

Richard H Clayton

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

90
papers

2,430
citations

23
h-index

47
g-index

96
ext. papers

3,082
ext. citations

4
avg, IF

5.01
L-index

#	Paper	IF	Citations
90	Characterization of persistent atrial fibrillation with non-contact charge density mapping and relationship to voltage.. <i>Journal of Arrhythmia</i> , 2022 , 38, 77-85	1.5	0
89	Hypoglycaemia combined with mild hypokalaemia reduces the heart rate and causes abnormal pacemaker activity in a computational model of a human sinoatrial cell. <i>Journal of the Royal Society Interface</i> , 2021 , 18, 20210612	4.1	0
88	DenResCov-19: A deep transfer learning network for robust automatic classification of COVID-19, pneumonia, and tuberculosis from X-rays. <i>Computerized Medical Imaging and Graphics</i> , 2021 , 94, 102008	7.6	6
87	A governing equation for rotor and wavelet number in human clinical ventricular fibrillation: Implications for sudden cardiac death. <i>Heart Rhythm</i> , 2021 ,	6.7	1
86	Bayesian Calibration of Electrophysiology Models Using Restitution Curve Emulators. <i>Frontiers in Physiology</i> , 2021 , 12, 693015	4.6	1
85	Time-Averaged Wavefront Analysis Demonstrates Preferential Pathways of Atrial Fibrillation, Predicting Pulmonary Vein Isolation Acute Response. <i>Frontiers in Physiology</i> , 2021 , 12, 707189	4.6	0
84	MA-SOCRATIS: An automatic pipeline for robust segmentation of the left ventricle and scar. <i>Computerized Medical Imaging and Graphics</i> , 2021 , 93, 101982	7.6	2
83	An audit of uncertainty in multi-scale cardiac electrophysiology models. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2020 , 378, 20190335	3	14
82	Gaussian process manifold interpolation for probabilistic atrial activation maps and uncertain conduction velocity. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2020 , 378, 20190345	3	14
81	Sensitivity and Uncertainty Analysis of Two Human Atrial Cardiac Cell Models Using Gaussian Process Emulators. <i>Frontiers in Physiology</i> , 2020 , 11, 364	4.6	6
80	Quantifying atrial anatomy uncertainty from clinical data and its impact on electro-physiology simulation predictions. <i>Medical Image Analysis</i> , 2020 , 61, 101626	15.4	15
79	The fickle heart: uncertainty quantification in cardiac and cardiovascular modelling and simulation. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2020 , 378, 20200119	3	7
78	Probabilistic Interpolation of Uncertain Local Activation Times on Human Atrial Manifolds. <i>IEEE Transactions on Biomedical Engineering</i> , 2020 , 67, 99-109	5	13
77	M/M/Infinity Birth-Death Processes - A Quantitative Representational Framework to Summarize and Explain Phase Singularity and Wavelet Dynamics in Atrial Fibrillation. <i>Frontiers in Physiology</i> , 2020 , 11, 616866	4.6	7
76	The Role of Cardiac MRI in the Management of Ventricular Arrhythmias in Ischaemic and Non-ischaemic Dilated Cardiomyopathy. <i>Arrhythmia and Electrophysiology Review</i> , 2019 , 8, 191-201	3.2	10
75	A theoretical analysis of how plant growth is limited by carbon allocation strategies and respiration. <i>In Silico Plants</i> , 2019 , 1,	3.2	5
74	Spatio-temporal Organization During Ventricular Fibrillation in the Human Heart. <i>Annals of Biomedical Engineering</i> , 2018 , 46, 864-876	4.7	2

