical Analysis of the Relative Significance of Thermodynamic and Kinetic Dispersion in the dc and ac Voltammetry of Surface-Confined Molecules. *Langmuir*, **2015**, 31, 4996-5004	4	24
132	Incorporating spatial correlations into multispecies mean-field models. *Physical Review E*, **2013**, 88, 052713	2.4	24
131	DAN (NBL1) promotes collective neural crest migration by restraining uncontrolled invasion. *Journal of Cell Biology*, **2017**, 216, 3339-3354	7.3	24
130	Co-operation, Competition and Crowding: A Discrete Framework Linking Allee Kinetics, Nonlinear Diffusion, Shocks and Sharp-Fronted Travelling Waves. *Scientific Reports*, **2017**, 7, 42134	4.9	24
129	Patterning of wound-induced intercellular Ca(2+) flashes in a developing epithelium. *Physical Biology*, **2015**, 12, 056005	3	24
128	Power spectra methods for a stochastic description of diffusion on deterministically growing domains. *Physical Review E*, **2011**, 84, 021915	2.4	24
127	Dispersion relation in oscillatory reaction-diffusion systems with self-consistent flow in true slime mold. *Journal of Mathematical Biology*, **2007**, 54, 745-60	2	24
126	Characterizing transport through a crowded environment with different obstacle sizes. *Journal of Chemical Physics*, **2014**, 140, 054108	3.9	23
125	Moments of action provide insight into critical times for advection-diffusion-reaction processes. *Physical Review E*, **2012**, 86, 031136	2.4	22
124	Chaste: Cancer, Heart and Soft Tissue Environment. *Journal of Open Source Software*, **2020**, 5, 1848	5.2	22
123	Optimal Quantification of Contact Inhibition in Cell Populations. *Biophysical Journal*, **2017**, 113, 1920-1924	2.9	21
122	Practical parameter identifiability for spatio-temporal models of cell invasion. *Journal of the Royal Society Interface*, **2020**, 17, 20200055	4.1	21
121	Assessing the role of spatial correlations during collective cell spreading. *Scientific Reports*, **2014**, 4, 5713	4.9	20
120	Theoretical analysis of the two-electron transfer reaction and experimental studies with surface-confined cytochrome c peroxidase using large-amplitude Fourier transformed AC voltammetry. *Langmuir*, **2012**, 28, 9864-77	4	20
119	Effects of intrinsic stochasticity on delayed reaction-diffusion patterning systems. *Physical Review E* , **2012**, 85, 051914	2.4	20
118	Modelling Aedes aegypti mosquito control via transgenic and sterile insect techniques: endemics and emerging outbreaks. *Journal of Theoretical Biology*, **2013**, 331, 78-90	2.3	19
117	The effect of sampling rate on observed statistics in a correlated random walk. *Journal of the Royal Society Interface*, **2013**, 10, 20130273	4.1	19
116	Analysis of stationary droplets in a generic Turing reaction-diffusion system. *Physical Review E*, **2010**, 82, 051929	2.4	19

115	Distinct mechanisms underlie pattern formation in the skin and skin appendages. *Birth Defects Research Part C: Embryo Today Reviews*, **2006**, 78, 280-91		19
114	Continuum approximations for lattice-free multi-species models of collective cell migration. *Journal of Theoretical Biology*, **2017**, 422, 1-11	2.3	18
113	Cellular blebs: pressure-driven, axisymmetric, membrane protrusions. *Biomechanics and Modeling in Mechanobiology*, **2014**, 13, 463-76	3.8	18
112	Modelling the movement of interacting cell populations: a moment dynamics approach. *Journal of Theoretical Biology*, **2015**, 370, 81-92	2.3	17
111	Modelling cell migration and adhesion during development. *Bulletin of Mathematical Biology*, **2012**, 74, 2793-809	2.1	17
110	Modelling hair follicle growth dynamics as an excitable medium. *PLoS Computational Biology*, **2012**, 8, e1002804	5	17
109	An adaptive multi-level simulation algorithm for stochastic biological systems. *Journal of Chemical Physics*, **2015**, 142, 024113	3.9	16
108	Understanding hair follicle cycling: a systems approach. *Current Opinion in Genetics and Development*, **2012**, 22, 607-12	4.9	16
107	Noise-induced temporal dynamics in Turing systems. *Physical Review E*, **2013**, 87, 042719	2.4	16
