Blanca Rodriguez

List of Publications by Year
in descending order

62 papers	3,189 citations	182225 30 h-index	198040 52 g-index
71 all docs	71 docs citations	71 times ranked	3304 citing authors

#	Article	IF	Citations
1	Basic Research Approaches to Evaluate Cardiac Arrhythmia in Heart Failure and Beyond. Frontiers in Physiology, 2022, 13, 806366.	1.3	5
2	In silico trials: Verification, validation and uncertainty quantification of predictive models used in the regulatory evaluation of biomedical products. Methods, 2021, 185, 120-127.	1.9	138
3	In-silico human electro-mechanical ventricular modelling and simulation for drug-induced pro-arrhythmia and inotropic risk assessment. Progress in Biophysics and Molecular Biology, 2021, 159, 58-74.	1.4	55
4	Cardiac transmembrane ion channels and action potentials: cellular physiology and arrhythmogenic behavior. Physiological Reviews, 2021, 101, 1083-1176.	13.1	87
5	Toward a broader view of mechanisms of drug cardiotoxicity. Cell Reports Medicine, 2021, 2, 100216.	3.3	44
6	Human biventricular electromechanical simulations on the progression of electrocardiographic and mechanical abnormalities in post-myocardial infarction. Europace, 2021, 23, i143-i152.	0.7	15
7	Comparison of the Simulated Response of Three in Silico Human Stem Cell-Derived Cardiomyocytes Models and in Vitro Data Under 15 Drug Actions. Frontiers in Pharmacology, 2021, 12, 604713.	1.6	15
8	Applying the CiPA approach to evaluate cardiac proarrhythmia risk of some antimalarials used offâ€label in the first wave of COVIDâ€19. Clinical and Translational Science, 2021, 14, 1133-1146.	1.5	23
9	Blockade of sodiumâ€calcium exchanger via ORM-10962 attenuates cardiac alternans. Journal of Molecular and Cellular Cardiology, 2021, 153, 111-122.	0.9	9
10	CalTrack: High-Throughput Automated Calcium Transient Analysis in Cardiomyocytes. Circulation Research, 2021, 129, 326-341.	2.0	31
11	Scientific and regulatory evaluation of mechanistic in silico drug and disease models in drug development: Building model credibility. CPT: Pharmacometrics and Systems Pharmacology, 2021, 10, 804-825.	1.3	51
12	Inference of ventricular activation properties from non-invasive electrocardiography. Medical Image Analysis, 2021, 73, 102143.	7.0	19
13	Electrophysiological and anatomical factors determine arrhythmic risk in acute myocardial ischaemia and its modulation by sodium current availability. Interface Focus, 2021, 11, 20190124.	1.5	11
14	A completely automated pipeline for 3D reconstruction of human heart from 2D cine magnetic resonance slices. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2021, 379, 20200257.	1.6	22
15	Computational biomedicine. Part II: organs and systems. Interface Focus, 2021, 11, 20200082.	1.5	3
16	General Principles for the Validation of Proarrhythmia Risk Prediction Models: An Extension of the CiPA In Silico Strategy. Clinical Pharmacology and Therapeutics, 2020, 107, 102-111.	2.3	67
17	Dual Transcriptomic and Molecular Machine Learning Predicts all Major Clinical Forms of Drug Cardiotoxicity. Frontiers in Pharmacology, 2020, 11, 639.	1.6	15
18	The â€˜Digital Twinâ€™ to enable the vision of precision cardiology. European Heart Journal, 2020, 41, 4556-4564.	1.0	319

