

Javier F SaÃ-z

List of Publications by Year in descending order

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Version: 2024-02-01

111
papers

1,822
citations

257450

24
h-index

330143

37
g-index

117
all docs

117
docs citations

117
times ranked

1653
citing authors

#	ARTICLE	IF	CITATIONS
1	Simulation of Action Potentials From Metabolically Impaired Cardiac Myocytes. <i>Circulation Research</i> , 1996, 79, 208-221.	4.5	144
2	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
3	A Multiscale Simulation System for the Prediction of Drug-Induced Cardiotoxicity. <i>Journal of Chemical Information and Modeling</i> , 2011, 51, 483-492.	5.4	86
4	Detailed Anatomical and Electrophysiological Models of Human Atria and Torso for the Simulation of Atrial Activation. <i>PLoS ONE</i> , 2015, 10, e0141573.	2.5	77
5	A Three-Dimensional Human Atrial Model with Fiber Orientation. <i>Electrograms and Arrhythmic Activation Patterns Relationship</i> . <i>PLoS ONE</i> , 2013, 8, e50883.	2.5	73
6	Modeling Atrial Fiber Orientation in Patient-Specific Geometries: A Semi-automatic Rule-Based Approach. <i>Lecture Notes in Computer Science</i> , 2011, , 223-232.	1.3	59
7	Legacy data sharing to improve drug safety assessment: the eTOX project. <i>Nature Reviews Drug Discovery</i> , 2017, 16, 811-812.	46.4	56
8	Factors affecting basket catheter detection of real and phantom rotors in the atria: A computational study. <i>PLoS Computational Biology</i> , 2018, 14, e1006017.	3.2	52
9	Simulation and Mechanistic Investigation of the Arrhythmogenic Role of the Late Sodium Current in Human Heart Failure. <i>PLoS ONE</i> , 2012, 7, e32659.	2.5	49
10	ELECTRICAL ACTIVITY AND REENTRY DURING ACUTE REGIONAL MYOCARDIAL ISCHEMIA: INSIGHTS FROM SIMULATIONS. <i>International Journal of Bifurcation and Chaos in Applied Sciences and Engineering</i> , 2003, 13, 3703-3715.	1.7	46
11	Influence of electrical coupling on early after depolarizations in ventricular myocytes. <i>IEEE Transactions on Biomedical Engineering</i> , 1999, 46, 138-147.	4.2	42
12	Electrophysiologic models of heart cells and cell networks. <i>IEEE Engineering in Medicine and Biology Magazine</i> , 1998, 17, 73-83.	0.8	39
13	Small bowel motility: relationship between smooth muscle contraction and electroenterogram signal. <i>Medical Engineering and Physics</i> , 2000, 22, 189-199.	1.7	39
14	Electrophysiological and Structural Remodeling in Heart Failure Modulate Arrhythmogenesis. 2D Simulation Study. <i>PLoS ONE</i> , 2014, 9, e103273.	2.5	37
15	In silico screening of the impact of hERG channel kinetic abnormalities on channel block and susceptibility to acquired long QT syndrome. <i>Journal of Molecular and Cellular Cardiology</i> , 2014, 72, 126-137.	1.9	37
16	Plasticizer Interaction With the Heart. <i>Circulation: Arrhythmia and Electrophysiology</i> , 2019, 12, e007294.	4.8	37
17	Modeling for radio-frequency conductive keratoplasty: implications for the maximum temperature reached in the cornea. <i>Physiological Measurement</i> , 2005, 26, 157-172.	2.1	36
18	Systematic characterization of the ionic basis of rabbit cellular electrophysiology using two ventricular models. <i>Progress in Biophysics and Molecular Biology</i> , 2011, 107, 60-73.	2.9	36

