

Michael A Colman

List of Publications by Year in descending order

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47
papers

1,015
citations

471509

17
h-index

454955

30
g-index

53
all docs

53
docs citations

53
times ranked

907
citing authors

#	ARTICLE	IF	CITATIONS
1	Pro-arrhythmic effects of atrial fibrillation-induced electrical remodelling: insights from the three-dimensional virtual human atria. <i>Journal of Physiology</i> , 2013, 591, 4249-4272.	2.9	152
2	3D virtual human atria: A computational platform for studying clinical atrial fibrillation. <i>Progress in Biophysics and Molecular Biology</i> , 2011, 107, 156-168.	2.9	143
3	Slow Conduction in the Border Zones of Patchy Fibrosis Stabilizes the Drivers for Atrial Fibrillation: Insights from Multi-Scale Human Atrial Modeling. <i>Frontiers in Physiology</i> , 2016, 7, 474.	2.8	109
4	Atrial Heterogeneity Generates Re-entrant Substrate during Atrial Fibrillation and Anti-arrhythmic Drug Action: Mechanistic Insights from Canine Atrial Models. <i>PLoS Computational Biology</i> , 2016, 12, e1005245.	3.2	67
5	A computational model of spatio-temporal cardiac intracellular calcium handling with realistic structure and spatial flux distribution from sarcoplasmic reticulum and t-tubule reconstructions. <i>PLoS Computational Biology</i> , 2017, 13, e1005714.	3.2	49
6	Human Atrial Arrhythmogenesis and Sinus Bradycardia in KCNQ1-Linked Short QT Syndrome: Insights From Computational Modelling. <i>Frontiers in Physiology</i> , 2018, 9, 1402.	2.8	39
7	Evolution and pharmacological modulation of the arrhythmogenic wave dynamics in canine pulmonary vein model. <i>Europace</i> , 2014, 16, 416-423.	1.7	37
8	Heterogeneous and anisotropic integrative model of pulmonary veins: computational study of arrhythmogenic substrate for atrial fibrillation. <i>Interface Focus</i> , 2013, 3, 20120069.	3.0	34
9	Three-Dimensional and Chemical Mapping of Intracellular Signaling Nanodomains in Health and Disease with Enhanced Expansion Microscopy. <i>ACS Nano</i> , 2019, 13, 2143-2157.	14.6	33
10	In silico assessment of genetic variation in KCNA5 reveals multiple mechanisms of human atrial arrhythmogenesis. <i>PLoS Computational Biology</i> , 2017, 13, e1005587.	3.2	32
11	Arrhythmia mechanisms and spontaneous calcium release: Bi-directional coupling between re-entrant and focal excitation. <i>PLoS Computational Biology</i> , 2019, 15, e1007260.	3.2	31
12	Comparison of Electric- and Magnetic-Cardiograms Produced by Myocardial Ischemia in Models of the Human Ventricle and Torso. <i>PLoS ONE</i> , 2016, 11, e0160999.	2.5	25
13	In silico investigation of short QT syndrome-linked potassium channel mutations on electro-mechanical function of human atrial cells. , 2015, , .		24
14	Virtual tissue engineering of the human atrium: Modelling pharmacological actions on atrial arrhythmogenesis. <i>European Journal of Pharmaceutical Sciences</i> , 2012, 46, 209-221.	4.0	23
15	Effects of human atrial ionic remodelling by β -blocker therapy on mechanisms of atrial fibrillation: a computer simulation. <i>Europace</i> , 2014, 16, 1524-1533.	1.7	21
16	A New Algorithm to Diagnose Atrial Ectopic Origin from Multi Lead ECG Systems - Insights from 3D Virtual Human Atria and Torso. <i>PLoS Computational Biology</i> , 2015, 11, e1004026.	3.2	21
17	Dynamic clamping human and rabbit atrial calcium current: narrowing I _{CaL} window abolishes early afterdepolarizations. <i>Journal of Physiology</i> , 2019, 597, 3619-3638.	2.9	20
18	Correlation Between P-Wave Morphology and Origin of Atrial Focal Tachycardia—Insights From Realistic Models of the Human Atria and Torso. <i>IEEE Transactions on Biomedical Engineering</i> , 2011, 58, 2952-2955.	4.2	19

