

# Gary R. Mirams

## List of Publications by Citations

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

75  
papers

2,876  
citations

33  
h-index

52  
g-index

107  
ext. papers

3,703  
ext. citations

4.4  
avg, IF

5.07  
L-index

#	Paper	IF	Citations
75	Chaste: an open source C++ library for computational physiology and biology. <i>PLoS Computational Biology</i> , <b>2013</b> , 9, e1002970	5	259
74	Simulation of multiple ion channel block provides improved early prediction of compounds' clinical torsadogenic risk. <i>Cardiovascular Research</i> , <b>2011</b> , 91, 53-61	9.9	208
73	Chaste: A test-driven approach to software development for biological modelling. <i>Computer Physics Communications</i> , <b>2009</b> , 180, 2452-2471	4.2	166
72	An integrative computational model for intestinal tissue renewal. <i>Cell Proliferation</i> , <b>2009</b> , 42, 617-36	7.9	121
71	Application of human stem cell-derived cardiomyocytes in safety pharmacology requires caution beyond hERG. <i>Journal of Molecular and Cellular Cardiology</i> , <b>2012</b> , 52, 998-1008	5.8	106
70	Hydroxychloroquine reduces heart rate by modulating the hyperpolarization-activated current I <sub>f</sub> : Novel electrophysiological insights and therapeutic potential. <i>Heart Rhythm</i> , <b>2015</b> , 12, 2186-94	6.7	92
69	A hybrid approach to multi-scale modelling of cancer. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , <b>2010</b> , 368, 5013-28	3	88
68	Uncertainty and variability in computational and mathematical models of cardiac physiology. <i>Journal of Physiology</i> , <b>2016</b> , 594, 6833-6847	3.9	83
67	Uncertainty and variability in models of the cardiac action potential: Can we build trustworthy models?. <i>Journal of Molecular and Cellular Cardiology</i> , <b>2016</b> , 96, 49-62	5.8	80
66	Computational assessment of drug-induced effects on the electrocardiogram: from ion channel to body surface potentials. <i>British Journal of Pharmacology</i> , <b>2013</b> , 168, 718-33	8.6	73
65	Application of cardiac electrophysiology simulations to pro-arrhythmic safety testing. <i>British Journal of Pharmacology</i> , <b>2012</b> , 167, 932-45	8.6	71
64	A computational study of discrete mechanical tissue models. <i>Physical Biology</i> , <b>2009</b> , 6, 036001	3	68
63	Prediction of Thorough QT study results using action potential simulations based on ion channel screens. <i>Journal of Pharmacological and Toxicological Methods</i> , <b>2014</b> , 70, 246-54	1.7	66
62	Systems Toxicology: Real World Applications and Opportunities. <i>Chemical Research in Toxicology</i> , <b>2017</b> , 30, 870-882	4	64
61	Variability in high-throughput ion-channel screening data and consequences for cardiac safety assessment. <i>Journal of Pharmacological and Toxicological Methods</i> , <b>2013</b> , 68, 112-22	1.7	63
60	Assessment of an In Silico Mechanistic Model for Proarrhythmia Risk Prediction Under the CiPA Initiative. <i>Clinical Pharmacology and Therapeutics</i> , <b>2019</b> , 105, 466-475	6.1	63
59	A theoretical investigation of the effect of proliferation and adhesion on monoclonal conversion in the colonic crypt. <i>Journal of Theoretical Biology</i> , <b>2012</b> , 312, 143-56	2.3	52

