

Alfonso Bueno-Orovio

List of Publications by Year in descending order

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Version: 2024-02-01

73
papers

3,617
citations

182225

30
h-index

162838

57
g-index

87
all docs

87
docs citations

87
times ranked

3297
citing authors

#	ARTICLE	IF	CITATIONS
1	Understanding and Improving Risk Assessment After Myocardial Infarction Using Automated Left Ventricular Shape Analysis. <i>JACC: Cardiovascular Imaging</i> , 2022, 15, 1563-1574.	2.3	21
2	Contraction and electrophysiological abnormalities in myofilament mutation-positive and mutation-negative human HCM myocardium. <i>Biophysical Journal</i> , 2022, 121, 435a-436a.	0.2	0
3	Graph-based homogenisation for modelling cardiac fibrosis. <i>Journal of Computational Physics</i> , 2022, 459, 111126.	1.9	3
4	An Automata-Based Cardiac Electrophysiology Simulator to Assess Arrhythmia Inducibility. <i>Mathematics</i> , 2022, 10, 1293.	1.1	8
5	Pharmacological Management of Hypertrophic Cardiomyopathy: From Bench to Bedside. <i>Drugs</i> , 2022, 82, 889-912.	4.9	18
6	In-silico human electro-mechanical ventricular modelling and simulation for drug-induced pro-arrhythmia and inotropic risk assessment. <i>Progress in Biophysics and Molecular Biology</i> , 2021, 159, 58-74.	1.4	55
7	The virtual assay software for human in silico drug trials to augment drug cardiac testing. <i>Journal of Computational Science</i> , 2021, 52, 101202.	1.5	14
8	Simplified Electrophysiology Modeling Framework to Assess Ventricular Arrhythmia Risk in Infarcted Patients. <i>Lecture Notes in Computer Science</i> , 2021, , 531-539.	1.0	0
9	Toward a broader view of mechanisms of drug cardiotoxicity. <i>Cell Reports Medicine</i> , 2021, 2, 100216.	3.3	44
10	CalTrack: High-Throughput Automated Calcium Transient Analysis in Cardiomyocytes. <i>Circulation Research</i> , 2021, 129, 326-341.	2.0	31
11	Multiscale Modelling of β^2 -Adrenergic Stimulation in Cardiac Electromechanical Function. <i>Mathematics</i> , 2021, 9, 1785.	1.1	7
12	Evaluation of four in silico biomarkers for drug-induced proarrhythmic risk: COVID-19 off-label therapies case study. <i>Journal of Pharmacological and Toxicological Methods</i> , 2021, 111, 107052.	0.3	0
13	Electrophysiological and anatomical factors determine arrhythmic risk in acute myocardial ischaemia and its modulation by sodium current availability. <i>Interface Focus</i> , 2021, 11, 20190124.	1.5	11
14	Mavacamten Efficacy in Mutation-specific Hypertrophic Cardiomyopathy: an In Silico Approach to Inform Precision Medicine. , 2021, , .		2
15	General Principles for the Validation of Proarrhythmia Risk Prediction Models: An Extension of the CiPA <i>In Silico</i> Strategy. <i>Clinical Pharmacology and Therapeutics</i> , 2020, 107, 102-111.	2.3	67
16	Simultaneous assessment of drug-induced effects on contractility and electrophysiology using human in silico trials. <i>Journal of Pharmacological and Toxicological Methods</i> , 2020, 105, 106803.	0.3	0
17	Dual Transcriptomic and Molecular Machine Learning Predicts all Major Clinical Forms of Drug Cardiotoxicity. <i>Frontiers in Pharmacology</i> , 2020, 11, 639.	1.6	15
18	The "Digital Twin"™ to enable the vision of precision cardiology. <i>European Heart Journal</i> , 2020, 41, 4556-4564.	1.0	319

