

# 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	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
2	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
3	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
4	The Multiple Mechanisms of Spatially Discordant Alternans in the Heart. <i>Biophysical Journal</i> , 2020, 118, 2336-2338.	0.5	8
5	Sub-cellular Heterogeneity in SERCA Determines Spatial Calcium Dynamics in Cardiomyocytes. <i>Biophysical Journal</i> , 2020, 118, 172a-173a.	0.5	0
6	Spectral Forms and Cosmic Storms. , 2020, , 68-69.		0
7	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
8	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
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	Dynamic clamping human and rabbit atrial calcium current: narrowing I <sub>CaL</sub> window abolishes early afterdepolarizations. <i>Journal of Physiology</i> , 2019, 597, 3619-3638.	2.9	20
11	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
12	Mechanistic insights from targeted molecular profiling of repolarization alternans in the intact human heart. <i>Europace</i> , 2019, 21, 981-989.	1.7	11
13	Modeling the Heart. , 2019, , 1-13.		0
14	Trigger versus Substrate: Multi-Scale Considerations for Arrhythmia Modulation by Pharmacological Action. <i>Biophysical Journal</i> , 2018, 114, 291a.	0.5	0
15	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
16	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
17	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
18	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

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19	A computational model of spatio-temporal cardiac intracellular calcium handling with realistic structure and spatial flux distribution from sarcoplasmic reticulum and t-tubule reconstructions. PLoS Computational Biology, 2017, 13, e1005714.	3.2	49
20	In silico assessment of genetic variation in KCNA5 reveals multiple mechanisms of human atrial arrhythmogenesis. PLoS Computational Biology, 2017, 13, e1005587.	3.2	32
21	Slow Conduction in the Border Zones of Patchy Fibrosis Stabilizes the Drivers for Atrial Fibrillation: Insights from Multi-Scale Human Atrial Modeling. Frontiers in Physiology, 2016, 7, 474.	2.8	109
22	Atrial Heterogeneity Generates Re-entrant Substrate during Atrial Fibrillation and Anti-arrhythmic Drug Action: Mechanistic Insights from Canine Atrial Models. PLoS Computational Biology, 2016, 12, e1005245.	3.2	67
23	Comparison of Electric- and Magnetic-Cardiograms Produced by Myocardial Ischemia in Models of the Human Ventricle and Torso. PLoS ONE, 2016, 11, e0160999.	2.5	25
24	In silico investigation of short QT syndrome-linked potassium channel mutations on electro-mechanical function of human atrial cells. , 2015, , .		24
25	From microscopic calcium sparks to the ECG: Model reduction approaches for multi-scale cardiac simulation. , 2015, , .		4
26	Quantification of the effects of electrical remodeling due to hypertrophic cardiomyopathy on human ventricular electromechanical activity and energetics. , 2015, , .		0
27	Effects of cardiac structural remodelling during heart failure on cardiac excitation - insights from a heterogeneous 3D model of the rabbit atria. , 2015, , .		0
28	Comparison of electric- and magnetic- cardiograms produced by myocardial ischemia in models of the human ventricle and torso. , 2015, , .		3
29	A New Algorithm to Diagnose Atrial Ectopic Origin from Multi Lead ECG Systems - Insights from 3D Virtual Human Atria and Torso. PLoS Computational Biology, 2015, 11, e1004026.	3.2	21
30	Recent progress in multi-scale models of the human atria. Drug Discovery Today: Disease Models, 2014, 14, 23-32.	1.2	9
31	Evolution and pharmacological modulation of the arrhythmogenic wave dynamics in canine pulmonary vein model. Europace, 2014, 16, 416-423.	1.7	37
32	Effects of human atrial ionic remodelling by $\beta$ -blocker therapy on mechanisms of atrial fibrillation: a computer simulation. Europace, 2014, 16, 1524-1533.	1.7	21
33	Mechanisms of Atrial Arrhythmias. Springer Theses, 2014, , .	0.1	2
34	Development of a New Model for Simulating the Electrical Action Potentials of Human Atrial Myocytes. Springer Theses, 2014, , 59-85.	0.1	0
35	Heterogeneous and anisotropic integrative model of pulmonary veins: computational study of arrhythmogenic substrate for atrial fibrillation. Interface Focus, 2013, 3, 20120069.	3.0	34
36	Pro-arrhythmogenic effects of atrial fibrillation-induced electrical remodelling: insights from the three-dimensional virtual human atria. Journal of Physiology, 2013, 591, 4249-4272.	2.9	152

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37	Arrhythmogenic substrate for atrial fibrillation: Insights from an integrative computational model of pulmonary veins. , 2012, 2012, 203-6.		5
38	Virtual tissue engineering of the human atrium: Modelling pharmacological actions on atrial arrhythmogenesis. European Journal of Pharmaceutical Sciences, 2012, 46, 209-221.	4.0	23
39	Correlation Between P-Wave Morphology and Origin of Atrial Focal Tachycardiaâ€”Insights From Realistic Models of the Human Atria and Torso. IEEE Transactions on Biomedical Engineering, 2011, 58, 2952-2955.	4.2	19
40	3D virtual human atria: A computational platform for studying clinical atrial fibrillation. Progress in Biophysics and Molecular Biology, 2011, 107, 156-168.	2.9	143
41	A New Model of the Human Atrial Myocyte with Variable T:tubule Organization for the Study of Atrial Fibrillation. , 0, , .		3
42	Reconstruction of Atrial Ectopic Focal and Re:entrant Excitations from Body Surface Potentials: Insights from 3D Virtual Human Atria and Torso. , 0, , .		1
43	Computational Modelling of Cardiac Electrophysiological Changes in Malarial Fever.. , 0, , .		1
44	A Novel Model of the Rabbit Atrial Myocyte for the Study of Ca <sup>2+</sup> Mediated Arrhythmia. , 0, , .		2
45	The Effect of Bioenergetic Impairment of Cytosolic Processes in Spatio:Temporal Ca <sup>2+</sup> Dynamics in a Three:Dimensional Cardiomyocyte Model. , 0, , .		0
46	Inward Rectifier Current Downregulation Promotes Spontaneous Calcium Release in a Novel Model of Rat Ventricular Electrophysiology. , 0, , .		0
47	Role of Cardiac Microstructure Variability on Ventricular Arrhythmogenesis. , 0, , .		0