58	Modelling spatially regulated beta-catenin dynamics and invasion in intestinal crypts. <i>Biophysical Journal</i> , <b>2010</b> , 99, 716-25	2.9	52
57	mRNA expression levels in failing human hearts predict cellular electrophysiological remodeling: a population-based simulation study. <i>PLoS ONE</i> , <b>2013</b> , 8, e56359	3.7	50
56	Minimum Information about a Cardiac Electrophysiology Experiment (MICEE): standardised reporting for model reproducibility, interoperability, and data sharing. <i>Progress in Biophysics and Molecular Biology</i> , <b>2011</b> , 107, 4-10	4.7	45
55	A multiple timescale analysis of a mathematical model of the Wnt/beta-catenin signalling pathway. <i>Journal of Mathematical Biology</i> , <b>2010</b> , 60, 131-60	2	45
54	Evaluation of an in silico cardiac safety assay: using ion channel screening data to predict QT interval changes in the rabbit ventricular wedge. <i>Journal of Pharmacological and Toxicological Methods</i> , <b>2013</b> , 68, 88-96	1.7	43
53	Recent developments in using mechanistic cardiac modelling for drug safety evaluation. <i>Drug Discovery Today</i> , <b>2016</b> , 21, 924-38	8.8	42
52	Uncertainty Quantification Reveals the Importance of Data Variability and Experimental Design Considerations for Proarrhythmia Risk Assessment. <i>Frontiers in Physiology</i> , <b>2017</b> , 8, 917	4.6	40
51	Control of NFAT Isoform Activation and NFAT-Dependent Gene Expression through Two Coincident and Spatially Segregated Intracellular Ca Signals. <i>Molecular Cell</i> , <b>2016</b> , 64, 746-759	17.6	39
50	High-throughput functional curation of cellular electrophysiology models. <i>Progress in Biophysics and Molecular Biology</i> , <b>2011</b> , 107, 11-20	4.7	39
49	Sequential forward and reverse transport of the Na Ca exchanger generates Ca oscillations within mitochondria. <i>Nature Communications</i> , <b>2018</b> , 9, 156	17.4	38
48	The significant effect of the choice of ionic current integration method in cardiac electro-physiological simulations. <i>International Journal for Numerical Methods in Biomedical Engineering</i> , <b>2011</b> , 27, 1751-1770	2.6	37
47	High resolution structural evidence suggests the Sarcoplasmic Reticulum forms microdomains with Acidic Stores (lysosomes) in the heart. <i>Scientific Reports</i> , <b>2017</b> , 7, 40620	4.9	36
46	Cardiac tissue slices: preparation, handling, and successful optical mapping. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , <b>2015</b> , 308, H1112-25	5.2	35
45	The Cardiac Electrophysiology Web Lab. <i>Biophysical Journal</i> , <b>2016</b> , 110, 292-300	2.9	35
44	General Principles for the Validation of Proarrhythmia Risk Prediction Models: An Extension of the CiPA In Silico Strategy. <i>Clinical Pharmacology and Therapeutics</i> , <b>2020</b> , 107, 102-111	6.1	34
43	Connexin43 contributes to electrotonic conduction across scar tissue in the intact heart. <i>Scientific Reports</i> , <b>2016</b> , 6, 26744	4.9	34
42	Sinusoidal voltage protocols for rapid characterisation of ion channel kinetics. <i>Journal of Physiology</i> , <b>2018</b> , 596, 1813-1828	3.9	29
41	Considering discrepancy when calibrating a mechanistic electrophysiology model. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , <b>2020</b> , 378, 20190349	3	27

40	Calibration of ionic and cellular cardiac electrophysiology models. <i>Wiley Interdisciplinary Reviews: Systems Biology and Medicine</i> , <b>2020</b> , 12, e1482	6.6	26
39	Ca(2+) Channel Re-localization to Plasma-Membrane Microdomains Strengthens Activation of Ca(2+)-Dependent Nuclear Gene Expression. <i>Cell Reports</i> , <b>2015</b> , 12, 203-16	10.6	25
38	Tailoring Mathematical Models to Stem-Cell Derived Cardiomyocyte Lines Can Improve Predictions of Drug-Induced Changes to Their Electrophysiology. <i>Frontiers in Physiology</i> , <b>2017</b> , 8, 986	4.6	25
37	A web portal for in-silico action potential predictions. <i>Journal of Pharmacological and Toxicological Methods</i> , <b>2015</b> , 75, 10-6	1.7	22
36	Chaste: Cancer, Heart and Soft Tissue Environment. <i>Journal of Open Source Software</i> , <b>2020</b> , 5, 1848	5.2	22
35	Rapid Characterization of hERG Channel Kinetics I: Using an Automated High-Throughput System. <i>Biophysical Journal</i> , <b>2019</b> , 117, 2438-2454	2.9	19
34	Cellular cardiac electrophysiology modeling with Chaste and CellML. <i>Frontiers in Physiology</i> , <b>2014</b> , 5, 511	4.6	18
33	Hierarchical Bayesian inference for ion channel screening dose-response data. <i>Wellcome Open Research</i> , <b>2016</b> , 1, 6	4.8	18
32	Rapid Characterization of hERG Channel Kinetics II: Temperature Dependence. <i>Biophysical Journal</i> , <b>2019</b> , 117, 2455-2470	2.9	16
31	Four Ways to Fit an Ion Channel Model. <i>Biophysical Journal</i> , <b>2019</b> , 117, 2420-2437	2.9	16
30	A systematic strategy for estimating hERG block potency and its implications in a new cardiac safety paradigm. <i>Toxicology and Applied Pharmacology</i> , <b>2020</b> , 394, 114961	4.6	16
29	Probabilistic Inference on Noisy Time Series (PINTS). <i>Journal of Open Research Software</i> , <b>2019</b> , 7,	2.3	16
28	Hierarchical Bayesian inference for ion channel screening dose-response data. <i>Wellcome Open Research</i> , 1, 6	4.8	15
27	Early afterdepolarisation tendency as a simulated pro-arrhythmic risk indicator. <i>Toxicology Research</i> , <b>2017</b> , 6, 912-921	2.6	14
26	Selective recruitment of different Ca-dependent transcription factors by STIM1-Orai1 channel clusters. <i>Nature Communications</i> , <b>2019</b> , 10, 2516	17.4	13
25	Accounting for variability in ion current recordings using a mathematical model of artefacts in voltage-clamp experiments. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , <b>2020</b> , 378, 20190348	3	13
24	A local sensitivity analysis method for developing biological models with identifiable parameters: Application to cardiac ionic channel modelling. <i>Future Generation Computer Systems</i> , <b>2013</b> , 29, 591-598	7.5	13
23	Is it time for in silico simulation of drug cardiac side effects?. <i>Annals of the New York Academy of Sciences</i> , <b>2011</b> , 1245, 44-7	6.5	13

