Martin J Bishop

List of Publications by Year
in descending order

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Version: 2024-02-01

95 papers	2,481 citations	186265 28 h-index	243625 44 g-index
100 all docs	100 docs citations	100 times ranked	1904 citing authors

#	Article	IF	Citations
1	Development of an anatomically detailed MRI-derived rabbit ventricular model and assessment of its impact on simulations of electrophysiological function. American Journal of Physiology - Heart and Circulatory Physiology, 2010, 298, H699-H718.	3.2	192
2	Generation of histo-anatomically representative models of the individual heart: tools and application. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2009, 367, 2257-2292.	3.4	135
3	Efficient computation of electrograms and ECGs in human whole heart simulations using a reaction-eikonal model. Journal of Computational Physics, 2017, 346, 191-211.	3.8	109
4	Synthesis of Voltage-Sensitive Optical Signals: Application to Panoramic Optical Mapping. Biophysical Journal, 2006, 90, 2938-2945.	0.5	79
5	Modeling the Electrophysiological Properties of the Infarct Border Zone. Frontiers in Physiology, 2018, 9, 356.	2.8	72
6	The Role of Photon Scattering in Optical Signal Distortion during Arrhythmia and Defibrillation. Biophysical Journal, 2007, 93, 3714-3726.	0.5	71
7	The role of fineâ€scale anatomical structure in the dynamics of reentry in computational models of the rabbit ventricles. Journal of Physiology, 2012, 590, 4515-4535.	2.9	71
8	Personalized Cardiac Computational Models: From Clinical Data to Simulation of Infarct-Related Ventricular Tachycardia. Frontiers in Physiology, 2019, 10, 580.	2.8	61
9	Representing Cardiac Bidomain Bath-Loading Effects by an Augmented Monodomain Approach: Application to Complex Ventricular Models. IEEE Transactions on Biomedical Engineering, 2011, 58, 1066-1075.	4.2	59
10	Three-dimensional atrial wall thickness maps to inform catheter ablation procedures for atrial fibrillation. Europace, 2016, 18, 376-383.	1.7	59
11	A publicly available virtual cohort of four-chamber heart meshes for cardiac electro-mechanics simulations. PLoS ONE, 2020, 15, e0235145.	2.5	59
12	Bidomain ECG Simulations Using an Augmented Monodomain Model for the Cardiac Source. IEEE Transactions on Biomedical Engineering, 2011, 58, 2297-2307.	4.2	56
13	Left atrial voltage mapping: defining and targeting the atrial fibrillation substrate. Journal of Interventional Cardiac Electrophysiology, 2019, 56, 213-227.	1.3	55
14	Simulating ventricular systolic motion in a four-chamber heart model with spatially varying robin boundary conditions to model the effect of the pericardium. Journal of Biomechanics, 2020, 101, 109645.	2.1	54
15	Modeling the Role of the Coronary Vasculature During External Field Stimulation. IEEE Transactions on Biomedical Engineering, 2010, 57, 2335-2345.	4.2	49
16	Images as drivers of progress in cardiac computational modelling. Progress in Biophysics and Molecular Biology, 2014, 115, 198-212.	2.9	47
17	Soft Tissue Modelling of Cardiac Fibres for Use in Coupled Mechano-Electric Simulations. Bulletin of Mathematical Biology, 2007, 69, 2199-2225.	1.9	46
18	Personalized computational modeling of left atrial geometry and transmural myofiber architecture. Medical Image Analysis, 2018, 47, 180-190.	11.6	46

