Steven Niederer

List of Publications by Year
in descending order

247 papers	6,729 citations	66343 42 h-index	98798 67 g-index
256 all docs	256 docs citations	256 times ranked	4764 citing authors

#	Article	IF	Citations
1	The â€˜Digital Twinâ€™ to enable the vision of precision cardiology. European Heart Journal, 2020, 41, 4556-4564.	2.2	319
2	Verification of cardiac tissue electrophysiology simulators using an <i>N</i> -version benchmark. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2011, 369, 4331-4351.	3.4	253
3	Computational models in cardiology. Nature Reviews Cardiology, 2019, 16, 100-111.	13.7	239
4	A Quantitative Analysis of Cardiac Myocyte Relaxation: A Simulation Study. Biophysical Journal, 2006, 90, 1697-1722.	0.5	182
5	Coupling multi-physics models to cardiac mechanics. Progress in Biophysics and Molecular Biology, 2011, 104, 77-88.	2.9	147
6	Cardiac cell modelling: Observations from the heart of the cardiac physiome project. Progress in Biophysics and Molecular Biology, 2011, 104, 2-21.	2.9	139
7	Length-dependent tension in the failing heart and the efficacy of cardiac resynchronization therapy. Cardiovascular Research, 2011, 89, 336-343.	3.8	133
8	Anatomically accurate high resolution modeling of human whole heart electromechanics: A strongly scalable algebraic multigrid solver method for nonlinear deformation. Journal of Computational Physics, 2016, 305, 622-646.	3.8	115
9	A metaâ€analysis of cardiac electrophysiology computational models. Experimental Physiology, 2009, 94, 486-495.	2.0	109
10	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
11	Simulating Human Cardiac Electrophysiology on Clinical Time-Scales. Frontiers in Physiology, 2011, 2, 14.	2.8	105
12	Scaling digital twins from the artisanal to the industrial. Nature Computational Science, 2021, 1, 313-320.	8.0	104
13	A Mathematical Model of the Slow Force Response to Stretch in Rat Ventricular Myocytes. Biophysical Journal, 2007, 92, 4030-4044.	0.5	100
14	An improved numerical method for strong coupling of excitation and contraction models in the heart. Progress in Biophysics and Molecular Biology, 2008, 96, 90-111.	2.9	98
15	A model of cardiac contraction based on novel measurements of tension development in human cardiomyocytes. Journal of Molecular and Cellular Cardiology, 2017, 106, 68-83.	1.9	94
16	An accurate, fast and robust method to generate patient-specific cubic Hermite meshes. Medical Image Analysis, 2011, 15, 801-813.	11.6	92
17	The estimation of patient-specific cardiac diastolic functions from clinical measurements. Medical Image Analysis, 2013, 17, 133-146.	11.6	91
18	Factors influencing left ventricular outflow tract obstruction following a mitral valveâ€inâ€valve or valveâ€inâ€ring procedure, part 1. Catheterization and Cardiovascular Interventions, 2015, 86, 747-760.	1.7	83

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19	Verification of cardiac mechanics software: benchmark problems and solutions for testing active and passive material behaviour. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2015, 471, 20150641.	2.1	80
20	A comparison of left ventricular endocardial, multisite, and multipolar epicardial cardiac resynchronization: an acute haemodynamic and electroanatomical study. Europace, 2014, 16, 873-879.	1.7	76
21	An analysis of deformationâ€dependent electromechanical coupling in the mouse heart. Journal of Physiology, 2012, 590, 4553-4569.	2.9	73
22	Biophysical Modeling to Simulate the Response to Multisite Left Ventricular Stimulation Using a Quadripolar Pacing Lead. PACE - Pacing and Clinical Electrophysiology, 2012, 35, 204-214.	1.2	72
23	Modeling the Electrophysiological Properties of the Infarct Border Zone. Frontiers in Physiology, 2018, 9, 356.	2.8	72
24	The role of myocardial wall thickness in atrial arrhythmogenesis. Europace, 2016, 18, euw014.	1.7	65
25	Three-dimensional atrial wall thickness maps to inform catheter ablation procedures for atrial fibrillation. Europace, 2016, 18, 376-383.	1.7	59
26	Universal atrial coordinates applied to visualisation, registration and construction of patient specific meshes. Medical Image Analysis, 2019, 55, 65-75.	11.6	59