22	Reproducible model development in the cardiac electrophysiology Web Lab. <i>Progress in Biophysics and Molecular Biology</i> , <b>2018</b> , 139, 3-14	4.7	13
21	Distinguishing possible mechanisms for auxin-mediated developmental control in Arabidopsis: models with two Aux/IAA and ARF proteins, and two target gene-sets. <i>Mathematical Biosciences</i> , <b>2012</b> , 235, 32-44	3.9	11
20	Computational cardiology and risk stratification for sudden cardiac death: one of the grand challenges for cardiology in the 21st century. <i>Journal of Physiology</i> , <b>2016</b> , 594, 6893-6908	3.9	11
19	Nonclinical cardiovascular safety of pitolisant: comparing International Conference on Harmonization S7B and Comprehensive in vitro Pro-arrhythmia Assay initiative studies. <i>British Journal of Pharmacology</i> , <b>2017</b> , 174, 4449-4463	8.6	9
18	Application of stochastic phenomenological modelling to cell-to-cell and beat-to-beat electrophysiological variability in cardiac tissue. <i>Journal of Theoretical Biology</i> , <b>2015</b> , 365, 325-36	2.3	9
17	The fickle heart: uncertainty quantification in cardiac and cardiovascular modelling and simulation. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , <b>2020</b> , 378, 20200119		7
16	Phenomenological modeling of cell-to-cell and beat-to-beat variability in isolated Guinea Pig ventricular myocytes. <i>Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference</i> , <b>2010</b> , 2010, 1457-60	0.9	6
15	Defining vitamin D status using multi-metabolite mathematical modelling: A pregnancy perspective. <i>Journal of Steroid Biochemistry and Molecular Biology</i> , <b>2019</b> , 190, 152-160	5.1	5
14	Sinusoidal voltage protocols for rapid characterisation of ion channel kinetics		3
13	Cardiac TdP risk stratification modelling of anti-infective compounds including chloroquine and hydroxychloroquine. <i>Royal Society Open Science</i> , <b>2021</b> , 8, 210235	3.3	3
12	Representation of Multiple Cellular Phenotypes Within Tissue-Level Simulations of Cardiac Electrophysiology. <i>Bulletin of Mathematical Biology</i> , <b>2019</b> , 81, 7-38	2.1	3
11	Stochasticity in Action Potential duration Enhances Dispersion of Repolarisation at Fast Pacing Rates. <i>Biophysical Journal</i> , <b>2012</b> , 102, 592a-593a	2.9	2
10	? Cancer Cell: Linking Oncogenic Signaling to Molecular Structure <b>2010</b> , 56-69		2
9	A nonlinear and time-dependent leak current in the presence of calcium fluoride patch-clamp seal enhancer. <i>Wellcome Open Research</i> , <b>2020</b> , 5, 152	4.8	2
8	Hierarchical Bayesian Modelling of Variability and Uncertainty in Synthetic Action Potential Traces		2
7	Simulated micro-electrode array recordings from stem cell-derived cardiomyocytes. <i>Journal of Pharmacological and Toxicological Methods</i> , <b>2016</b> , 81, 380	1.7	2
6	Response to "CiPAQ Complexity Bias". <i>Clinical Pharmacology and Therapeutics</i> , <b>2019</b> , 105, 1325	6.1	1
5	Use of Patient Health Records to Quantify Drug-Related Pro-arrhythmic Risk. <i>Cell Reports Medicine</i> , <b>2020</b> , 1, 100076	18	1

4	A nonlinear and time-dependent leak current in the presence of calcium fluoride patch-clamp seal enhancer. <i>Wellcome Open Research</i> ,5, 152	4.8	o
3	6 Can you teach an old dog new tricks? The anti-malarial hydroxychloroquine shows promise in cardiac rate control through actions at the sino-atrial node. <i>Heart</i> , <b>2015</b> , 101, A2.3-A2	5.1	
2	chaste codegen: automatic CellML to C++ code generation with fixes for singularities and automatically generated Jacobians.. <i>Wellcome Open Research</i> , <b>2021</b> , 6, 261	4.8	
1	Estimation of Conductivity Tensors from Human Ventricular Optical Mapping Recordings. <i>Lecture Notes in Computer Science</i> , <b>2013</b> , 224-231	0.9	