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19	His-bundle and left bundle pacing with optimized atrioventricular delay achieve superior electrical synchrony over endocardial and epicardial pacing in left bundle branch block patients. Heart Rhythm, 2020, 17, 1922-1929.	0.7	44
20	Pacing in proximity to scar during cardiac resynchronization therapy increases local dispersion of repolarization and susceptibility to ventricular arrhythmogenesis. Heart Rhythm, 2019, 16, 1475-1483.	0.7	42
21	An activation-repolarization time metric to predict localized regions of high susceptibility to reentry. Heart Rhythm, 2015, 12, 1644-1653.	0.7	40
22	Computational Representations of Myocardial Infarct Scars and Implications for Arrhythmogenesis. Clinical Medicine Insights: Cardiology, 2016, 10s1, CMC.S39708.	1.8	37
23	Efficient simulation of cardiac electrical propagation using high order finite elements. Journal of Computational Physics, 2012, 231, 3946-3962.	3.8	36
24	Photon scattering effects in optical mapping of propagation and arrhythmogenesis in the heart. Journal of Electrocardiology, 2007, 40, S75-S80.	0.9	34
25	Cardiac Bidomain Bath-Loading Effects during Arrhythmias: Interaction with Anatomical Heterogeneity. Biophysical Journal, 2011, 101, 2871-2881.	0.5	31
26	Progressive changes in <i>T</i>₁, <i>T</i>₂ and leftâ€ventricular histoâ€architecture in the fixed and embedded rat heart. NMR in Biomedicine, 2011, 24, 836-843.	2.8	31
27	Factors Promoting Conduction Slowing as Substrates for Block and Reentry in Infarcted Hearts. Biophysical Journal, 2019, 117, 2361-2374.	0.5	31
28	Influence of the Purkinje-muscle junction on transmural repolarization heterogeneity. Cardiovascular Research, 2014, 103, 629-640.	3.8	30
29	Investigating a Novel Activation-Repolarisation Time Metric to Predict Localised Vulnerability to Reentry Using Computational Modelling. PLoS ONE, 2016, 11, e0149342.	2.5	30
30	Efficient simulation of cardiac electrical propagation using high-order finite elements II: Adaptive p-version. Journal of Computational Physics, 2013, 253, 443-470.	3.8	29
31	Subepicardial Action Potential Characteristics Are a Function of Depth and Activation Sequence in Isolated Rabbit Hearts. Circulation: Arrhythmia and Electrophysiology, 2013, 6, 809-817.	4.8	28
32	Normal interventricular differences in tissue architecture underlie right ventricular susceptibility to conduction abnormalities in a mouse model of Brugada syndrome. Cardiovascular Research, 2018, 114, 724-736.	3.8	28
33	Moderate but not severe hypothermia causes pro-arrhythmic changes in cardiac electrophysiology. Cardiovascular Research, 2020, 116, 2081-2090.	3.8	27
34	Microscopic Isthmuses and Fibrosis Within the Border Zone of Infarcted Hearts Promote Calcium-Mediated Ectopy and Conduction Block. Frontiers in Physics, 2018, 6, .	2.1	26
35	Investigating the Role of the Coronary Vasculature in the Mechanisms of Defibrillation. Circulation: Arrhythmia and Electrophysiology, 2012, 5, 210-219.	4.8	25
36	Fibrosis Microstructure Modulates Reentry in Non-ischemic Dilated Cardiomyopathy: Insights From Imaged Guided 2D Computational Modeling. Frontiers in Physiology, 2018, 9, 1832.	2.8	25

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37	Evaluation of the reentry vulnerability index to predict ventricular tachycardia circuits using high-density contact mapping. Heart Rhythm, 2020, 17, 576-583.	0.7	25
38	The functional role of electrophysiological heterogeneity in the rabbit ventricle during rapid pacing and arrhythmias. American Journal of Physiology - Heart and Circulatory Physiology, 2013, 304, H1240-H1252.	3.2	24
39	Effect of Mental Challenge Induced by Movie Clips on Action Potential Duration in Normal Human Subjects Independent of Heart Rate. Circulation: Arrhythmia and Electrophysiology, 2014, 7, 518-523.	4.8	24
40	Mean entropy predicts implantable cardioverter-defibrillator therapy using cardiac magnetic resonance texture analysis of scar heterogeneity. Heart Rhythm, 2019, 16, 1242-1250.	0.7	24
41	Local Gradients in Electrotonic Loading Modulate the Local Effective Refractory Period: Implications for Arrhythmogenesis in the Infarct Border Zone. IEEE Transactions on Biomedical Engineering, 2015, 62, 2251-2259.	4.2	23
42	The impact of wall thickness and curvature on wall stress in patient-specific electromechanical models of the left atrium. Biomechanics and Modeling in Mechanobiology, 2020, 19, 1015-1034.	2.8	23
43	Anisotropic Cardiac Conduction. Arrhythmia and Electrophysiology Review, 2020, 9, 202-210.	2.4	23
44	Structural Heterogeneity Modulates Effective Refractory Period: A Mechanism of Focal Arrhythmia Initiation. PLoS ONE, 2014, 9, e109754.	2.5	22
45	Beat-to-Beat Variability of Ventricular Action Potential Duration Oscillates at Low Frequency During Sympathetic Provocation in Humans. Frontiers in Physiology, 2018, 9, 147.	2.8	22
46	Autonomic Modulation in Patients with Heart Failure Increases Beat-to-Beat Variability of Ventricular Action Potential Duration. Frontiers in Physiology, 2017, 8, 328.	2.8	19
47	Sympathetic Nervous Regulation of Calcium and Action Potential Alternans in the Intact Heart. Frontiers in Physiology, 2018, 9, 16.	2.8	18
48	Simulating photon scattering effects in structurally detailed ventricular models using a Monte Carlo approach. Frontiers in Physiology, 2014, 5, 338.	2.8	16
49	Left ventricular endocardial pacing is less arrhythmogenic than conventional epicardial pacing when pacing in proximity to scar. Heart Rhythm, 2020, 17, 1262-1270.	0.7	16
50	An investigation into the role of the optical detection set-up in the recording of cardiac optical mapping signals: A Monte Carlo simulation study. Physica D: Nonlinear Phenomena, 2009, 238, 1008-1018.	2.8	13
51	Generation of a cohort of whole-torso cardiac models for assessing the utility of a novel computed shock vector efficiency metric for ICD optimisation. Computers in Biology and Medicine, 2019, 112, 103368.	7.0	13
52	Late-Gadolinium Enhancement Interface Area and Electrophysiological Simulations Predict Arrhythmic Events in Patients With Nonischemic Dilated Cardiomyopathy. JACC: Clinical Electrophysiology, 2021, 7, 238-249.	3.2	13
53	Virtual electrodes around anatomical structures and their roles in defibrillation. PLoS ONE, 2017, 12, e0173324.	2.5	13
54	Assessing the ability of substrate mapping techniques to guide ventricular tachycardia ablation using computational modelling. Computers in Biology and Medicine, 2021, 130, 104214.	7.0	12