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19	Sensitivity analysis of a strongly-coupled human-based electromechanical cardiac model: Effect of mechanical parameters on physiologically relevant biomarkers. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2020, 361, 112762.	3.4	52
20	Chaste: Cancer, Heart and Soft Tissue Environment. <i>Journal of Open Source Software</i> , 2020, 5, 1848.	2.0	58
21	Drug-induced shortening of the electromechanical window is an effective biomarker for in silico prediction of clinical risk of arrhythmias. <i>British Journal of Pharmacology</i> , 2019, 176, 3819-3833.	2.7	47
22	Electrophysiological and Contractile Effects of Disopyramide in Patients With Obstructive Hypertrophic Cardiomyopathy. <i>JACC Basic To Translational Science</i> , 2019, 4, 795-813.	1.9	35
23	SMOD - Data Augmentation Based on Statistical Models of Deformation to Enhance Segmentation in 2D Cine Cardiac MRI. <i>Lecture Notes in Computer Science</i> , 2019, , 361-369.	1.0	14
24	Investigating the Complex Arrhythmic Phenotype Caused by the Gain-of-Function Mutation KCNQ1-G229D. <i>Frontiers in Physiology</i> , 2019, 10, 259.	1.3	13
25	High arrhythmic risk in antero-septal acute myocardial ischemia is explained by increased transmural reentry occurrence. <i>Scientific Reports</i> , 2019, 9, 16803.	1.6	20
26	Blinded In Silico Drug Trial Reveals the Minimum Set of Ion Channels for Torsades de Pointes Risk Assessment. <i>Frontiers in Pharmacology</i> , 2019, 10, 1643.	1.6	26
27	Development, calibration, and validation of a novel human ventricular myocyte model in health, disease, and drug block. <i>ELife</i> , 2019, 8, .	2.8	131
28	In silico evaluation of arrhythmia. <i>Current Opinion in Physiology</i> , 2018, 1, 95-103.	0.9	8
29	Electrocardiogram phenotypes in hypertrophic cardiomyopathy caused by distinct mechanisms: apico-basal repolarization gradients vs. Purkinje-myocardial coupling abnormalities. <i>Europace</i> , 2018, 20, iii102-iii112.	0.7	29
30	From ionic to cellular variability in human atrial myocytes: an integrative computational and experimental study. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , 2018, 314, H895-H916.	1.5	40
31	Strategies of data layout and cache writing for input-output optimization in high performance scientific computing: Applications to the forward electrocardiographic problem. <i>PLoS ONE</i> , 2018, 13, e0202410.	1.1	0
32	Successful integrative approach of the pro-arrhythmic risk assessment of the multichannel ion channel inhibitor vanoxerine, via combination of in silico human cardiomyocyte models and in vivo guinea-pig electromechanical window assay. <i>Journal of Pharmacological and Toxicological Methods</i> , 2018, 93, 144-145.	0.3	1
33	In silico electro-mechanical window shortening and repolarisation abnormalities predict clinical risk of torsade de pointes for 40 reference compounds. <i>Journal of Pharmacological and Toxicological Methods</i> , 2018, 93, 145.	0.3	0
34	Slow Recovery of Excitability Increases Ventricular Fibrillation Risk as Identified by Emulation. <i>Frontiers in Physiology</i> , 2018, 9, 1114.	1.3	15
35	Commentary: Atrial Rotor Dynamics Under Complex Fractional Order Diffusion. <i>Frontiers in Physiology</i> , 2018, 9, 1386.	1.3	1
36	Prediction of all forms of drug-induced cardiotoxicity by combined transcriptome analysis and machine learning. <i>Proceedings for Annual Meeting of the Japanese Pharmacological Society</i> , 2018, WCP2018, PO1-2-31.	0.0	0

