

Gary R. Mirams

List of Publications by Year in descending order

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Version: 2024-02-01

85
papers

4,197
citations

87888

38
h-index

128289

60
g-index

107
all docs

107
docs citations

107
times ranked

4053
citing authors

#	ARTICLE	IF	CITATIONS
1	Cardiac TdP risk stratification modelling of anti-infective compounds including chloroquine and hydroxychloroquine. Royal Society Open Science, 2021, 8, 210235.	2.4	13
2	Electrophysiological characterization of the hERG R56Q LQTS variant and targeted rescue by the activator RPR260243. Journal of General Physiology, 2021, 153, .	1.9	8
3	chaste codegen: automatic CellML to C++ code generation with fixes for singularities and automatically generated Jacobians. Wellcome Open Research, 2021, 6, 261.	1.8	1
4	General Principles for the Validation of Proarrhythmia Risk Prediction Models: An Extension of the CiPA <i>In Silico</i> Strategy. Clinical Pharmacology and Therapeutics, 2020, 107, 102-111.	4.7	67
5	Use of Patient Health Records to Quantify Drug-Related Pro-arrhythmic Risk. Cell Reports Medicine, 2020, 1, 100076.	6.5	4
6	The fickle heart: uncertainty quantification in cardiac and cardiovascular modelling and simulation. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2020, 378, 20200119.	3.4	17
7	Accounting for variability in ion current recordings using a mathematical model of artefacts in voltage-clamp experiments. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2020, 378, 20190348.	3.4	38
8	Considering discrepancy when calibrating a mechanistic electrophysiology model. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2020, 378, 20190349.	3.4	46
9	Calibration of ionic and cellular cardiac electrophysiology models. Wiley Interdisciplinary Reviews: Systems Biology and Medicine, 2020, 12, e1482.	6.6	62
10	A systematic strategy for estimating hERG block potency and its implications in a new cardiac safety paradigm. Toxicology and Applied Pharmacology, 2020, 394, 114961.	2.8	30
11	A nonlinear and time-dependent leak current in the presence of calcium fluoride patch-clamp seal enhancer. Wellcome Open Research, 2020, 5, 152.	1.8	6
12	Chaste: Cancer, Heart and Soft Tissue Environment. Journal of Open Source Software, 2020, 5, 1848.	4.6	58
13	Rapid Characterization of hERG Channel Kinetics I: Using an Automated High-Throughput System. Biophysical Journal, 2019, 117, 2438-2454.	0.5	39
14	Rapid Characterization of hERG Channel Kinetics II: Temperature Dependence. Biophysical Journal, 2019, 117, 2455-2470.	0.5	38
15	Four Ways to Fit an Ion Channel Model. Biophysical Journal, 2019, 117, 2420-2437.	0.5	53
16	Selective recruitment of different Ca ²⁺ -dependent transcription factors by STIM1-Orai1 channel clusters. Nature Communications, 2019, 10, 2516.	12.8	20
17	Response to Ca^{2+} PA 's Complexity Bias. Clinical Pharmacology and Therapeutics, 2019, 105, 1325-1325.	4.7	3
18	Defining vitamin D status using multi-metabolite mathematical modelling: A pregnancy perspective. Journal of Steroid Biochemistry and Molecular Biology, 2019, 190, 152-160.	2.5	7