73	Quantifying the effect of uncertainty in input parameters in a simplified bidomain model of partial thickness ischaemia. <i>Medical and Biological Engineering and Computing</i> , 2018 , 56, 761-780	3.1	14
72	Fitting two human atrial cell models to experimental data using Bayesian history matching. <i>Progress in Biophysics and Molecular Biology</i> , 2018 , 139, 43-58	4.7	14
71	Dispersion of Recovery and Vulnerability to Re-entry in a Model of Human Atrial Tissue With Simulated Diffuse and Focal Patterns of Fibrosis. <i>Frontiers in Physiology</i> , 2018 , 9, 1052	4.6	15
70	Unraveling the Underlying Arrhythmia Mechanism in Persistent Atrial Fibrillation: Results From the STARLIGHT Study. <i>Circulation: Arrhythmia and Electrophysiology</i> , 2018 , 11, e005897	6.4	23
69	Mechanisms of stochastic onset and termination of atrial fibrillation studied with a cellular automaton model. <i>Journal of the Royal Society Interface</i> , 2017 , 14,	4.1	16
68	Bayesian sensitivity analysis of a 1D vascular model with Gaussian process emulators. <i>International Journal for Numerical Methods in Biomedical Engineering</i> , 2017 , 33, e2882	2.6	15
67	Variance Based Sensitivity Analysis of (I_{Kr}) in a Model of the Human Atrial Action Potential Using Gaussian Process Emulators. <i>Lecture Notes in Computer Science</i> , 2017 , 249-259	0.9	1
66	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	5.8	80
65	A Stochastic Individual-Based Model of the Progression of Atrial Fibrillation in Individuals and Populations. <i>PLoS ONE</i> , 2016 , 11, e0152349	3.7	9
64	Uncertainty and variability in computational and mathematical models of cardiac physiology. <i>Journal of Physiology</i> , 2016 , 594, 6833-6847	3.9	83
63	Assessing measures of atrial fibrillation clustering via stochastic models of episode recurrence and disease progression 2015 ,		1
62	Analysis of cardiac fibrillation using phase mapping. <i>Cardiac Electrophysiology Clinics</i> , 2015 , 7, 49-58	1.4	17
61	Bayesian Sensitivity Analysis of a Cardiac Cell Model Using a Gaussian Process Emulator. <i>PLoS ONE</i> , 2015 , 10, e0130252	3.7	35
60	Developing a novel comprehensive framework for the investigation of cellular and whole heart electrophysiology in the in situ human heart: historical perspectives, current progress and future prospects. <i>Progress in Biophysics and Molecular Biology</i> , 2014 , 115, 252-60	4.7	25
59	Computational models of ventricular arrhythmia mechanisms: recent developments and future prospects. <i>Drug Discovery Today: Disease Models</i> , 2014 , 14, 17-22	1.3	9
58	Effect of global cardiac ischemia on human ventricular fibrillation: insights from a multi-scale mechanistic model of the human heart. <i>PLoS Computational Biology</i> , 2014 , 10, e1003891	5	29
57	Models of ventricular arrhythmia mechanisms. <i>Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference</i> , 2013 , 2013, 1526-9	0.9	1
56	A computational model of auxin and pH dynamics in a single plant cell. <i>Journal of Theoretical Biology</i> , 2012 , 296, 84-94	2.3	27

55	Models of cardiac tissue electrophysiology: progress, challenges and open questions. <i>Progress in Biophysics and Molecular Biology</i> , 2011 , 104, 22-48	4.7	363
54	Experiment-model interaction for analysis of epicardial activation during human ventricular fibrillation with global myocardial ischaemia. <i>Progress in Biophysics and Molecular Biology</i> , 2011 , 107, 101-11	4.7	13
53	Modeling the urinary tract-computational, physical, and biological methods. <i>Neurourology and Urodynamics</i> , 2011 , 30, 692-9	2.3	9
52	Verification of cardiac tissue electrophysiology simulators using an N-version benchmark. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2011 , 369, 4331-51	3	177
51	Human ventricular fibrillation during global ischemia and reperfusion: paradoxical changes in activation rate and wavefront complexity. <i>Circulation: Arrhythmia and Electrophysiology</i> , 2011 , 4, 684-91	6.4	23
50	Rate-dependent measures of repolarization predict inducibility of ventricular arrhythmias. <i>Europace</i> , 2010 , 12, 553-60	3.9	3
49	Computer simulation: the imaginary friend of auxin transport biology. <i>BioEssays</i> , 2010 , 32, 828-35	4.1	20
48	Early afterdepolarisations and ventricular arrhythmias in cardiac tissue: a computational study. <i>Medical and Biological Engineering and Computing</i> , 2009 , 47, 291-300	3.1	4
47	Organization of ventricular fibrillation in the human heart: experiments and models. <i>Experimental Physiology</i> , 2009 , 94, 553-62	2.4	64
46	Influence of cardiac tissue anisotropy on re-entrant activation in computational models of ventricular fibrillation. <i>Physica D: Nonlinear Phenomena</i> , 2009 , 238, 951-961	3.3	9
45	A guide to modelling cardiac electrical activity in anatomically detailed ventricles. <i>Progress in Biophysics and Molecular Biology</i> , 2008 , 96, 19-43	4.7	144
44	Vortex filament dynamics in computational models of ventricular fibrillation in the heart. <i>Chaos</i> , 2008 , 18, 043127	3.3	20
43	Modelling the mammalian heart. <i>SEB Experimental Biology Series</i> , 2008 , 61, 175-93		
42	Phase singularities and filaments: simplifying complexity in computational models of ventricular fibrillation. <i>Progress in Biophysics and Molecular Biology</i> , 2006 , 90, 378-98	4.7	80
41	Endogenous driving and synchronization in cardiac and uterine virtual tissues: bifurcations and local coupling. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2006 , 364, 1313-27	3	15
40	Evidence for multiple mechanisms in human ventricular fibrillation. <i>Circulation</i> , 2006 , 114, 536-42	16.7	176
39	Acidosis in models of cardiac ventricular myocytes. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2006 , 364, 1171-86	3	37
38	Whole heart action potential duration restitution properties in cardiac patients: a combined clinical and modelling study. <i>Experimental Physiology</i> , 2006 , 91, 339-54	2.4	102