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19	Dynamic Approximate Entropy Electroanatomic Maps Detect Rotors in a Simulated Atrial Fibrillation Model. PLoS ONE, 2014, 9, e114577.	2.5	33
20	Vulnerability to Reentry in a Regionally Ischemic Tissue: A Simulation Study. Annals of Biomedical Engineering, 2007, 35, 1756-1770.	2.5	31
21	Heterogeneous Effects of Fibroblast-Myocyte Coupling in Different Regions of the Human Atria Under Conditions of Atrial Fibrillation. Frontiers in Physiology, 2019, 10, 847.	2.8	31
22	Non-invasive localization of atrial ectopic beats by using simulated body surface P-wave integral maps. PLoS ONE, 2017, 12, e0181263.	2.5	30
23	In silico screening of the impact of hERG channel kinetic abnormalities on channel block and susceptibility to acquired long QT syndrome. Journal of Molecular and Cellular Cardiology, 2015, 87, 271-282.	1.9	28
24	In Silico QT and APD Prolongation Assay for Early Screening of Drug-Induced Proarrhythmic Risk. Journal of Chemical Information and Modeling, 2018, 58, 867-878.	5.4	28
25	In silico assessment of drug safety in human heart applied to late sodium current blockers. Channels, 2013, 7, 249-262.	2.8	27
26	When Does the IC ₅₀ Accurately Assess the Blocking Potency of a Drug?. Journal of Chemical Information and Modeling, 2020, 60, 1779-1790.	5.4	27
27	The Relative Role of Refractoriness and Source-Sink Relationship in Reentry Generation during Simulated Acute Ischemia. Annals of Biomedical Engineering, 2009, 37, 1560-1571.	2.5	24
28	Interaction of Specialized Cardiac Conduction System With Antiarrhythmic Drugs: A Simulation Study. IEEE Transactions on Biomedical Engineering, 2011, 58, 3475-3478.	4.2	24
29	Cardiac action potential repolarization revisited: early repolarization shows all-or-none behaviour. Journal of Physiology, 2017, 595, 6599-6612.	2.9	23
30	Machine Learning Classifiers for the Assessment of Drug Proarrhythmicity. Journal of Chemical Information and Modeling, 2020, 60, 5172-5187.	5.4	22
31	Radio-frequency heating of the cornea: theoretical model and in vitro experiments. IEEE Transactions on Biomedical Engineering, 2002, 49, 196-205.	4.2	21
32	Pulse Wave Velocity and Digital Volume Pulse as Indirect Estimators of Blood Pressure: Pilot Study on Healthy Volunteers. Cardiovascular Engineering (Dordrecht, Netherlands), 2009, 9, 104-112.	1.0	20
33	Atrial Fibrosis Hampers Non-invasive Localization of Atrial Ectopic Foci From Multi-Electrode Signals: A 3D Simulation Study. Frontiers in Physiology, 2018, 9, 404.	2.8	20
34	Effects of the Antiarrhythmic Drug Dofetilide on Transmural Dispersion of Repolarization in Ventriculum. A Computer Modeling Study. IEEE Transactions on Biomedical Engineering, 2011, 58, 43-53.	4.2	19
35	Ring electrode for radio-frequency heating of the cornea: Modelling and in vitro experiments. Medical and Biological Engineering and Computing, 2003, 41, 630-639.	2.8	17
36	Dominant frequency and organization index maps in a realistic three-dimensional computational model of atrial fibrillation. Europace, 2012, 14, v25-v32.	1.7	16

