Mark L Trew

List of Publications by Year
in descending order

#	Article	IF	Citations
1	Laminar Arrangement of Ventricular Myocytes Influences Electrical Behavior of the Heart. Circulation Research, 2007, 101, e103-12.	2.0	161
2	High-Resolution 3-Dimensional Reconstruction of the Infarct Border Zone. Circulation Research, 2012, 111, 301-311.	2.0	116
3	Three Distinct Directions of Intramural Activation Reveal Nonuniform Side-to-Side Electrical Coupling of Ventricular Myocytes. Circulation: Arrhythmia and Electrophysiology, 2009, 2, 433-440.	2.1	112
4	Solving the Cardiac Bidomain Equations for Discontinuous Conductivities. IEEE Transactions on Biomedical Engineering, 2006, 53, 1265-1272.	2.5	77
5	Structural Heterogeneity Alone Is a Sufficient Substrate for Dynamic Instability and Altered Restitution. Circulation: Arrhythmia and Electrophysiology, 2010, 3, 195-203.	2.1	71
6	Functional physiology of the human terminal antrum defined by high-resolution electrical mapping and computational modeling. American Journal of Physiology - Renal Physiology, 2016, 311, G895-G902.	1.6	71
7	A Finite Volume Method for Modeling Discontinuous Electrical Activation in Cardiac Tissue. Annals of Biomedical Engineering, 2005, 33, 590-602.	1.3	70
8	A generalized finite difference method for modeling cardiac electrical activation on arbitrary, irregular computational meshes. Mathematical Biosciences, 2005, 198, 169-189.	0.9	42
9	Cardiac electrophysiology and tissue structure: bridging the scale gap with a joint measurement and modelling paradigm. Experimental Physiology, 2006, 91, 355-370.	0.9	41
10	Comparison of diffusion tensor imaging by cardiovascular magnetic resonance and gadolinium enhanced 3D image intensity approaches to investigation of structural anisotropy in explanted rat hearts. Journal of Cardiovascular Magnetic Resonance, 2015, 17, 31.	1.6	40
11	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.	2.5	23
12	Cardiac Conduction Velocity, Remodeling and Arrhythmogenesis. Cells, 2021, 10, 2923.	1.8	20
13	Cardiac Response to Low-Energy Field Pacing Challenges the Standard Theory of Defibrillation. Circulation: Arrhythmia and Electrophysiology, 2015, 8, 685-693.	2.1	19
14	Closing the Loop: Validation of Implantable Cardiac Devices With Computational Heart Models. IEEE Journal of Biomedical and Health Informatics, 2020, 24, 1579-1588.	3.9	17
15	A novel retractable laparoscopic device for mapping gastrointestinal slow wave propagation patterns. Surgical Endoscopy and Other Interventional Techniques, 2017, 31, 477-486.	1.3	15
16	A Parametric Computational Model of the Action Potential of Pacemaker Cells. IEEE Transactions on Biomedical Engineering, 2018, 65, 123-130.	2.5	15
17	Cardiac Electrical Modeling for Closed-Loop Validation of Implantable Devices. IEEE Transactions on Biomedical Engineering, 2020, 67, 536-544.	2.5	11
18	3D MRI of explanted sheep hearts with submillimeter isotropic spatial resolution: comparison between diffusion tensor and structure tensor imaging. Magnetic Resonance Materials in Physics, Biology, and Medicine, 2021, 34, 741-755.	1.1	11

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19	Towards the Emulation of the Cardiac Conduction System for Pacemaker Validation. ACM Transactions on Cyber-Physical Systems, 2018, 2, 1-26.	1.9	10
20	Modular Compilation of Hybrid Systems for Emulation and Large Scale Simulation. Transactions on Embedded Computing Systems, 2017, 16, 1-21.	2.1	9
21	Shift of leading pacemaker site during reflex vagal stimulation and altered electrical sourceâ€toâ€sink balance. Journal of Physiology, 2019, 597, 3297-3313.	1.3	9
22	Three-Dimensional Cardiac Tissue Image Registration for Analysis of In Vivo Electrical Mapping. Annals of Biomedical Engineering, 2011, 39, 235-248.	1.3	8
23	A machine learning approach to reconstruction of heart surface potentials from body surface potentials. , 2018, 2018, 4828-4831.		8
24	An intracardiac electrogram model to bridge virtual hearts and implantable cardiac devices. , 2017, 2017, 1974-1977.		7
25	Cardiac intramural electrical mapping reveals focal delays but no conduction velocity slowing in the peri-infarct region. American Journal of Physiology - Heart and Circulatory Physiology, 2019, 317, H743-H753.	1.5	7
26	Experiment-specific models of ventricular electrical activation: Construction and application. , 2008, 2008, 137-40.		6
27	It's clearly the heart! Optical transparency, cardiac tissue imaging, and computer modelling. Progress in Biophysics and Molecular Biology, 2021, 168, 18-18.	1.4	6
28	Resonant modelâ€"A new paradigm for modeling an action potential of biological cells. PLoS ONE, 2019, 14, e0216999.	1.1	5
29	Shock-Induced Transmembrane Potential Fields in a Model of Cardiac Microstructure. Journal of Cardiovascular Electrophysiology, 2005, 16, 1024-1024.	0.8	4
30	Development of 3â€Đ Intramural and Surface Potentials in the LV: Microstructural Basis of Preferential Transmural Conduction. Journal of Cardiovascular Electrophysiology, 2017, 28, 692-701.	0.8	4
31	Modeling Cardiac Activation and the Impact of a Discontinuous Myocardium. , 2005, 2006, 341-4.		3
32	Parametric Modeling of Electrocardiograms using Particle Swarm optimization. , 2018, 2018, 1-4.		3
33	Impulse Data Models for the Inverse Problem of Electrocardiography. IEEE Journal of Biomedical and Health Informatics, 2022, 26, 1353-1361.	3.9	3
34	A Clustering Method for Calculating Membrane Currents in Cardiac Electrical Models. Cardiovascular Engineering and Technology, 2012, 3, 3-16.	0.7	1
35	Simplifying the Process of Going From Cells to Tissues Using Statistical Mechanics. Frontiers in Physiology, 2022, 13, 837027.	1.3	1
36	Shock induced electrical activation in structurally detailed models of pig left-ventricular tissue. , 2009, 2009, 3948-51.		0

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37	Multilevel Homogenization Applied to the Cardiac Bidomain Equations. Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 2006, , .	0.5	0