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19	Trigger vs. Substrate: Multi-Dimensional Modulation of QT-Prolongation Associated Arrhythmic Dynamics by a hERG Channel Activator. <i>Frontiers in Physiology</i> , 2017, 8, 757.	2.8	19
20	Multi-Scale Computational Modeling of Spatial Calcium Handling From Nanodomain to Whole-Heart: Overview and Perspectives. <i>Frontiers in Physiology</i> , 2022, 13, 836622.	2.8	14
21	Mechanistic insights from targeted molecular profiling of repolarization alternans in the intact human heart. <i>Europace</i> , 2019, 21, 981-989.	1.7	11
22	Multi-scale approaches for the simulation of cardiac electrophysiology: I " Sub-cellular and stochastic calcium dynamics from cell to organ. <i>Methods</i> , 2021, 185, 49-59.	3.8	11
23	Multi-scale approaches for the simulation of cardiac electrophysiology: II " Tissue-level structure and function. <i>Methods</i> , 2021, 185, 60-81.	3.8	11
24	Recent progress in multi-scale models of the human atria. <i>Drug Discovery Today: Disease Models</i> , 2014, 14, 23-32.	1.2	9
25	Description of the Human Atrial Action Potential Derived From a Single, Congruent Data Source: Novel Computational Models for Integrated Experimental-Numerical Study of Atrial Arrhythmia Mechanisms. <i>Frontiers in Physiology</i> , 2018, 9, 1211.	2.8	9
26	Novel non-invasive algorithm to identify the origins of re-entry and ectopic foci in the atria from 64-lead ECGs: A computational study. <i>PLoS Computational Biology</i> , 2017, 13, e1005270.	3.2	8
27	Investigation of the Role of Myocyte Orientations in Cardiac Arrhythmia Using Image-Based Models. <i>Biophysical Journal</i> , 2019, 117, 2396-2408.	0.5	8
28	The Multiple Mechanisms of Spatially Discordant Alternans in the Heart. <i>Biophysical Journal</i> , 2020, 118, 2336-2338.	0.5	8
29	Effects of Heart Rate and Ventricular Wall Thickness on Non-invasive Mapping: An in silico Study. <i>Frontiers in Physiology</i> , 2019, 10, 308.	2.8	6
30	Arrhythmogenic substrate for atrial fibrillation: Insights from an integrative computational model of pulmonary veins. , 2012, 2012, 203-6.		5
31	From microscopic calcium sparks to the ECG: Model reduction approaches for multi-scale cardiac simulation. , 2015, , .		4
32	Comparison of electric- and magnetic- cardiograms produced by myocardial ischemia in models of the human ventricle and torso. , 2015, , .		3
33	A New Model of the Human Atrial Myocyte with Variable T:tubule Organization for the Study of Atrial Fibrillation. , 0, , .		3
34	Mechanisms of Atrial Arrhythmias. Springer Theses, 2014, , .	0.1	2
35	A Novel Model of the Rabbit Atrial Myocyte for the Study of Ca ²⁺ Mediated Arrhythmia. , 0, , .		2
36	Reconstruction of Atrial Ectopic Focal and Re:entrant Excitations from Body Surface Potentials: Insights from 3D Virtual Human Atria and Torso. , 0, , .		1

#	ARTICLE	IF	CITATIONS
37	Computational Modelling of Cardiac Electrophysiological Changes in Malarial Fever.. , 0, , .		1
38	Quantification of the effects of electrical remodeling due to hypertrophic cardiomyopathy on human ventricular electromechanical activity and energetics. , 2015, , .		0
39	Effects of cardiac structural remodelling during heart failure on cardiac excitation - insights from a heterogeneous 3D model of the rabbit atria. , 2015, , .		0
40	Trigger versus Substrate: Multi-Scale Considerations for Arrhythmia Modulation by Pharmacological Action. Biophysical Journal, 2018, 114, 291a.	0.5	0
41	Sub-cellular Heterogeneity in SERCA Determines Spatial Calcium Dynamics in Cardiomyocytes. Biophysical Journal, 2020, 118, 172a-173a.	0.5	0
42	Development of a New Model for Simulating the Electrical Action Potentials of Human Atrial Myocytes. Springer Theses, 2014, , 59-85.	0.1	0
43	The Effect of Bioenergetic Impairment of Cytosolic Processes in Spatio:Temporal Ca ²⁺ Dynamics in a Three:Dimensional Cardiomyocyte Model. , 0, , .		0
44	Inward Rectifier Current Downregulation Promotes Spontaneous Calcium Release in a Novel Model of Rat Ventricular Electrophysiology. , 0, , .		0
45	Role of Cardiac Microstructure Variability on Ventricular Arrhythmogenesis. , 0, , .		0
46	Modeling the Heart. , 2019, , 1-13.		0
47	Spectral Forms and Cosmic Storms. , 2020, , 68-69.		0