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37	Pro-arrhythmic effects of low plasma [K ⁺] in human ventricle: An illustrated review. Trends in Cardiovascular Medicine, 2018, 28, 233-242.	4.9	16
38	Ectopic Activity in Ventricular Cells Induced by Early Afterdepolarizations Developed in Purkinje Cells. Annals of Biomedical Engineering, 2000, 28, 1343-1351.	2.5	15
39	Differential Modulation of IK and ICa,L Channels in High-Fat Diet-Induced Obese Guinea Pig Atria. Frontiers in Physiology, 2019, 10, 1212.	2.8	15
40	Cardiovascular fitness in youth: association with obesity and metabolic abnormalities. Nutricion Hospitalaria, 2014, 29, 1290-7.	0.3	14
41	A Grid Computing-Based Approach for the Acceleration of Simulations in Cardiology. IEEE Transactions on Information Technology in Biomedicine, 2008, 12, 138-144.	3.2	12
42	A computer based photoplethysmographic vascular analyzer through derivatives. , 2008, , .		11
43	Far-field contributions in multi-electrodes atrial recordings blur distinction between anatomical and functional reentries and may cause imaginary phase singularities " A computational study. Computers in Biology and Medicine, 2019, 108, 276-287.	7.0	11
44	The Antimalarial Chloroquine Reduces the Burden of Persistent Atrial Fibrillation. Frontiers in Pharmacology, 2019, 10, 1392.	3.5	11
45	Fibrotic Remodeling during Persistent Atrial Fibrillation: In Silico Investigation of the Role of Calcium for Human Atrial Myofibroblast Electrophysiology. Cells, 2021, 10, 2852.	4.1	11
46	Ventricular Tachycardia and Early Fibrillation in Patients With Brugada Syndrome and Ischemic Cardiomyopathy Show Predictable Frequency-Phase Properties on the Precordial ECG Consistent With the Respective Arrhythmogenic Substrate. Circulation: Arrhythmia and Electrophysiology, 2015, 8, 1133-1143.	4.8	10
47	Computational Study of the Effect of Electrode Polarity on Neural Activation Related to Paresthesia Coverage in Spinal Cord Stimulation Therapy. Neuromodulation, 2019, 22, 269-279.	0.8	10
48	Sex and age related differences in drug induced QT prolongation by dofetilide under reduced repolarization reserve in simulated ventricular cells. , 2010, 2010, 3245-8.		9
49	Exploring the role of pH in modulating the effects of lidocaine in virtual ischemic tissue. American Journal of Physiology - Heart and Circulatory Physiology, 2010, 299, H1615-H1624.	3.2	9
50	An Open-Circuit Indirect Calorimetry Head Hood System for Measuring Methane Emission and Energy Metabolism in Small Ruminants. Animals, 2019, 9, 380.	2.3	9
51	A sensitivity study of the safety factor for conduction in the myocardium. , 2005, , .		8
52	Vulnerability for reentry in a three dimensional model of human atria: a simulation study. , 2010, 2010, 224-7.		7
53	Ubiquitous monitoring and assessment of childhood obesity. Personal and Ubiquitous Computing, 2013, 17, 1147-1157.	2.8	7
54	Carbon monoxide effects on human ventricle action potential assessed by mathematical simulations. Frontiers in Physiology, 2013, 4, 282.	2.8	7