27	A publicly available virtual cohort of four-chamber heart meshes for cardiac electro-mechanics simulations. PLoS ONE, 2020, 15, e0235145.	2.5	59
28	The Role of the Frankâ€"Starling Law in the Transduction of Cellular Work to Whole Organ Pump Function: A Computational Modeling Analysis. PLoS Computational Biology, 2009, 5, e1000371.	3.2	55
29	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
30	An automatic service for the personalization of ventricular cardiac meshes. Journal of the Royal Society Interface, 2014, 11, 20131023.	3.4	52
31	Efficient Computational Methods for Strongly Coupled Cardiac Electromechanics. IEEE Transactions on Biomedical Engineering, 2012, 59, 1219-1228.	4.2	51
32	Creation and application of virtual patient cohorts of heart models. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2020, 378, 20190558.	3.4	50
33	Optimized Left Ventricular Endocardial StimulationÂIs Superior to Optimized EpicardialÂStimulation in Ischemic Patients WithÂPoor Response to Cardiac ResynchronizationÂTherapy. JACC: Clinical Electrophysiology, 2016, 2, 799-809.	3.2	48
34	Image-Based Personalization of Cardiac Anatomy for Coupled Electromechanical Modeling. Annals of Biomedical Engineering, 2016, 44, 58-70.	2.5	48
35	Comprehensive use of cardiac computed tomography to guide left ventricular lead placement in cardiac resynchronization therapy. Heart Rhythm, 2017, 14, 1364-1372.	0.7	48
36	Computational Modeling for Cardiac Resynchronization Therapy. Journal of Cardiovascular Translational Research, 2018, 11, 92-108.	2.4	48

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37	Images as drivers of progress in cardiac computational modelling. Progress in Biophysics and Molecular Biology, 2014, 115, 198-212.	2.9	47
38	Beneficial Effect on Cardiac Resynchronization From Left Ventricular Endocardial Pacing Is Mediated by Early Access to High Conduction Velocity Tissue. Circulation: Arrhythmia and Electrophysiology, 2015, 8, 1164-1172.	4.8	47
39	Using Physiome standards to couple cellular functions for rat cardiac excitationâ€“contraction. Experimental Physiology, 2008, 93, 919-929.	2.0	46
40	High-throughput functional curation of cellular electrophysiology models. Progress in Biophysics and Molecular Biology, 2011, 107, 11-20.	2.9	46
41	Personalized computational modeling of left atrial geometry and transmural myofiber architecture. Medical Image Analysis, 2018, 47, 180-190.	11.6	46
42	Computational biology of cardiac myocytes: proposed standards for the physiome. Journal of Experimental Biology, 2007, 210, 1576-1583.	1.7	45
43	Coupling contraction, excitation, ventricular and coronary blood flow across scale and physics in the heart. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2009, 367, 2311-2331.	3.4	45
44	Restitution slope is principally determined by steady-state action potential duration. Cardiovascular Research, 2017, 113, 817-828.	3.8	45
45	Constructing a Human Atrial Fibre Atlas. Annals of Biomedical Engineering, 2021, 49, 233-250.	2.5	45
46	A short history of the development of mathematical models of cardiac mechanics. Journal of Molecular and Cellular Cardiology, 2019, 127, 11-19.	1.9	44
47	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
48	Mechanistic insights into the benefits of multisite pacing in cardiac resynchronization therapy: The importance of electrical substrate and rate of left ventricular activation. Heart Rhythm, 2015, 12, 2449-2457.	0.7	43
49	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
50	A prospective evaluation of cardiovascular magnetic resonance measures of dyssynchrony in the prediction of response to cardiac resynchronization therapy. Journal of Cardiovascular Magnetic Resonance, 2014, 16, 58.	3.3	41
51	Linking statistical shape models and simulated function in the healthy adult human heart. PLoS Computational Biology, 2021, 17, e1008851.	3.2	41
52	A technique for measuring anisotropy in atrial conduction to estimate conduction velocity and atrial fibre direction. Computers in Biology and Medicine, 2019, 104, 278-290.	7.0	40