37	The virtual ventricular wall: a tool for exploring cardiac propagation and arrhythmogenesis. <i>Journal of Biological Physics</i> , 2006 , 32, 355-68	1.6	10
36	Dispersion of cardiac action potential duration and the initiation of re-entry: a computational study. <i>BioMedical Engineering OnLine</i> , 2005 , 4, 11	4.1	40
35	Regional differences in APD restitution can initiate wavebreak and re-entry in cardiac tissue: a computational study. <i>BioMedical Engineering OnLine</i> , 2005 , 4, 54	4.1	38
34	21 Towards understanding the physical basis of re-entrant cardiac arrhythmias. <i>Studies in Multidisciplinarity</i> , 2005 , 389-410		
33	Dynamical and cellular electrophysiological mechanisms of ECG changes during ischaemia. <i>Journal of Theoretical Biology</i> , 2005 , 237, 369-81	2.3	19
32	Methods for Identifying and Tracking Phase Singularities in Computational Models of Re-entrant Fibrillation. <i>Lecture Notes in Computer Science</i> , 2005 , 246-255	0.9	4
31	Propagation of normal beats and re-entry in a computational model of ventricular cardiac tissue with regional differences in action potential shape and duration. <i>Progress in Biophysics and Molecular Biology</i> , 2004 , 85, 473-99	4.7	41
30	Filament behavior in a computational model of ventricular fibrillation in the canine heart. <i>IEEE Transactions on Biomedical Engineering</i> , 2004 , 51, 28-34	5	26
29	VULNERABILITY TO REENTRY, AND DRIFT, STABILITY AND BREAKDOWN OF SPIRAL WAVES IN A LINEAR GRADIENT OF GK IN A LUORUDY 1 VIRTUAL VENTRICULAR TISSUE. <i>International Journal of Bifurcation and Chaos in Applied Sciences and Engineering</i> , 2003 , 13, 3865-3871	2	3
28	DYNAMICS AND INTERACTION OF FILAMENTS DURING REENTRY AND FIBRILLATION IN MAMMALIAN VIRTUAL VENTRICULAR TISSUE. <i>International Journal of Bifurcation and Chaos in Applied Sciences and Engineering</i> , 2003 , 13, 3733-3745	2	1
27	CAN ENDOGENOUS, NOISE-TRIGGERED EARLY AFTER-DEPOLARIZATIONS INITIATE REENTRY IN A MODIFIED LUORUDY VENTRICULAR VIRTUAL TISSUE?. <i>International Journal of Bifurcation and Chaos in Applied Sciences and Engineering</i> , 2003 , 13, 3835-3843	2	3
26	CONSTRUCTIVE VOLUME GEOMETRY APPLIED TO VISUALIZATION OF CARDIAC ANATOMY AND ELECTROPHYSIOLOGY. <i>International Journal of Bifurcation and Chaos in Applied Sciences and Engineering</i> , 2003 , 13, 3591-3604	2	6
25	Effect of regional differences in cardiac cellular electrophysiology on the stability of ventricular arrhythmias: a computational study. <i>Physics in Medicine and Biology</i> , 2003 , 48, 95-111	3.8	17
24	Visualising Cardiac Anatomy Using Constructive Volume Geometry. <i>Lecture Notes in Computer Science</i> , 2003 , 30-38	0.9	
23	Re-entry in computational models of ischaemic myocardium. <i>Chaos, Solitons and Fractals</i> , 2002 , 13, 1671-1683	1.6	6
22	Mathematical modelling for the new millenium: medicine by numbers. <i>Medical Engineering and Physics</i> , 2002 , 24, 565-74	2.4	19
21	Dynamics and interaction of filaments in a computational model of re-entrant ventricular fibrillation. <i>Physics in Medicine and Biology</i> , 2002 , 47, 1777-92	3.8	17
20	A method to quantify the dynamics and complexity of re-entry in computational models of ventricular fibrillation. <i>Physics in Medicine and Biology</i> , 2002 , 47, 225-38	3.8	38