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55	In silico ischaemia-induced reentry at the Purkinje-ventricle interface. <i>Europace</i> , 2014, 16, 444-451.	1.7	7
56	3D patient-specific spinal cord computational model for SCS management: potential clinical applications. <i>Journal of Neural Engineering</i> , 2021, 18, 036017.	3.5	7
57	Effects of late sodium current enhancement during LQT-related arrhythmias. A simulation study. , 2010, 2010, 3237-40.		6
58	Simulating Drug-Induced Effects on the Heart: From Ion Channel to Body Surface Electrocardiogram. <i>Lecture Notes in Computer Science</i> , 2011, , 259-266.	1.3	6
59	Considering population variability of electrophysiological models improves the in silico assessment of drug-induced torsadogenic risk. <i>Computer Methods and Programs in Biomedicine</i> , 2022, 221, 106934.	4.7	6
60	Role of Ca ²⁺ -Dependent Cl ⁻ Current on Delayed Afterdepolarizations. A Simulation Study. <i>Annals of Biomedical Engineering</i> , 2008, 36, 752-761.	2.5	5
61	Human and rabbit inter-species comparison of ionic mechanisms of arrhythmic risk: A simulation study. , 2010, 2010, 3253-6.		5
62	Spontaneous activation under atrial fibrosis: A model using complex order derivatives. <i>Communications in Nonlinear Science and Numerical Simulation</i> , 2021, 95, 105618.	3.3	5
63	Directed graph mapping exceeds phase mapping in discriminating true and false rotors detected with a basket catheter in a complex in-silico excitation pattern. <i>Computers in Biology and Medicine</i> , 2021, 133, 104381.	7.0	5
64	Characterization of Atrial Propagation Patterns and Fibrotic Substrate With a Modified Omnipolar Electrogram Strategy in Multi-Electrode Arrays. <i>Frontiers in Physiology</i> , 2021, 12, 674223.	2.8	5
65	The Effects of Fibrotic Cell Type and Its Density on Atrial Fibrillation Dynamics: An In Silico Study. <i>Cells</i> , 2021, 10, 2769.	4.1	5
66	Surface recording of small bowel electrical activity. , 0, , .		5
67	Computer simulation of action potential propagation on cardiac tissues: An efficient and scalable parallel approach. <i>Advances in Parallel Computing</i> , 2004, 13, 339-346.	0.3	4
68	Photoplethysmographic Augmentation Index as a Non Invasive Indicator for Vascular Assessments. <i>IFMBE Proceedings</i> , 2009, , 1167-1170.	0.3	4
69	What Is the Role of Frequency on Neural Activation in Tonic Stimulation in SCS Therapy? A Computational Study on Sensory A β Nerve Fibers. <i>IEEE Access</i> , 2021, 9, 107446-107461.	4.2	4
70	Ranolazine as an Alternative Therapy to Flecainide for SCN5A V411M Long QT Syndrome Type 3 Patients. <i>Frontiers in Pharmacology</i> , 2020, 11, 580481.	3.5	4
71	Arrhythmogenic Effects of Genetic Mutations Affecting Potassium Channels in Human Atrial Fibrillation: A Simulation Study. <i>Frontiers in Physiology</i> , 2021, 12, 681943.	2.8	3
72	Modeling Drug Effects on Personalized 3D Models of the Heart: A Simulation Study. <i>Lecture Notes in Computer Science</i> , 2010, , 222-231.	1.3	3

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73	Macrophage-Dependent Interleukin-6-Production and Inhibition of IK Contributes to Acquired QT Prolongation in Lipotoxic Guinea Pig Heart. <i>International Journal of Molecular Sciences</i> , 2021, 22, 11249.	4.1	3
74	Relationship between intestinal motility indexes from internal and surface recordings of electroenterogram. , 0, , .		2
75	Dofetilide Effects on the Inhibition by Trains of Subthreshold Conditioning Stimuli. <i>PACE - Pacing and Clinical Electrophysiology</i> , 2004, 27, 327-332.	1.2	2
76	Automatic brachial ankle pulse wave velocity measurements for vascular damage assessments. , 2008, , .		2
77	Fractionated electrograms and rotors detection in chronic atrial fibrillation using model-based clustering. , 2014, 2014, 1579-82.		2
78	Complexity of Atrial Fibrillation Electrograms Through Nonlinear Signal Analysis: In Silico Approach. , 2017, , .		2
79	Immuno-Electrophysiological Mechanisms of Functional Electrical Connections Between Recipient and Donor Heart in Patients With Orthotopic Heart Transplantation Presenting With Atrial Arrhythmias. <i>Circulation: Arrhythmia and Electrophysiology</i> , 2021, 14, e008751.	4.8	2
80	The safety factor approach in the analysis of reentrant patterns of activation in the ischemic virtual heart. , 2007, , .		1
81	Dispersion of refractoriness in a simulated ischemic 2D tissue and implications in vulnerability to reentry. , 2007, , .		1
82	Vulnerability to reentry in a 3D regionally ischemic ventricular slab preparation: A simulation study. , 2007, , .		1
83	Are multi-electrode arrays able to differentiate anatomical from functional reentries in an excitable sheet?. , 2015, , .		1
84	Cardiac computational modelling. <i>Revista Espanola De Cardiologia (English Ed)</i> , 2021, 74, 65-71.	0.6	1
85	CO, Pb ⁺⁺ and SO ₂ effects on L-type calcium channel and action potential in human atrial myocytes. In silico study. <i>Tecnológicas</i> , 2017, 20, 113-123.	0.3	1
86	In Silico Analysis of the Effects of Fibroblasts Coupling to Atrial Myocytes under Conditions of Atrial Fibrillation Remodeling. , 0, , .		1
87	Atrial proarrhythmic effect of lead as one of the PM10 metal components of air pollution. An in-silico study. <i>PLoS ONE</i> , 2021, 16, e0258313.	2.5	1
88	Genesis of Atrial Fibrillation Under Different Diffuse Fibrosis Density Related with Atmospheric Pollution. In-Silico Study. <i>Communications in Computer and Information Science</i> , 2020, , 291-301.	0.5	1
89	Effect of Lead Position and Polarity on Paresthesia Coverage in Spinal Cord Stimulation Therapy: A Computational Study. <i>Neuromodulation</i> , 2022, 25, 680-692.	0.8	1
90	Directed Network Mapping Approach to Rotor Localization in Atrial Fibrillation Simulation. , 2021, 2021, 730-733.		1