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19	Combining an in silico proarrhythmic risk assay with a tPKPD model to predict QTc interval prolongation in the anesthetized guinea pig assay. Toxicology and Applied Pharmacology, 2020, 390, 114883.	1.3	6
20	All-Optical Electrophysiology Refines Populations of In Silico Human iPSC-CMs for Drug Evaluation. Biophysical Journal, 2020, 118, 2596-2611.	0.2	40
21	Human Purkinje in silico model enables mechanistic investigations into automaticity and pro-arrhythmic abnormalities. Journal of Molecular and Cellular Cardiology, 2020, 142, 24-38.	0.9	29
22	Machine learning in the electrocardiogram. Journal of Electrocardiology, 2019, 57, S61-S64.	0.4	79
23	Drugâ€induced shortening of the electromechanical window is an effective biomarker for in silico prediction of clinical risk of arrhythmias. British Journal of Pharmacology, 2019, 176, 3819-3833.	2.7	47
24	MRI-Based Computational Torso/Biventricular Multiscale Models to Investigate the Impact of Anatomical Variability on the ECG QRS Complex. Frontiers in Physiology, 2019, 10, 1103.	1.3	35
25	A modeling and machine learning approach to ECG feature engineering for the detection of ischemia using pseudo-ECG. PLoS ONE, 2019, 14, e0220294.	1.1	23
26	Î²-Adrenergic Receptor Stimulation and Alternans in the Border Zone of a Healed Infarct: An ex vivo Study and Computational Investigation of Arrhythmogenesis. Frontiers in Physiology, 2019, 10, 350.	1.3	24
27	Investigating the Complex Arrhythmic Phenotype Caused by the Gain-of-Function Mutation KCNQ1-G229D. Frontiers in Physiology, 2019, 10, 259.	1.3	13
28	The 18th FRAME Annual Lecture, October 2019: Human In Silico Trials in Pharmacology. ATLA Alternatives To Laboratory Animals, 2019, 47, 221-227.	0.7	4
29	Human in silico trials on drug-induced changes in electrophysiology and calcium dynamics using the virtual assay software. Journal of Pharmacological and Toxicological Methods, 2019, 99, 106595.	0.3	2
30	High arrhythmic risk in antero-septal acute myocardial ischemia is explained by increased transmural reentry occurrence. Scientific Reports, 2019, 9, 16803.	1.6	20
31	Artificial intelligence for the electrocardiogram. Nature Medicine, 2019, 25, 22-23.	15.2	85
32	Blinded In Silico Drug Trial Reveals the Minimum Set of Ion Channels for Torsades de Pointes Risk Assessment. Frontiers in Pharmacology, 2019, 10, 1643.	1.6	26
33	Development, calibration, and validation of a novel human ventricular myocyte model in health, disease, and drug block. ELife, 2019, 8, .	2.8	131
34	Unlocking data sets by calibrating populations of models to data density: A study in atrial electrophysiology. Science Advances, 2018, 4, e1701676.	4.7	65
35	Electrocardiogram phenotypes in hypertrophic cardiomyopathy caused by distinct mechanisms: apico-basal repolarization gradients vs. Purkinje-myocardial coupling abnormalities. Europace, 2018, 20, iii102-iii112.	0.7	29
36	From ionic to cellular variability in human atrial myocytes: an integrative computational and experimental study. American Journal of Physiology - Heart and Circulatory Physiology, 2018, 314, H895-H916.	1.5	40