53	Sodium Accumulation in SERCA Knockout-Induced Heart Failure. Biophysical Journal, 2012, 102, 2039-2048.	0.5	39
54	Hypokalaemia induces Ca²⁺ overload and Ca²⁺ waves in ventricular myocytes by reducing Na⁺,K⁺â€ATPase Î±₂ activity. Journal of Physiology, 2015, 593, 1509-1521.	2.9	38

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55	The relative role of patient physiology and device optimisation in cardiac resynchronisation therapy: A computational modelling study. Journal of Molecular and Cellular Cardiology, 2016, 96, 93-100.	1.9	38
56	Patient-specific simulations predict efficacy of ablation of interatrial connections for treatment of persistent atrial fibrillation. Europace, 2018, 20, iii55-iii68.	1.7	38
57	Analysis of a coupled fluidâ€structure interaction model of the left atrium and mitral valve. International Journal for Numerical Methods in Biomedical Engineering, 2019, 35, e3254.	2.1	38
58	In silico Comparison of Left Atrial Ablation Techniques That Target the Anatomical, Structural, and Electrical Substrates of Atrial Fibrillation. Frontiers in Physiology, 2020, 11, 1145.	2.8	38
59	CemrgApp: An interactive medical imaging application with image processing, computer vision, and machine learning toolkits for cardiovascular research. SoftwareX, 2020, 12, 100570.	2.6	38
60	A work flow to build and validate patient specific left atrium electrophysiology models from catheter measurements. Medical Image Analysis, 2018, 47, 153-163.	11.6	36
61	Inter-model consistency and complementarity: Learning from ex-vivo imaging and electrophysiological data towards an integrated understanding of cardiac physiology. Progress in Biophysics and Molecular Biology, 2011, 107, 122-133.	2.9	35
62	The calciumâ€"frequency response in the rat ventricular myocyte: an experimental and modelling study. Journal of Physiology, 2016, 594, 4193-4224.	2.9	35
63	Unraveling the Underlying Arrhythmia Mechanism in Persistent Atrial Fibrillation. Circulation: Arrhythmia and Electrophysiology, 2018, 11, e005897.	4.8	35
64	Machine Learned Cellular Phenotypes in Cardiomyopathy Predict Sudden Death. Circulation Research, 2021, 128, 172-184.	4.5	35
65	Measuring and Modeling Chloride-Hydroxyl Exchange in the Guinea-Pig Ventricular Myocyte. Biophysical Journal, 2008, 94, 2385-2403.	0.5	34
66	Transcatheter mitral valve replacement in mitral annulus calcification â€" â€œThe art of computer simulationâ€• Journal of Cardiovascular Computed Tomography, 2018, 12, 153-157.	1.3	33
67	Mechanism of doxorubicin cardiotoxicity evaluated by integrating multiple molecular effects into a biophysical model. British Journal of Pharmacology, 2018, 175, 763-781.	5.4	32
68	Predicting Atrial Fibrillation Recurrence by Combining Population Data and Virtual Cohorts of Patient-Specific Left Atrial Models. Circulation: Arrhythmia and Electrophysiology, 2022, 15, CIRCEP121010253.	4.8	32
69	Rem-GTPase regulates cardiac myocyte L-type calcium current. Channels, 2012, 6, 166-173.	2.8	31
70	Influence of atrial contraction dynamics on cardiac function. International Journal for Numerical Methods in Biomedical Engineering, 2018, 34, e2931.	2.1	31
71	Predicting left ventricular contractile function via Gaussian process emulation in aortic-banded rats. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2020, 378, 20190334.	3.4	31
72	Hypokalemia Promotes Arrhythmia by Distinct Mechanisms in Atrial and Ventricular Myocytes. Circulation Research, 2020, 126, 889-906.	4.5	31

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73	Methodologies for Quantitative Systems Pharmacology (QSP) Models: Design and Estimation. CPT: Pharmacometrics and Systems Pharmacology, 2017, 6, 496-498.	2.5	29
74	A Spatially Detailed Model of Isometric Contraction Based on Competitive Binding of Troponin I Explains Cooperative Interactions between Tropomyosin and Crossbridges. PLoS Computational Biology, 2015, 11, e1004376.	3.2	29
75	Personalized Models of Human Atrial Electrophysiology Derived From Endocardial Electrograms. IEEE Transactions on Biomedical Engineering, 2017, 64, 735-742.	4.2	28