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55	Left ventricular activation-recovery interval variability predicts spontaneous ventricular tachyarrhythmia in patients with heart failure. Heart Rhythm, 2019, 16, 702-709.	0.7	11
56	The Role of Blood Vessels in Rabbit Propagation Dynamics and Cardiac Arrhythmias. Lecture Notes in Computer Science, 2009, , 268-276.	1.3	11
57	Inference of Intramural Wavefront Orientation from Optical Recordings in Realistic Whole-Heart Models. Biophysical Journal, 2006, 91, 3957-3958.	0.5	10
58	Improved co-registration of ex-vivo and in-vivo cardiovascular magnetic resonance images using heart-specific flexible 3D printed acrylic scaffold combined with non-rigid registration. Journal of Cardiovascular Magnetic Resonance, 2019, 21, 62.	3.3	10
59	Scar shape analysis and simulated electrical instabilities in a non-ischemic dilated cardiomyopathy patient cohort. PLoS Computational Biology, 2019, 15, e1007421.	3.2	10
60	In-silico pace-mapping using a detailed whole torso model and implanted electronic device electrograms for more efficient ablation planning. Computers in Biology and Medicine, 2020, 125, 104005.	7.0	10
61	A computational investigation into rate-dependant vectorcardiogram changes due to specific fibrosis patterns in non-ischÃ¦mic dilated cardiomyopathy. Computers in Biology and Medicine, 2020, 123, 103895.	7.0	10
62	The Role of Photon Scattering in Voltage-Calcium Fluorescent Recordings of Ventricular Fibrillation. Biophysical Journal, 2011, 101, 307-318.	0.5	9
63	Characterizing the clinical implementation of a novel activation-repolarization metric to identify targets for catheter ablation of ventricular tachycardias using computational models. Computers in Biology and Medicine, 2019, 108, 263-275.	7.0	9
64	Automated Localization of Focal Ventricular Tachycardia From Simulated Implanted Device Electrograms: A Combined Physicsâ€“AI Approach. Frontiers in Physiology, 2021, 12, 682446.	2.8	9
65	Determining anatomical and electrophysiological detail requirements for computational ventricular models of porcine myocardial infarction. Computers in Biology and Medicine, 2022, 141, 105061.	7.0	9
66	Left ventricular shape predicts arrhythmic risk in fibrotic dilated cardiomyopathy. Europace, 2022, 24, 1137-1147.	1.7	9
67	Effect of Heart Structure on Ventricular Fibrillation in the Rabbit: A Simulation Study. Frontiers in Physiology, 2019, 10, 564.	2.8	8
68	3D Electrophysiological Modeling of Interstitial Fibrosis Networks and Their Role in Ventricular Arrhythmias in Non-Ischemic Cardiomyopathy. IEEE Transactions on Biomedical Engineering, 2020, 67, 3125-3133.	4.2	8
69	Microscopic magnetic resonance imaging reveals high prevalence of third coronary artery in human and rabbit heart. Europace, 2012, 14, v73-v81.	1.7	7
70	Mechanism of reentry induction by a 9-V battery in rabbit ventricles. American Journal of Physiology - Heart and Circulatory Physiology, 2014, 306, H1041-H1053.	3.2	7
71	Complex Interaction Between Low-Frequency APD Oscillations and Beat-to-Beat APD Variability in Humans Is Governed by the Sympathetic Nervous System. Frontiers in Physiology, 2019, 10, 1582.	2.8	7
72	Late Gadolinium Enhancement Cardiovascular Magnetic Resonance Assessment of Substrate for Ventricular Tachycardia With Hemodynamic Compromise. Frontiers in Cardiovascular Medicine, 2021, 8, 744779.	2.4	7