106	Biologically-informed neural networks guide mechanistic modeling from sparse experimental data. *PLoS Computational Biology*, **2020**, 16, e1008462	5	16
105	Multiparameter Estimation in Voltammetry When an Electron Transfer Process Is Coupled to a Chemical Reaction. *Analytical Chemistry*, **2016**, 88, 4724-32	7.8	16
104	Survival probability for a diffusive process on a growing domain. *Physical Review E*, **2015**, 91, 042701	2.4	15
103	Exact calculations of survival probability for diffusion on growing lines, disks, and spheres: The role of dimension. *Journal of Chemical Physics*, **2015**, 143, 094109	3.9	15
102	Models of collective cell motion for cell populations with different aspect ratio: Diffusion, proliferation and travelling waves. *Physica A: Statistical Mechanics and Its Applications*, **2012**, 391, 3729-3750	2.2	15
101	Novel methods for analysing bacterial tracks reveal persistence in Rhodobacter sphaeroides. *PLoS Computational Biology*, **2013**, 9, e1003276	5	15
100	Travelling gradients in interacting morphogen systems. *Mathematical Biosciences*, **2007**, 209, 30-50	3.9	15
99	Global contraction or local growth, bleb shape depends on more than just cell structure. *Journal of Theoretical Biology*, **2015**, 380, 83-97	2.3	14
98	Discrete and Continuum Approximations for Collective Cell Migration in a Scratch Assay with Cell Size Dynamics. *Bulletin of Mathematical Biology*, **2018**, 80, 738-757	2.1	14

97	Modelling and analysis of bacterial tracks suggest an active reorientation mechanism in Rhodobacter sphaeroides. *Journal of the Royal Society Interface*, **2014**, 11, 20140320	4.1	14
96	Theoretical and experimental investigation of surface-confined two-center metalloproteins by large-amplitude Fourier transformed ac voltammetry. *Journal of Electroanalytical Chemistry*, **2011**, 656, 293-303	4.1	14
95	A one-dimensional individual-based mechanical model of cell movement in heterogeneous tissues and its coarse-grained approximation. *Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences*, **2019**, 475, 20180838	2.4	13
94	Three mechanical models for blebbing and multi-blebbing. *IMA Journal of Applied Mathematics*, **2014**, 79, 636-660	1	13
93	Mathematical modelling of digit specification by a sonic hedgehog gradient. *Developmental Dynamics*, **2014**, 243, 290-8	2.9	13
92	How can mathematics help us explore vertebrate segmentation?. *HFSP Journal*, **2009**, 3, 1-5		13
91	Influence of stochastic domain growth on pattern nucleation for diffusive systems with internal noise. *Physical Review E*, **2011**, 84, 041905	2.4	13
90	A mathematical formulation for the cell-cycle model in somitogenesis: analysis, parameter constraints and numerical solutions. *Mathematical Medicine and Biology*, **2004**, 21, 85-113	1.3	13
89	Modeling transport through an environment crowded by a mixture of obstacles of different shapes and sizes. *Physica A: Statistical Mechanics and Its Applications*, **2016**, 449, 74-84	3.3	12
88	Optimal barrier zones for stopping the invasion of Aedes aegypti mosquitoes via transgenic or sterile insect techniques. *Theoretical Ecology*, **2013**, 6, 427-442	1.6	12
87	Impact of implementation choices on quantitative predictions of cell-based computational models. *Journal of Computational Physics*, **2017**, 345, 752-767	4.1	12
86	Incorporating pushing in exclusion-process models of cell migration. *Physical Review E*, **2015**, 91, 052711	2.4	12
85	Designer based Fourier transformed voltammetry: A multi-frequency, variable amplitude, sinusoidal waveform. *Journal of Electroanalytical Chemistry*, **2009**, 634, 11-21	4.1	12
84	Multilevel rejection sampling for approximate Bayesian computation. *Computational Statistics and Data Analysis*, **2018**, 124, 71-86	1.6	11
83	Modelling Delta-Notch perturbations during zebrafish somitogenesis. *Developmental Biology*, **2013**, 373, 407-21	3.1	11
82	Formation of Vertebral Precursors: Past Models and Future Predictions. *Journal of Theoretical Medicine*, **2003**, 5, 23-35		11