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91	Modulation of the regional dispersion of repolarization by the action of class III antiarrhythmic drug dofetilide. , 2005, , .		0
92	Effects of antiarrhythmic drug lidocaine on ventricular electrical activity. a computer modelling study. , 2005, , .		0
93	A computer model of reflection induced by early afterdepolarizations in ventricular tissue. , 2005, , .		0
94	Effects of acute ischemia and its components on the safety factor of conduction: a simulation study. , 2005, , .		0
95	Effect of ectopic focus frequency on fibrillatory conduction in atrial remodelling tissue. A simulation study. , 2007, , .		0
96	The pH dependence on the electrophysiological effect of lidocaine in ventricular myocardium. A computer modelling study. , 2007, , .		0
97	Reentrant mechanisms triggered by ectopic activity in a three-dimensional realistic model of human atrium. a computer simulation study. , 2008, , .		0
98	Effect of lidocaine in acute ischemic situations: A computer modelling study. , 2008, , .		0
99	Reentrant activity in a virtual 3D ventricular slab preparation subject to regional simulated ischemia: Role of the ischemic zone size. , 2008, , .		0
100	Arritmias potenciadas por isquemia sub-epicárdica en pared transmural heterogénea cardiaca: un estudio teórico de simulación. Revista Colombiana De Cardiología, 2011, 18, 37-51.	0.1	0
101	Supraventricular Arrhythmias in a Realistic 3D Model of the Human Atria. , 2014, , 351-359.		0
102	Corrigendum to "In silico screening of the impact of hERG channel kinetic abnormalities on channel block and susceptibility to acquired long QT syndrome" [J. Mol. Cell. Cardiol. 2014 126:137]. Journal of Molecular and Cellular Cardiology, 2015, 87, 270.	1.9	0
103	Lead and Carbon Monoxide Effects on Human Atrial Action Potential. In Silico Study. , 0, , .		0
104	Sulfur Dioxide Effects on Human Atrial Action Potential. In Silico Study. , 0, , .		0
105	Fibrillatory conduction in a simulated two-dimensional model of human atrial tissue: effect of the interaction of two ectopic foci. Simulation, 2019, 95, 577-591.	1.8	0
106	B-PO05-011 DIRECTED GRAPH INFORMATION FLOW MAPPING FOR CHARACTERIZING CARDIAC ELECTRICAL PROPAGATION FROM UNANNOTATED UNIPOLAR ELECTROGRAMS. Heart Rhythm, 2021, 18, S375.	0.7	0
107	Could Virtual Reality Be an Effective Tool to Combat Obesity and Sedentariness in Children? Results from Two Research Studies. Lecture Notes in Computer Science, 2012, , 143-150.	1.3	0
108	Patient-Tailored In Silico 3D Simulations and Models From Electroanatomical Maps of the Left Atrium. , 0, , .		0

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109	Fibroblasts Induce Calcium Alternans When Coupled to Cardiomyocytes: A Simulation Study. , 0, , .		0
110	Proliferation of Fibroblast Modulates the Action Potential Duration Dispersion: An Atrial Fibrosis Model Using Fractional Diffusion. , 0, , .		0
111	Development and Validation of an In Silico Rabbit Purkinje Cell Action Potential Model: A Step Towards a Drug Safety Testing Tool. , 0, , .		0