76	Bringing in vitro analysis closer to in vivo: Studying doxorubicin toxicity and associated mechanisms in 3D human microtissues with PBPK-based dose modelling. Toxicology Letters, 2018, 294, 184-192.	0.8	28
77	Network integration and modelling of dynamic drug responses at multi-omics levels. Communications Biology, 2020, 3, 573.	4.4	28
78	Determinants of new wavefront locations in cholinergic atrial fibrillation. Europace, 2018, 20, iii3-iii15.	1.7	27
79	Calcium Dynamics in the Ventricular Myocytes of SERCA2 Knockout Mice: A Modeling Study. Biophysical Journal, 2011, 100, 322-331.	0.5	26
80	Improved identifiability of myocardial material parameters by an energy-based cost function. Biomechanics and Modeling in Mechanobiology, 2017, 16, 971-988.	2.8	26
81	Biophysical Modeling to Determine the Optimization of Left Ventricular Pacing Site and AV/VV Delays in the Acute and Chronic Phase of Cardiac Resynchronization Therapy. Journal of Cardiovascular Electrophysiology, 2017, 28, 208-215.	1.7	25
82	Reproducibility of Atrial Fibrosis Assessment Using CMR Imaging and an Open Source Platform. JACC: Cardiovascular Imaging, 2019, 12, 2076-2077.	5.3	25
83	Standardised Framework for Quantitative Analysis of Fibrillation Dynamics. Scientific Reports, 2019, 9, 16671.	3.3	25
84	Computational modeling of Takotsubo cardiomyopathy: effect of spatially varying Î²-adrenergic stimulation in the rat left ventricle. American Journal of Physiology - Heart and Circulatory Physiology, 2014, 307, H1487-H1496.	3.2	24
85	A two-variable model robust to pacemaker behaviour for the dynamics of the cardiac action potential. Mathematical Biosciences, 2016, 281, 46-54.	1.9	24
86	Left ventricular outflow obstruction predicts increase in systolic pressure gradients and blood residence time after transcatheter mitral valve replacement. Scientific Reports, 2018, 8, 15540.	3.3	24
87	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
88	A Biophysical Systems Approach to Identifying the Pathways of Acute and Chronic Doxorubicin Mitochondrial Cardiotoxicity. PLoS Computational Biology, 2016, 12, e1005214.	3.2	24
89	At the heart of computational modelling. Journal of Physiology, 2012, 590, 1331-1338.	2.9	23
90	A model-based assay design to reproduce in vivo patterns of acute drug-induced toxicity. Archives of Toxicology, 2018, 92, 553-555.	4.2	23

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91	Emerging role of cardiac computed tomography in heart failure. ESC Heart Failure, 2019, 6, 909-920.	3.1	23
92	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
93	Gaussian process manifold interpolation for probabilistic atrial activation maps and uncertain conduction velocity. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2020, 378, 20190345.	3.4	23
94	Regulation of Ion Gradients across Myocardial Ischemic Border Zones: A Biophysical Modelling Analysis. PLoS ONE, 2013, 8, e60323.	2.5	22
95	Regional diastolic dysfunction in post-infarction heart failure: role of local mechanical load and SERCA expression. Cardiovascular Research, 2019, 115, 752-764.	3.8	22
96	A multicenter prospective randomized controlled trial of cardiac resynchronization therapy guided by invasive dP/dt. Heart Rhythm O2, 2021, 2, 19-27.	1.7	22
97	Normoxic cells remotely regulate the acidâ€base balance of cells at the hypoxic core of connexinâ€coupled tumor growths. FASEB Journal, 2018, 32, 83-96.	0.5	21
98	Quantifying atrial anatomy uncertainty from clinical data and its impact on electro-physiology simulation predictions. Medical Image Analysis, 2020, 61, 101626.	11.6	21
99	Completely Leadless Cardiac Resynchronization Defibrillator System. JACC: Clinical Electrophysiology, 2020, 6, 588-589.	3.2	21
100	Energetic consequences of mechanical loads. Progress in Biophysics and Molecular Biology, 2008, 97, 348-366.	2.9	20
101	Quality Metrics for High Order Meshes: Analysis of the Mechanical Simulation of the Heart Beat. IEEE Transactions on Medical Imaging, 2013, 32, 130-138.	8.9	20
102	Electrocardiographic imaging for cardiac arrhythmias and resynchronization therapy. Europace, 2020, 22, 1447-1462.	1.7	20