81	Identifiability analysis for stochastic differential equation models in systems biology. *Journal of the Royal Society Interface*, **2020**, 17, 20200652	4.1	11
80	How domain growth is implemented determines the long-term behavior of a cell population through its effect on spatial correlations. *Physical Review E*, **2016**, 94, 012408	2.4	11

79	Neural crest cells bulldoze through the microenvironment using Aquaporin 1 to stabilize filopodia. *Development (Cambridge)*, **2020**, 147,	6.6	11
78	A free boundary model of epithelial dynamics. *Journal of Theoretical Biology*, **2019**, 481, 61-74	2.3	11
77	Modelling collective cell migration: neural crest as a model paradigm. *Journal of Mathematical Biology*, **2020**, 80, 481-504	2	11
76	Accurate and efficient discretizations for stochastic models providing near agent-based spatial resolution at low computational cost. *Journal of the Royal Society Interface*, **2019**, 16, 20190421	4.1	10
75	Deriving appropriate boundary conditions, and accelerating position-jump simulations, of diffusion using non-local jumping. *Physical Biology*, **2014**, 12, 016006	3	10
74	Approximate Bayesian computation reveals the importance of repeated measurements for parameterising cell-based models of growing tissues. *Journal of Theoretical Biology*, **2018**, 443, 66-81	2.3	10
73	Distinguishing between mean-field, moment dynamics and stochastic descriptions of birth–death–movement processes. *Physica A: Statistical Mechanics and Its Applications*, **2014**, 395, 236-246	3.3	10
72	Simplified approach for calculating moments of action for linear reaction-diffusion equations. *Physical Review E*, **2013**, 88, 054102	2.4	10
71	Access to enhanced differences in Marcus-Hush and Butler-Volmer electron transfer theories by systematic analysis of higher order AC harmonics. *Physical Chemistry Chemical Physics*, **2013**, 15, 2210-21	3.6	10
70	Semblance of Heterogeneity in Collective Cell Migration. *Cell Systems*, **2017**, 5, 119-127.e1	10.6	10
69	Using approximate Bayesian computation to quantify cell-cell adhesion parameters in a cell migratory process. *Npj Systems Biology and Applications*, **2017**, 3, 9	5	10
68	Communication: Distinguishing between short-time non-Fickian diffusion and long-time Fickian diffusion for a random walk on a crowded lattice. *Journal of Chemical Physics*, **2016**, 144, 171104	3.9	10
67	Extending the Multi-level Method for the Simulation of Stochastic Biological Systems. *Bulletin of Mathematical Biology*, **2016**, 78, 1640-77	2.1	9
66	Reconciling transport models across scales: The role of volume exclusion. *Physical Review E*, **2015**, 92, 040701	2.4	9
65	Calculating the Fickian diffusivity for a lattice-based random walk with agents and obstacles of different shapes and sizes. *Physical Biology*, **2015**, 12, 066010	3	9
64	Turing's Theory of Morphogenesis: Where We Started, Where We Are and Where We Want to Go. *Theory and Applications of Computability*, **2017**, 219-235		8
63	Inference of cell-cell interactions from population density characteristics and cell trajectories on static and growing domains. *Mathematical Biosciences*, **2015**, 264, 108-18	3.9	8
62	Exact Solutions of Coupled Multispecies Linear Reaction-Diffusion Equations on a Uniformly Growing Domain. *PLoS ONE*, **2015**, 10, e0138894	3.7	8

61	Learning differential equation models from stochastic agent-based model simulations. *Journal of the Royal Society Interface*, **2021**, 18, 20200987	4.1	8
60	Global Dynamics of a Novel Delayed Logistic Equation Arising from Cell Biology. *Journal of Nonlinear Science*, **2020**, 30, 397-418	2.8	8
59	Scalable population-level modelling of biological cells incorporating mechanics and kinetics in continuous time. *Royal Society Open Science*, **2018**, 5, 180379	3.3	8
58	Visualizing mesoderm and neural crest cell dynamics during chick head morphogenesis. *Developmental Biology*, **2020**, 461, 184-196	3.1	7
57	Coupling volume-excluding compartment-based models of diffusion at different scales: Voronoi and pseudo-compartment approaches. *Journal of the Royal Society Interface*, **2016**, 13,	4.1	7