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73	Highly trabeculated structure of the human endocardium underlies asymmetrical response to low-energy monophasic shocks. Chaos, 2017, 27, 093913.	2.5	6
74	Using cardiac ionic cell models to interpret clinical data. WIREs Mechanisms of Disease, 2021, 13, e1508.	3.3	6
75	Bidomain Predictions of Virtual Electrode-Induced Make and Break Excitations around Blood Vessels. Frontiers in Bioengineering and Biotechnology, 2017, 5, 18.	4.1	5
76	Conceptual Intra-Cardiac Electrode Configurations That Facilitate Directional Cardiac Stimulation for Optimal Electrotherapy. IEEE Transactions on Biomedical Engineering, 2019, 66, 1259-1268.	4.2	5
77	An automated near-real time computational method for induction and treatment of scar-related ventricular tachycardias. Medical Image Analysis, 2022, 80, 102483.	11.6	5
78	Predicting arrhythmia recurrence following catheter ablation for ventricular tachycardia using late gadolinium enhancement magnetic resonance imaging: Implications of varying scar ranges. Heart Rhythm, 2022, 19, 1604-1610.	0.7	4
79	Modeling Cardiac Electrophysiology at the Organ Level in the Peta FLOPS Computing Age. AIP Conference Proceedings, 2010, , .	0.4	3
80	Ventricular Endocardial Tissue Geometry Affects Stimulus Threshold and Effective Refractory Period. Biophysical Journal, 2018, 115, 2486-2498.	0.5	3
81	High mean entropy calculated from cardiac MRI texture analysis is associated with antitachycardia pacing failure. PACE - Pacing and Clinical Electrophysiology, 2020, 43, 737-745.	1.2	3
82	The Effect of Ventricular Myofibre Orientation on Atrial Dynamics. Lecture Notes in Computer Science, 2021, , 659-670.	1.3	3
83	Emerging evidence for a mechanistic link between low-frequency oscillation of ventricular repolarization measured from the electrocardiogram T-wave vector and arrhythmia. Europace, 2021, 23, 1350-1358.	1.7	3
84	An in-silico assessment of efficacy of two novel intra-cardiac electrode configurations versus traditional anti-tachycardia pacing therapy for terminating sustained ventricular tachycardia. Computers in Biology and Medicine, 2021, 139, 104987.	7.0	2
85	Dispersion of repolarization increases with cardiac resynchronization therapy and is associated with left ventricular reverse remodeling. Journal of Electrocardiology, 2022, 72, 120-127.	0.9	2
86	Biophotonic Modelling of Cardiac Optical Imaging. Advances in Experimental Medicine and Biology, 2015, 859, 367-404.	1.6	1
87	Preventing recurrence through analysing recurrence. Journal of Cardiovascular Electrophysiology, 2019, 30, 2239-2241.	1.7	1
88	The Role of Endocardial Trabeculations in Low-Energy Defibrillation. Lecture Notes in Computer Science, 2015, , 412-420.	1.3	1
89	Application of Diffuse Optical Reflectance to Measure Myocardial Wall Thickness and Presence of Infarct Scar: A Monte Carlo Simulation Study. Lecture Notes in Computer Science, 2015, , 248-255.	1.3	1
90	Building Models of Patient-Specific Anatomy and Scar Morphology from Clinical MRI Data. , 2021, , 453-461.		0

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91	Gap-junction uncoupling as a pharmacological strategy to prevent hypothermia-induced ventricular fibrillation. Proceedings for Annual Meeting of the Japanese Pharmacological Society, 2018, WCP2018, PO1-2-79.	0.0	0
92	Gap-junction uncoupling as a pharmacological strategy to prevent hypothermia-induced ventricular fibrillation. Proceedings for Annual Meeting of the Japanese Pharmacological Society, 2018, WCP2018, YIA-3.	0.0	0
93	From Automated MRI Scan to Finite Elements. Lecture Notes in Computer Science, 2019, , 35-48.	1.3	0
94	Investigation of Low-Voltage Defibrillation by Standing Waves in Human Ventricular Tissue Models. , 2021, , .		0
95	The effect of scar and pacing location on repolarization in a porcine myocardial infarction model. Heart Rhythm O2, 2022, 3, 186-195.	1.7	0