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37	Modulation of Cardiac Alternans by Altered Sarcoplasmic Reticulum Calcium Release: A Simulation Study. Frontiers in Physiology, 2018, 9, 1306.	1.3	16
38	Strategies of data layout and cache writing for input-output optimization in high performance scientific computing: Applications to the forward electrocardiographic problem. PLoS ONE, 2018, 13, e0202410.	1.1	0
39	Distinct ECG Phenotypes Identified in Hypertrophic Cardiomyopathy Using Machine Learning Associate With Arrhythmic Risk Markers. Frontiers in Physiology, 2018, 9, 213.	1.3	57
40	Editorial: Safety Pharmacology â€“ Risk Assessment QT Interval Prolongation and Beyond. Frontiers in Physiology, 2018, 9, 678.	1.3	10
41	Beta-cell hubs maintain Ca²⁺ oscillations in human and mouse islet simulations. Islets, 2018, 10, 151-167.	0.9	43
42	Reply to the Editorâ€"On misuse of null hypothesis testing: Analysis of biophysical model simulations. Heart Rhythm, 2017, 14, e50-e51.	0.3	2
43	Î²-Adrenergic receptor stimulation inhibits proarrhythmic alternans in postinfarction border zone cardiomyocytes: a computational analysis. American Journal of Physiology - Heart and Circulatory Physiology, 2017, 313, H338-H353.	1.5	28
44	Electrophysiological properties of computational human ventricular cell action potential models under acute ischemic conditions. Progress in Biophysics and Molecular Biology, 2017, 129, 40-52.	1.4	66
45	Functional identification of islet cell types by electrophysiological fingerprinting. Journal of the Royal Society Interface, 2017, 14, 20160999.	1.5	45
46	Modelling variability in cardiac electrophysiology: a moment-matching approach. Journal of the Royal Society Interface, 2017, 14, 20170238.	1.5	16
47	Phenotypic variability in LQT3 human induced pluripotent stem cell-derived cardiomyocytes and their response to antiarrhythmic pharmacologic therapy: An in silico approach. Heart Rhythm, 2017, 14, 1704-1712.	0.3	54
48	Human In Silico Drug Trials Demonstrate Higher Accuracy than Animal Models in Predicting Clinical Pro-Arrhythmic Cardiotoxicity. Frontiers in Physiology, 2017, 8, 668.	1.3	227
49	Atrial Fibrillation Dynamics and Ionic Block Effects in Six Heterogeneous Human 3D Virtual Atria with Distinct Repolarization Dynamics. Frontiers in Bioengineering and Biotechnology, 2017, 5, 29.	2.0	33
50	Human ventricular activation sequence and the simulation of the electrocardiographic QRS complex and its variability in healthy and intraventricular block conditions. Europace, 2016, 18, iv4-iv15.	0.7	62
51	Variability in cardiac electrophysiology: Using experimentally-calibrated populations of models to move beyond the single virtual physiological human paradigm. Progress in Biophysics and Molecular Biology, 2016, 120, 115-127.	1.4	141
52	Rabbit-specific computational modelling of ventricular cell electrophysiology: Using populations of models to explore variability in the response to ischemia. Progress in Biophysics and Molecular Biology, 2016, 121, 169-184.	1.4	24
53	Balance between sodium and calcium currents underlying chronic atrial fibrillation termination: An in silico intersubject variability study. Heart Rhythm, 2016, 13, 2358-2365.	0.3	36
54	Up-regulation of miR-31 in human atrial fibrillation begets the arrhythmia by depleting dystrophin and neuronal nitric oxide synthase. Science Translational Medicine, 2016, 8, 340ra74.	5.8	68

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55	Early afterdepolarizations promote transmural reentry in ischemic human ventricles with reduced repolarization reserve. Progress in Biophysics and Molecular Biology, 2016, 120, 236-248.	1.4	74
56	Mechanisms of pro-arrhythmic abnormalities in ventricular repolarisation and anti-arrhythmic therapies in human hypertrophic cardiomyopathy. Journal of Molecular and Cellular Cardiology, 2016, 96, 72-81.	0.9	102
57	In Vivo and In Silico Investigation Into Mechanisms of Frequency Dependence of Repolarization Alternans in Human Ventricular Cardiomyocytes. Circulation Research, 2016, 118, 266-278.	2.0	68
58	Effects of L-type calcium channel and human ether-a-go-go related gene blockers on the electrical activity of the human heart: a simulation study. Europace, 2015, 17, 326-333.	0.7	26
59	Application of stochastic phenomenological modelling to cell-to-cell and beat-to-beat electrophysiological variability in cardiac tissue. Journal of Theoretical Biology, 2015, 365, 325-336.	0.8	11
60	Population of Computational Rabbit-Specific Ventricular Action Potential Models for Investigating Sources of Variability in Cellular Repolarisation. PLoS ONE, 2014, 9, e90112.	1.1	31
61	Inter-Subject Variability in Human Atrial Action Potential in Sinus Rhythm versus Chronic Atrial Fibrillation. PLoS ONE, 2014, 9, e105897.	1.1	96
62	Fractional diffusion models of cardiac electrical propagation: role of structural heterogeneity in dispersion of repolarization. Journal of the Royal Society Interface, 2014, 11, 20140352.	1.5	173