56	Comparing methods for modelling spreading cell fronts. *Journal of Theoretical Biology*, **2014**, 353, 95-103	2.3	7
55	Modelling collective cell behaviour. *Discrete and Continuous Dynamical Systems*, **2014**, 34, 5123-5133	2	7
54	Robust cell tracking in epithelial tissues through identification of maximum common subgraphs. *Journal of the Royal Society Interface*, **2016**, 13,	4.1	6
53	Importance of the Voronoi domain partition for position-jump reaction-diffusion processes on nonuniform rectilinear lattices. *Physical Review E*, **2013**, 88, 054701	2.4	6
52	A Study of the Temperature Dependence of Bienzyme Systems and Enzymatic Chains. *Computational and Mathematical Methods in Medicine*, **2007**, 8, 93-112	2.8	6
51	Mechanical Cell Competition in Heterogeneous Epithelial Tissues. *Bulletin of Mathematical Biology*, **2020**, 82, 130	2.1	6
50	Multi-level methods and approximating distribution functions. *AIP Advances*, **2016**, 6, 075020	1.5	6
49	Filling the gaps: A robust description of adhesive birth-death-movement processes. *Physical Review E*, **2016**, 93, 042413	2.4	5
48	Variable species densities are induced by volume exclusion interactions upon domain growth. *Physical Review E*, **2017**, 95, 032416	2.4	5
47	A practical guide to pseudo-marginal methods for computational inference in systems biology. *Journal of Theoretical Biology*, **2020**, 496, 110255	2.3	5
46	An analytical method for disentangling the roles of adhesion and crowding for random walk models on a crowded lattice. *Physical Biology*, **2016**, 13, 05LT02	3	5
45	An interdisciplinary approach to investigate collective cell migration in neural crest. *Developmental Dynamics*, **2020**, 249, 270-280	2.9	5
44	Numerical Analysis of the Immersed Boundary Method for Cell-Based Simulation. *SIAM Journal of Scientific Computing*, **2017**, 39, B943-B967	2.6	4

43	Uniformization techniques for stochastic simulation of chemical reaction networks. *Journal of Chemical Physics*, **2019**, 150, 154107	3.9	4
42	Multifidelity Approximate Bayesian Computation. *SIAM-ASA Journal on Uncertainty Quantification*, **2020**, 8, 114-138	1.8	4
41	Quasi-Monte Carlo Methods Applied to Tau-Leaping in Stochastic Biological Systems. *Bulletin of Mathematical Biology*, **2019**, 81, 2931-2959	2.1	4
40	CRITICAL TIMESCALES AND TIME INTERVALS FOR COUPLED LINEAR PROCESSES. *ANZIAM Journal*, **2013**, 54, 127-142	0.5	4
39	Isotropic model for cluster growth on a regular lattice. *Physical Review E*, **2013**, 88, 023304	2.4	4
38	Profile likelihood analysis for a stochastic model of diffusion in heterogeneous media. *Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences*, **2021**, 477, 20210214	2.4	4
37	Efficient parameter sensitivity computation for spatially extended reaction networks. *Journal of Chemical Physics*, **2017**, 146, 044106	3.9	3
36	Choosing an Appropriate Modelling Framework for Analysing Multispecies Co-culture Cell Biology Experiments. *Bulletin of Mathematical Biology*, **2015**, 77, 713-34	2.1	3
35	Rethinking Models of Pattern Formation in Somitogenesis. *Cell Systems*, **2015**, 1, 248-9	10.6	3
34	Mechanistic and experimental models of cell migration reveal the importance of cell-to-cell pushing in cell invasion. *Biomedical Physics and Engineering Express*, **2019**, 5, 045009	1.5	3
33	Design and interpretation of cell trajectory assays. *Journal of the Royal Society Interface*, **2013**, 10, 20130630	4.1	3
32	Parameter identifiability and model selection for sigmoid population growth models.. *Journal of Theoretical Biology*, **2021**, 110998	2.3	3
31	Pakman: a modular, efficient and portable tool for approximate Bayesian inference. *Journal of Open Source Software*, **2020**, 5, 1716	5.2	3
30	Multifidelity Approximate Bayesian Computation with Sequential Monte Carlo Parameter Sampling. *SIAM-ASA Journal on Uncertainty Quantification*, **2021**, 9, 788-817	1.8	3
29	The impact of experimental design choices on parameter inference for models of growing cell colonies. *Royal Society Open Science*, **2018**, 5, 180384	3.3	3