19	Computational framework for simulating the mechanisms and ECG of re-entrant ventricular fibrillation. <i>Physiological Measurement</i> , 2002 , 23, 707-26	2.9	23
18	Re-entrant cardiac arrhythmias in computational models of long QT myocardium. <i>Journal of Theoretical Biology</i> , 2001 , 208, 215-25	2.3	16
17	Computational models of normal and abnormal action potential propagation in cardiac tissue: linking experimental and clinical cardiology. <i>Physiological Measurement</i> , 2001 , 22, R15-34	2.9	32
16	TEMPORAL EVOLUTION OF NONLINEAR DYNAMICS IN VENTRICULAR ARRHYTHMIA. <i>International Journal of Bifurcation and Chaos in Applied Sciences and Engineering</i> , 2001 , 11, 2531-2548	2	7
15	Heart rate and blood pressure variability in normal subjects compared with data from beat-to-beat models developed from de Boer's model of the cardiovascular system. <i>Physiological Measurement</i> , 2000 , 21, 305-18	2.9	21
14	Coherence between body surface ECG leads and intracardiac signals increases during the first 10 s of ventricular fibrillation in the human heart. <i>Physiological Measurement</i> , 1999 , 20, 159-66	2.9	2
13	Baroreflex function in sedentary and endurance-trained elderly people. <i>Age and Ageing</i> , 1997 , 26, 289-94		16
12	Evidence for electrical organization during ventricular fibrillation in the human heart. <i>Journal of Cardiovascular Electrophysiology</i> , 1995 , 6, 616-24	2.7	11
11	Analysis of the body surface ECG measured in independent leads during ventricular fibrillation in humans. <i>PACE - Pacing and Clinical Electrophysiology</i> , 1995 , 18, 1876-81	1.6	20
10	Assessment of the ventricular fibrillation detection algorithm in the semi-automatic Cardio-Aid defibrillator. <i>Resuscitation</i> , 1995 , 29, 113-7	4	7
9	Measurement of baroreflex gain from heart rate and blood pressure spectra: a comparison of spectral estimation techniques. <i>Physiological Measurement</i> , 1995 , 16, 131-9	2.9	18
8	Simplified body-surface electrocardiographic maps with depolarization magnitude and direction. <i>Physiological Measurement</i> , 1994 , 15, 235-42	2.9	
7	Recognition of ventricular fibrillation using neural networks. <i>Medical and Biological Engineering and Computing</i> , 1994 , 32, 217-20	3.1	59
6	Self-terminating ventricular tachyarrhythmias--a diagnostic dilemma?. <i>Lancet, The</i> , 1993 , 341, 93-5	4.0	36
5	Comparative assessment of the ventricular fibrillation detection algorithms in five semi-automatic or advisory defibrillators. <i>Resuscitation</i> , 1993 , 26, 163-72	4	12
4	Comparison of four techniques for recognition of ventricular fibrillation from the surface ECG. <i>Medical and Biological Engineering and Computing</i> , 1993 , 31, 111-7	3.1	58
3	Assessment of oxygen transfer in membrane oxygenators during clinical cardiopulmonary bypass. <i>Clinical Physics and Physiological Measurement: an Official Journal of the Hospital Physicists Association, Deutsche Gesellschaft Fur Medizinische Physik and the European Federation of Organizations for Medical Physics</i> , 1992 , 13, 167-77		12
2	Clinical comparison of two devices for detection of microemboli during cardiopulmonary bypass. <i>Clinical Physics and Physiological Measurement: an Official Journal of the Hospital Physicists Association, Deutsche Gesellschaft Fur Medizinische Physik and the European Federation of Organizations for Medical Physics</i> , 1990 , 11, 227-32		4

- 1 Sensitivity and uncertainty analysis of two human atrial cardiac cell models using Gaussian process emulators 1