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37	Computational methods for safety pharmacology and anti-arrhythmic drug discovery: Towards in silico clinical trials in human. Proceedings for Annual Meeting of the Japanese Pharmacological Society, 2018, WCP2018, PO4-2-34.	0.0	0
38	Reply to the Editorâ€™On misuse of null hypothesis testing: Analysis of biophysical model simulations. Heart Rhythm, 2017, 14, e50-e51.	0.3	2
39	Exact solutions to the fractional time-space Blochâ€™Torrey equation for magnetic resonance imaging. Communications in Nonlinear Science and Numerical Simulation, 2017, 52, 91-109.	1.7	12
40	The Electrogenic Na ⁺ /K ⁺ Pump Is a Key Determinant of Repolarization Abnormality Susceptibility in Human Ventricular Cardiomyocytes: A Population-Based Simulation Study. Frontiers in Physiology, 2017, 8, 278.	1.3	53
41	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
42	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
43	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
44	Effects and underlying mechanisms of refractory period pacing on repolarization dynamics in the human heart. , 2016, 2016, 157-160.		0
45	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
46	Loss of Myocardial nNOS Mediated by Upregulation of miR-31 in Human Atria Contributes to Begetting of Atrial Fibrillation. Biophysical Journal, 2016, 110, 451a.	0.2	0
47	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
48	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
49	Anomalous Diffusion in Cardiac Tissue as an Index of Myocardial Microstructure. IEEE Transactions on Medical Imaging, 2016, 35, 2200-2207.	5.4	28
50	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
51	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
52	On the Order of the Fractional Laplacian in Determining the Spatio-Temporal Evolution of a Space-Fractional Model of Cardiac Electrophysiology. PLoS ONE, 2015, 10, e0143938.	1.1	33
53	Basis for the Induction of Tissue-Level Phase-2 Reentry as a Repolarization Disorder in the Brugada Syndrome. BioMed Research International, 2015, 2015, 1-12.	0.9	22
54	ECG-based estimation of dispersion of APD restitution as a tool to stratify sotalol-induced arrhythmic risk. Journal of Electrocardiology, 2015, 48, 867-873.	0.4	9

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55	Inter-Subject Variability in Human Atrial Action Potential in Sinus Rhythm versus Chronic Atrial Fibrillation. PLoS ONE, 2014, 9, e105897.	1.1	96
56	Slow Adaptation of Ventricular Repolarization as a Cause of Arrhythmia?. Methods of Information in Medicine, 2014, 53, 320-323.	0.7	13
57	Fourier spectral methods for fractional-in-space reaction-diffusion equations. BIT Numerical Mathematics, 2014, 54, 937-954.	1.0	265
58	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
59	Na/K pump regulation of cardiac repolarization: insights from a systems biology approach. Pflugers Archiv European Journal of Physiology, 2014, 466, 183-193.	1.3	61
60	Experimentally calibrated population of models predicts and explains intersubject variability in cardiac cellular electrophysiology. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, E2098-105.	3.3	278
61	The Na ⁺ /K ⁺ pump is an important modulator of refractoriness and rotor dynamics in human atrial tissue. American Journal of Physiology - Heart and Circulatory Physiology, 2012, 302, H1146-H1159.	1.5	45
62	Continuous Adjoint Approach for the Spalart-Allmaras Model in Aerodynamic Optimization. AIAA Journal, 2012, 50, 631-646.	1.5	82
63	In Vivo Human Left-to-Right Ventricular Differences in Rate Adaptation Transiently Increase Pro-Arrhythmic Risk following Rate Acceleration. PLoS ONE, 2012, 7, e52234.	1.1	32
64	Mapped Chebyshev pseudospectral method for the study of multiple scale phenomena. Computer Physics Communications, 2009, 180, 912-919.	3.0	16
65	Minimal model for human ventricular action potentials in tissue. Journal of Theoretical Biology, 2008, 253, 544-560.	0.8	332
66	Enhanced box and prism assisted algorithms for computing the correlation dimension. Chaos, Solitons and Fractals, 2007, 34, 509-518.	2.5	5
67	P3-24. Heart Rhythm, 2006, 3, S186.	0.3	1
68	Spectral Methods for Partial Differential Equations in Irregular Domains: The Spectral Smoothed Boundary Method. SIAM Journal of Scientific Computing, 2006, 28, 886-900.	1.3	101
69	Fourier embedded domain methods: Periodic and Câž extension of a function defined on an irregular region to a rectangle via convolution with Gaussian kernels. Applied Mathematics and Computation, 2006, 183, 813-818.	1.4	14
70	Spectral smoothed boundary methods: The role of external boundary conditions. Numerical Methods for Partial Differential Equations, 2006, 22, 435-448.	2.0	38
71	The Role of the Ina-1k1 Complex on Human Ventricular Conduction Velocity. , 0, , .		0
72	Personalization of Atrial Fibrillation Antiarrhythmic Drug Treatments: a Population of Models Approach. , 0, , .		0

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73	PARADOXICAL PROLONGATION OF QT INTERVAL DURING EXERCISE IN PATIENTS WITH HCM: CELLULAR MECHANISMS AND IMPLICATIONS FOR DIASTOLIC FUNCTION. <i>European Heart Journal Open</i> , 0, , .	0.9	1