103	Analyses of the Redistribution of Work following Cardiac Resynchronisation Therapy in a Patient Specific Model. PLoS ONE, 2012, 7, e43504.	2.5	20
104	Intra-Atrial Conduction Delay Revealed by Multisite Incremental Atrial Pacing is an Independent Marker of Remodeling in Human Atrial Fibrillation. JACC: Clinical Electrophysiology, 2017, 3, 1006-1017.	3.2	19
105	The effect of activation rate on left atrial bipolar voltage in patients with paroxysmal atrial fibrillation. Journal of Cardiovascular Electrophysiology, 2017, 28, 1028-1036.	1.7	19
106	A Quantitative Systems Pharmacology Perspective on the Importance of Parameter Identifiability. Bulletin of Mathematical Biology, 2022, 84, 39.	1.9	19
107	Probabilistic Interpolation of Uncertain Local Activation Times on Human Atrial Manifolds. IEEE Transactions on Biomedical Engineering, 2020, 67, 99-109.	4.2	18
108	Beta-Adrenergic Stimulation Maintains Cardiac Function in Serca2 Knockout Mice. Biophysical Journal, 2013, 104, 1349-1356.	0.5	17

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109	Analytical approaches for myocardial fibrillation signals. Computers in Biology and Medicine, 2018, 102, 315-326.	7.0	17
110	A comprehensive multiâ€index cardiac magnetic resonanceâ€guided assessment of atrial fibrillation substrate prior to ablation: Prediction of longâ€term outcomes. Journal of Cardiovascular Electrophysiology, 2019, 30, 1894-1903.	1.7	17
111	Pulmonary vein encirclement using an Ablation Index-guided point-by-point workflow: cardiovascular magnetic resonance assessment of left atrial scar formation. Europace, 2019, 21, 1817-1823.	1.7	17
112	Left atrial effective conducting size predicts atrial fibrillation vulnerability in persistent but not paroxysmal atrial fibrillation. Journal of Cardiovascular Electrophysiology, 2019, 30, 1416-1427.	1.7	17
113	The fickle heart: uncertainty quantification in cardiac and cardiovascular modelling and simulation. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2020, 378, 20200119.	3.4	17
114	Leadless left ventricular endocardial pacing in nonresponders to conventional cardiac resynchronization therapy. PACE - Pacing and Clinical Electrophysiology, 2020, 43, 966-973.	1.2	17
115	Genotype-phenotype map characteristics of an in silico heart cell. Frontiers in Physiology, 2011, 2, 106.	2.8	16
116	Share and enjoy: anatomical models databaseâ€"generating and sharing cardiovascular model data using web services. Medical and Biological Engineering and Computing, 2013, 51, 1181-1190.	2.8	16
117	Using physiologically based models for clinical translation: predictive modelling, data interpretation or something inâ€between?. Journal of Physiology, 2016, 594, 6849-6863.	2.9	16
118	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
119	Modelling and measuring electromechanical coupling in the rat heart. Experimental Physiology, 2009, 94, 529-540.	2.0	15
120	Delayed Trans-Septal Activation Results in Comparable Hemodynamic Effect of Left Ventricular and Biventricular Endocardial Pacing. Circulation: Arrhythmia and Electrophysiology, 2014, 7, 251-258.	4.8	15
121	Factors determining the magnitude of the pre-ejection leftward septal motion in left bundle branch block. Europace, 2015, 18, euv381.	1.7	15
122	Improving the Stability of Cardiac Mechanical Simulations. IEEE Transactions on Biomedical Engineering, 2015, 62, 939-947.	4.2	15
123	A simulated single ventilator/dual patient ventilation strategy for acute respiratory distress syndrome during the COVID-19 pandemic. Royal Society Open Science, 2020, 7, 200585.	2.4	15
124	Fully Automatic Atrial Fibrosis Assessment Using a Multilabel Convolutional Neural Network. Circulation: Cardiovascular Imaging, 2020, 13, e011512.	2.6	15
125	Current concepts relating coronary flow, myocardial perfusion and metabolism in left bundle branch block and cardiac resynchronisation therapy. International Journal of Cardiology, 2015, 181, 65-72.	1.7	14
126	Sex-Dependent QRS Guidelines for Cardiac Resynchronization Therapy Using Computer Model Predictions. Biophysical Journal, 2019, 117, 2375-2381.	0.5	14