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19	High-throughput measurement and modeling of hERG kinetics using an automated platform. <i>Journal of Pharmacological and Toxicological Methods</i> , 2019, 99, 106595.	0.7	0
20	Assessment of an <i>In Silico</i> Mechanistic Model for Proarrhythmia Risk Prediction Under the Ci&sc>PA</sc> Initiative. <i>Clinical Pharmacology and Therapeutics</i> , 2019, 105, 466-475.	4.7	124
21	Representation of Multiple Cellular Phenotypes Within Tissue-Level Simulations of Cardiac Electrophysiology. <i>Bulletin of Mathematical Biology</i> , 2019, 81, 7-38.	1.9	4
22	Probabilistic Inference on Noisy Time Series (PINTS). <i>Journal of Open Research Software</i> , 2019, 7, 23.	5.9	41
23	Sinusoidal Voltage Protocols for Rapid Characterisation of Ion Channel Kinetics. <i>Biophysical Journal</i> , 2018, 114, 293a-294a.	0.5	0
24	Sinusoidal voltage protocols for rapid characterisation of ion channel kinetics. <i>Journal of Physiology</i> , 2018, 596, 1813-1828.	2.9	54
25	Sequential forward and reverse transport of the Na ⁺ Ca ²⁺ exchanger generates Ca ²⁺ oscillations within mitochondria. <i>Nature Communications</i> , 2018, 9, 156.	12.8	66
26	Reproducible model development in the cardiac electrophysiology Web Lab. <i>Progress in Biophysics and Molecular Biology</i> , 2018, 139, 3-14.	2.9	21
27	Systems Toxicology: Real World Applications and Opportunities. <i>Chemical Research in Toxicology</i> , 2017, 30, 870-882.	3.3	93
28	Nonclinical cardiovascular safety of pitolisant: comparing International Conference on Harmonization S7B and Comprehensive <i>in vitro</i> Proarrhythmia Assay initiative studies. <i>British Journal of Pharmacology</i> , 2017, 174, 4449-4463.	5.4	15
29	Early afterdepolarisation tendency as a simulated pro-arrhythmic risk indicator. <i>Toxicology Research</i> , 2017, 6, 912-921.	2.1	18
30	High resolution structural evidence suggests the Sarcoplasmic Reticulum forms microdomains with Acidic Stores (lysosomes) in the heart. <i>Scientific Reports</i> , 2017, 7, 40620.	3.3	59
31	Uncertainty Quantification Reveals the Importance of Data Variability and Experimental Design Considerations for <i>in Silico</i> Proarrhythmia Risk Assessment. <i>Frontiers in Physiology</i> , 2017, 8, 917.	2.8	71
32	Tailoring Mathematical Models to Stem-Cell Derived Cardiomyocyte Lines Can Improve Predictions of Drug-Induced Changes to Their Electrophysiology. <i>Frontiers in Physiology</i> , 2017, 8, 986.	2.8	42
33	Uncertainty and variability in computational and mathematical models of cardiac physiology. <i>Journal of Physiology</i> , 2016, 594, 6833-6847.	2.9	127
34	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> , 2016, 594, 6893-6908.	2.9	14
35	Connexin43 contributes to electrotonic conduction across scar tissue in the intact heart. <i>Scientific Reports</i> , 2016, 6, 26744.	3.3	49
36	Simulation of L-Type Calcium Currents using Different Experimental Data Sources: from Cell Line to iP&S-Derived Cardiomyocyte. <i>Biophysical Journal</i> , 2016, 110, 450a.	0.5	0

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37	Simulated micro-electrode array recordings from stem cell-derived cardiomyocytes. <i>Journal of Pharmacological and Toxicological Methods</i> , 2016, 81, 380.	0.7	2
38	Importance of parameter control in cardiac models for robust pro-arrhythmic risk prediction. <i>Journal of Pharmacological and Toxicological Methods</i> , 2016, 81, 361.	0.7	0
39	Control of NFAT Isoform Activation and NFAT-Dependent Gene Expression through Two Coincident and Spatially Segregated Intracellular Ca ²⁺ Signals. <i>Molecular Cell</i> , 2016, 64, 746-759.	9.7	58
40	Cell-specific mathematical models of cardiac electrophysiology. <i>Journal of Pharmacological and Toxicological Methods</i> , 2016, 81, 343.	0.7	0
41	The Cardiac Electrophysiology Web Lab. <i>Biophysical Journal</i> , 2016, 110, 292-300.	0.5	49
42	Uncertainty and variability in models of the cardiac action potential: Can we build trustworthy models?. <i>Journal of Molecular and Cellular Cardiology</i> , 2016, 96, 49-62.	1.9	113
43	Recent developments in using mechanistic cardiac modelling for drug safety evaluation. <i>Drug Discovery Today</i> , 2016, 21, 924-938.	6.4	55
44	Hierarchical Bayesian inference for ion channel screening dose-response data. <i>Wellcome Open Research</i> , 2016, 1, 6.	1.8	22
45	Novel Voltage Protocols for Determining hERG Channel Kinetics. <i>Biophysical Journal</i> , 2015, 108, 121a.	0.5	1
46	6â€¦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> , 2015, 101, A2.3-A2.	2.9	0
47	Hydroxychloroquine reduces heart rate by modulating the hyperpolarization-activated current I _f : Novel electrophysiological insights and therapeutic potential. <i>Heart Rhythm</i> , 2015, 12, 2186-2194.	0.7	124
48	Application of stochastic phenomenological modelling to cell-to-cell and beat-to-beat electrophysiological variability in cardiac tissue. <i>Journal of Theoretical Biology</i> , 2015, 365, 325-336.	1.7	11
49	Cardiac tissue slices: preparation, handling, and successful optical mapping. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , 2015, 308, H1112-H1125.	3.2	52
50	Ca ²⁺ Channel Re-localization to Plasma-Membrane Microdomains Strengthens Activation of Ca ²⁺ -Dependent Nuclear Gene Expression. <i>Cell Reports</i> , 2015, 12, 203-216.	6.4	30
51	A web portal for in-silico action potential predictions. <i>Journal of Pharmacological and Toxicological Methods</i> , 2015, 75, 10-16.	0.7	28
52	Prediction of Thorough QT study results using action potential simulations based on ion channel screens. <i>Journal of Pharmacological and Toxicological Methods</i> , 2014, 70, 246-254.	0.7	80
53	Ten Simple Rules for Effective Computational Research. <i>PLoS Computational Biology</i> , 2014, 10, e1003506.	3.2	47
54	Spatiotemporal Transitions in Cardiac Neuronal Co-Cultures. <i>Biophysical Journal</i> , 2014, 106, 630a.	0.5	1