28	A new and accurate continuum description of moving fronts. *New Journal of Physics*, **2017**, 19, 033010	2.9	2
27	Neural crest migration is driven by a few trailblazer cells with a unique molecular signature narrowly confined to the invasive front. *Journal of Cell Science*, **2015**, 128, e1207-e1207	5.3	2
26	Neural crest cells bulldoze through the microenvironment using Aquaporin-1 to stabilize filopodia		2

25	An automatic adaptive method to combine summary statistics in approximate Bayesian computation. *PLoS ONE*, **2020**, 15, e0236954	3.7	2
24	The role of mechanical interactions in EMT. *Physical Biology*, **2021**, 18,	3	2
23	Robustly simulating biochemical reaction kinetics using multi-level Monte Carlo approaches. *Journal of Computational Physics*, **2018**, 375, 1401-1423	4.1	2
22	The impact of temporal sampling resolution on parameter inference for biological transport models. *PLoS Computational Biology*, **2018**, 14, e1006235	5	2
21	Self-assembly of biological networks via adaptive patterning revealed by avian intradermal muscle network formation. *Proceedings of the National Academy of Sciences of the United States of America*, **2019**, 116, 10858-10867	11.5	1
20	Topology-dependent density optima for efficient simultaneous network exploration. *Physical Review E*, **2018**, 97, 062301	2.4	1
19	Multiscale mechanisms of cell migration during development: theory and experiment. *Journal of Cell Science*, **2012**, 125, e1-e1	5.3	1
18	A free boundary model of epithelial dynamics		1
17	An individual-based mechanical model of cell movement in heterogeneous tissues and its coarse-grained approximation		1
16	Modelling Collective Cell Motion in Biology. *Springer Proceedings in Mathematics and Statistics*, **2014**, 1-11	0.2	1
15	Mechanistic and experimental models of cell migration reveal the importance of intercellular interactions in cell invasion		1
14	Head Mesoderm Tissue Growth, Dynamics and Neural Crest Cell Migration		1
13	Rapid Bayesian Inference for Expensive Stochastic Models. *Journal of Computational and Graphical Statistics*,1-45	1.4	0
12	Mathematical modelling of autoimmune myocarditis and the effects of immune checkpoint inhibitors.. *Journal of Theoretical Biology*, **2022**, 537, 111002	2.3	0
11	Bayesian uncertainty quantification for data-driven equation learning.. *Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences*, **2021**, 477, 20210426	2.4	0
10	Modelling Oscillator Synchronisation During Vertebrate Axis Segmentation. *Springer Proceedings in Mathematics*, **2013**, 95-105		0
9	Exits in order: How crowding affects particle lifetimes. *Journal of Chemical Physics*, **2016**, 144, 244107	3.9	0
8	Testing Models of mRNA Localization Reveals Robustness Regulated by Reducing Transport between Cells. *Biophysical Journal*, **2019**, 117, 2154-2165	2.9	0

7	Quantifying the impact of electric fields on single-cell motility. *Biophysical Journal*, **2021**, 120, 3363-3373	2.9	0
6	Control of diffusion-driven pattern formation behind a wave of competency. *Physica D: Nonlinear Phenomena*, **2022**, 133297	3.3	0
5	Continuum descriptions of spatial spreading for heterogeneous cell populations: Theory and experiment. *Journal of Theoretical Biology*, **2019**, 482, 109997	2.3	
4	Reply to Correspondence: No Oscillations in Real Activator–Inhibitor Systems in Accomplishing Pattern Formation. *Bulletin of Mathematical Biology*, **2012**, 74, 2268-2271	2.1	
3	Distinguishing graded and ultrasensitive signalling cascade kinetics by the shape of morphogen gradients in Drosophila. *Journal of Theoretical Biology*, **2011**, 285, 136-46	2.3	
2	Convergence of Solutions in a Mean-Field Model of Go-or-Grow Type with Reservation of Sites for Proliferation and Cell Cycle Delay. *Mathematics in Industry*, **2019**, 381-387	0.2	
1	Effects of different discretisations of the Laplacian upon stochastic simulations of reaction–diffusion systems on both static and growing domains. *Journal of Computational and Applied Mathematics*, **2021**, 395, 113570	2.4	