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127	Feasibility of intraprocedural integration of cardiac CT to guide left ventricular lead implantation for CRT upgrades. Journal of Cardiovascular Electrophysiology, 2021, 32, 802-812.	1.7	14
128	Personalization of Cubic Hermite Meshes for Efficient Biomechanical Simulations. Lecture Notes in Computer Science, 2010, 13, 380-387.	1.3	14
129	An Automatic Data Assimilation Framework for Patient-Specific Myocardial Mechanical Parameter Estimation. Lecture Notes in Computer Science, 2011, , 392-400.	1.3	14
130	Speciesâ€dependent adaptation of the cardiac Na⁺/K⁺ pump kinetics to the intracellular Na⁺ concentration. Journal of Physiology, 2014, 592, 5355-5371.	2.9	13
131	A computational pipeline for quantification of mouse myocardial stiffness parameters. Computers in Biology and Medicine, 2014, 53, 65-75.	7.0	13
132	Local activation time sampling density for atrial tachycardia contact mapping: how much is enough?. Europace, 2018, 20, e11-e20.	1.7	13
133	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
134	Combined computed tomographic perfusion and mechanics with predicted activation pattern can successfully guide implantation of a wireless endocardial pacing system. Europace, 2020, 22, 298.	1.7	13
135	Leadless left ventricular endocardial pacing for CRT upgrades in previously failed and high-risk patients in comparison with coronary sinus CRT upgrades. Europace, 2021, 23, 1577-1585.	1.7	13
136	OpenEP: A Cross-Platform Electroanatomic Mapping Data Format and Analysis Platform for Electrophysiology Research. Frontiers in Physiology, 2021, 12, 646023.	2.8	13
137	Global Sensitivity Analysis of Four Chamber Heart Hemodynamics Using Surrogate Models. IEEE Transactions on Biomedical Engineering, 2022, 69, 3216-3223.	4.2	13
138	Leadless left ventricular endocardial pacing for cardiac resynchronization therapy: A systematic review and meta-analysis. Heart Rhythm, 2022, 19, 1176-1183.	0.7	13
139	Automated quantification of mitral valve geometry on multi-slice computed tomography in patients with dilated cardiomyopathy â€“ Implications for transcatheter mitral valve replacement. Journal of Cardiovascular Computed Tomography, 2018, 12, 329-337.	1.3	12
140	Automated Left Ventricle Ischemic Scar Detection in CT Using Deep Neural Networks. Frontiers in Cardiovascular Medicine, 2021, 8, 655252.	2.4	12
141	Electrocardiographic imaging of His bundle, left bundle branch, epicardial, and endocardial left ventricular pacing to achieve cardiac resynchronization therapy. HeartRhythm Case Reports, 2020, 6, 460-463.	0.4	12
142	Increased atrial effectiveness of flecainide conferred by altered biophysical properties of sodium channels. Journal of Molecular and Cellular Cardiology, 2022, 166, 23-35.	1.9	12
143	Quantifying interâ€species differences in contractile function through biophysical modelling. Journal of Physiology, 2015, 593, 1083-1111.	2.9	11
144	Improvement of Right Ventricular Hemodynamics with Left Ventricular Endocardial Pacing during Cardiac Resynchronization Therapy. PACE - Pacing and Clinical Electrophysiology, 2016, 39, 531-541.	1.2	11

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145	Compensatory and decompensatory alterations in cardiomyocyte Ca²⁺ dynamics in hearts with diastolic dysfunction following aortic banding. Journal of Physiology, 2017, 595, 3867-3889.	2.9	11
146	Computational modeling identifies embolic stroke of undetermined source patients with potential arrhythmic substrate. ELife, 2021, 10, .	6.0	11
147	Integrating multi-scale data to create a virtual physiological mouse heart. Interface Focus, 2013, 3, 20120076.	3.0	10
148	Cardiac CT assessment of tissue thickness at the ostium of the left atrial appendage predicts acute success of radiofrequency ablation. PACE - Pacing and Clinical Electrophysiology, 2017, 40, 1218-1226.	1.2	10
149	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
150	Multipoint pacing for cardiac resynchronisation therapy in patients with heart failure: A systematic review and metaâ€analysis. Journal of Cardiovascular Electrophysiology, 2021, 32, 2577-2589.	1.7	10