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55	Cellular cardiac electrophysiology modeling with Chaste and CellML. <i>Frontiers in Physiology</i> , 2014, 5, 511.	2.8	27
56	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> , 2013, 68, 88-96.	0.7	62
57	Variability in high-throughput ion-channel screening data and consequences for cardiac safety assessment. <i>Journal of Pharmacological and Toxicological Methods</i> , 2013, 68, 112-122.	0.7	79
58	Computational assessment of drug-induced effects on the electrocardiogram: from ion channel to body surface potentials. <i>British Journal of Pharmacology</i> , 2013, 168, 718-733.	5.4	98
59	A local sensitivity analysis method for developing biological models with identifiable parameters: Application to cardiac ionic channel modelling. <i>Future Generation Computer Systems</i> , 2013, 29, 591-598.	7.5	14
60	Chaste: An Open Source C++ Library for Computational Physiology and Biology. <i>PLoS Computational Biology</i> , 2013, 9, e1002970.	3.2	375
61	mRNA Expression Levels in Failing Human Hearts Predict Cellular Electrophysiological Remodeling: A Population-Based Simulation Study. <i>PLoS ONE</i> , 2013, 8, e56359.	2.5	61
62	Estimation of Conductivity Tensors from Human Ventricular Optical Mapping Recordings. <i>Lecture Notes in Computer Science</i> , 2013, , 224-231.	1.3	0
63	Stochasticity in Action Potential duration Enhances Dispersion of Repolarisation at Fast Pacing Rates. <i>Biophysical Journal</i> , 2012, 102, 592a-593a.	0.5	2
64	Application of human stem cell-derived cardiomyocytes in safety pharmacology requires caution beyond hERG. <i>Journal of Molecular and Cellular Cardiology</i> , 2012, 52, 998-1008.	1.9	136
65	A theoretical investigation of the effect of proliferation and adhesion on monoclonal conversion in the colonic crypt. <i>Journal of Theoretical Biology</i> , 2012, 312, 143-156.	1.7	57
66	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> , 2012, 235, 32-44.	1.9	13
67	Application of cardiac electrophysiology simulations to proarrhythmic safety testing. <i>British Journal of Pharmacology</i> , 2012, 167, 932-945.	5.4	90
68	Is it time for <i>in silico</i> simulation of drug cardiac side effects?. <i>Annals of the New York Academy of Sciences</i> , 2011, 1245, 44-47.	3.8	16
69	High-throughput functional curation of cellular electrophysiology models. <i>Progress in Biophysics and Molecular Biology</i> , 2011, 107, 11-20.	2.9	46
70	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> , 2011, 107, 4-10.	2.9	75
71	The significant effect of the choice of ionic current integration method in cardiac electrophysiological simulations. <i>International Journal for Numerical Methods in Biomedical Engineering</i> , 2011, 27, 1751-1770.	2.1	45
72	Simulation of multiple ion channel block provides improved early prediction of compounds' clinical torsadogenic risk. <i>Cardiovascular Research</i> , 2011, 91, 53-61.	3.8	282

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73	A multiple timescale analysis of a mathematical model of the Wnt/ β^2 -catenin signalling pathway. Journal of Mathematical Biology, 2010, 60, 131-160.	1.9	51
74	Phenomenological modeling of cell-to-cell and beat-to-beat variability in isolated Guinea Pig ventricular myocytes. , 2010, 2010, 1457-60.		7
75	A hybrid approach to multi-scale modelling of cancer. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2010, 368, 5013-5028.	3.4	103
76	Modelling Spatially Regulated β^2 -Catenin Dynamics and Invasion in Intestinal Crypts. Biophysical Journal, 2010, 99, 716-725.	0.5	66
77	A Local Sensitivity Analysis Method for Developing Biological Models with Identifiable Parameters: Application to L-type Calcium Channel Modelling. , 2010, , .		0
78	β^2 Cancer Cell: Linking Oncogenic Signaling to Molecular Structure. , 2010, , 56-69.		2
79	A computational study of discrete mechanical tissue models. Physical Biology, 2009, 6, 036001.	1.8	99
80	Chaste: A test-driven approach to software development for biological modelling. Computer Physics Communications, 2009, 180, 2452-2471.	7.5	207
81	An integrative computational model for intestinal tissue renewal. Cell Proliferation, 2009, 42, 617-636.	5.3	142
82	Hierarchical Bayesian inference for ion channel screening dose-response data. Wellcome Open Research, 0, 1, 6.	1.8	21
83	Hierarchical Bayesian Modelling of Variability and Uncertainty in Synthetic Action Potential Traces. , 0, , .		3
84	Pregnancy, pre-eclampsia and vitamin D: a multi-scale mathematical approach. Endocrine Abstracts, 0, , .	0.0	0
85	A nonlinear and time-dependent leak current in the presence of calcium fluoride patch-clamp seal enhancer. Wellcome Open Research, 0, 5, 152.	1.8	6