151	Technical feasibility of leadless left bundle branch area pacing for cardiac resynchronisation: a case series. European Heart Journal - Case Reports, 2021, 5, ytab379.	0.6	10
152	A Computational Model of Cardiac Electromechanics. , 2006, 2006, 5311-4.		9
153	Vagal modulation of dispersion of repolarisation in the rabbit heart. Journal of Molecular and Cellular Cardiology, 2015, 85, 89-101.	1.9	9
154	Evaluation of a real-time magnetic resonance imaging-guided electrophysiology system for structural and electrophysiological ventricular tachycardia substrate assessment. Europace, 2019, 21, 1432-1441.	1.7	9
155	Using machine learning to identify local cellular properties that support re-entrant activation in patient-specific models of atrial fibrillation. Europace, 2021, 23, i12-i20.	1.7	9
156	The Importance of Model Parameters and Boundary Conditions in Whole Organ Models of Cardiac Contraction. Lecture Notes in Computer Science, 2009, , 348-356.	1.3	9
157	On the incorporation of obstacles in a fluid flow problem using a Navierâ€“Stokesâ€“Brinkman penalization approach. Journal of Computational Science, 2022, 57, 101506.	2.9	9
158	Optimal Thinning of MCMC Output. Journal of the Royal Statistical Society Series B: Statistical Methodology, 2022, 84, 1059-1081.	2.2	9
159	CArdiac MagnEtic resonance assessment of bi-Atrial fibrosis in secundum atrial septal defects patients: CAMERA-ASD study. European Heart Journal Cardiovascular Imaging, 2022, 23, 1231-1239.	1.2	8
160	Modelling the interaction between stem cells derived cardiomyocytes patches and host myocardium to aid non-arrhythmic engineered heart tissue design. PLoS Computational Biology, 2022, 18, e1010030.	3.2	8
161	Analysis of lead placement optimization metrics in cardiac resynchronization therapy with computational modelling. Europace, 2016, 18, iv113-iv120.	1.7	7
162	Non-invasive electrophysiological assessment of the optimal configuration of quadripolar lead vectors on ventricular activation times. Journal of Electrocardiology, 2018, 51, 714-719.	0.9	7

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163	Comparison of Echocardiographic and Electrocardiographic Mapping for Cardiac Resynchronisation Therapy Optimisation. Cardiology Research and Practice, 2019, 2019, 1-9.	1.1	7
164	Applications of multimodality imaging for left atrial catheter ablation. European Heart Journal Cardiovascular Imaging, 2021, 23, 31-41.	1.2	7
165	Generic Conduction Parameters for Predicting Activation Waves in Customised Cardiac Electrophysiology Models. Lecture Notes in Computer Science, 2010, , 252-260.	1.3	7
166	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
167	Changes in contractility determine coronary haemodynamics in dyssynchronous left ventricular heart failure, not vice versa. IJC Heart and Vasculature, 2018, 19, 8-13.	1.1	6
168	Balance of Active, Passive, and Anatomical Cardiac Properties in Doxorubicin-Induced Heart Failure. Biophysical Journal, 2019, 117, 2337-2348.	0.5	6
169	Economic evaluation of a dedicated cardiac resynchronisation therapy preassessment clinic. Open Heart, 2020, 7, e001249.	2.3	6
170	Tracking the motion of intracardiac structures aids the development of future leadless pacing systems. Journal of Cardiovascular Electrophysiology, 2020, 31, 2431-2439.	1.7	6
171	Noninvasive electrocardiographic assessment of ventricular activation and remodeling response to cardiac resynchronization therapy. Heart Rhythm O2, 2021, 2, 12-18.	1.7	6
172	Bayesian Calibration of Electrophysiology Models Using Restitution Curve Emulators. Frontiers in Physiology, 2021, 12, 693015.	2.8	6
173	Using cardiac ionic cell models to interpret clinical data. WIREs Mechanisms of Disease, 2021, 13, e1508.	3.3	6
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175	A comparison of the different features of quadripolar left ventricular pacing leads to deliver cardiac resynchronization therapy. Expert Review of Medical Devices, 2017, 14, 697-706.	2.8	5
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