Andrew D Mcculloch

List of Publications by Year
in descending order

185 papers	10,666 citations	34105 52 h-index	36028 97 g-index
189 all docs	189 docs citations	189 times ranked	10083 citing authors

#	Article	IF	Citations
1	Stress-dependent finite growth in soft elastic tissues. Journal of Biomechanics, 1994, 27, 455-467.	2.1	1,225
2	The Cardiac Mechanical Stretch Sensor Machinery Involves a Z Disc Complex that Is Defective in a Subset of Human Dilated Cardiomyopathy. Cell, 2002, 111, 943-955.	28.9	712
3	Finite element stress analysis of left ventricular mechanics in the beating dog heart. Journal of Biomechanics, 1995, 28, 1167-1177.	2.1	298
4	Three-dimensional analysis of regional cardiac function: a model of rabbit ventricular anatomy. Progress in Biophysics and Molecular Biology, 1998, 69, 157-183.	2.9	248
5	Angiotensin II stimulates the autocrine production of transforming growth factor-Î²1 in adult rat cardiac fibroblasts. Journal of Molecular and Cellular Cardiology, 1995, 27, 2347-2357.	1.9	239
6	Research Priorities for Heart Failure With Preserved Ejection Fraction. Circulation, 2020, 141, 1001-1026.	1.6	239
7	Coupling of a 3D Finite Element Model of Cardiac Ventricular Mechanics to Lumped Systems Models of the Systemic and Pulmonic Circulation. Annals of Biomedical Engineering, 2006, 35, 1-18.	2.5	226
8	An FHL1-containing complex within the cardiomyocyte sarcomere mediates hypertrophic biomechanical stress responses in mice. Journal of Clinical Investigation, 2008, 118, 3870-3880.	8.2	211
9	Laminar fiber architecture and three-dimensional systolic mechanics in canine ventricular myocardium. American Journal of Physiology - Heart and Circulatory Physiology, 1999, 276, H595-H607.	3.2	204
10	Modeling Î²-Adrenergic Control of Cardiac Myocyte Contractility in Silico. Journal of Biological Chemistry, 2003, 278, 47997-48003.	3.4	202
11	Title is missing!. Journal of Elasticity, 2000, 61, 143-164.	1.9	185
12	Anisotropic stretch-induced hypertrophy in neonatal ventricular myocytes micropatterned on deformable elastomers. Biotechnology and Bioengineering, 2003, 81, 578-587.	3.3	183
13	Patient-specific models of cardiac biomechanics. Journal of Computational Physics, 2013, 244, 4-21.	3.8	160
14	Mechanical regulation of cardiac fibroblast profibrotic phenotypes. Molecular Biology of the Cell, 2017, 28, 1871-1882.	2.1	160
15	Computational model of three-dimensional cardiac electromechanics. Computing and Visualization in Science, 2002, 4, 249-257.	1.2	141
16	Automated measurement of myofiber disarray in transgenic mice with ventricular expression ofras. , 1998, 252, 612-625.		139
17	Differential Responses of Adult Cardiac Fibroblasts to in vitro Biaxial Strain Patterns. Journal of Molecular and Cellular Cardiology, 1999, 31, 1833-1843.	1.9	139
18	Myocardial Mechanics and Collagen Structure in the Osteogenesis Imperfecta Murine (<i>oim</i>). Circulation Research, 2000, 87, 663-669.	4.5	137

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19	Flux-balance analysis of mitochondrial energy metabolism: consequences of systemic stoichiometric constraints. American Journal of Physiology - Regulatory Integrative and Comparative Physiology, 2001, 280, R695-R704.	1.8	136
20	Mechanical regulation of gene expression in cardiac myocytes and fibroblasts. Nature Reviews Cardiology, 2019, 16, 361-378.	13.7	134
21	Systems analysis of PKA-mediated phosphorylation gradients in live cardiac myocytes. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 12923-12928.	7.1	132
22	Mouse and computational models link Mlc2v dephosphorylation to altered myosin kinetics in early cardiac disease. Journal of Clinical Investigation, 2012, 122, 1209-1221.	8.2	131
23	The Soft- and Hard-Heartedness of Cardiac Fibroblasts: Mechanotransduction Signaling Pathways in Fibrosis of the Heart. Journal of Clinical Medicine, 2017, 6, 53.	2.4	128
24	Measurement of strain and analysis of stress in resting rat left ventricular myocardium. Journal of Biomechanics, 1993, 26, 665-676.	2.1	127
25	HIF1Î± Represses Cell Stress Pathways to Allow Proliferation of Hypoxic Fetal Cardiomyocytes. Developmental Cell, 2015, 33, 507-521.	7.0	123
26	Targeted Ablation of Nesprin 1 and Nesprin 2 from Murine Myocardium Results in Cardiomyopathy, Altered Nuclear Morphology and Inhibition of the Biomechanical Gene Response. PLoS Genetics, 2014, 10, e1004114.	3.5	120
27	Age-Associated Cardiac Dysfunction in <i>Drosophila melanogaster</i>. Circulation Research, 2001, 88, 1053-1058.	4.5	118
28	Three-Dimensional Stress and Strain in Passive Rabbit Left Ventricle: A Model Study. Annals of Biomedical Engineering, 2000, 28, 781-792.	2.5	114
29	Patient-specific modeling of dyssynchronous heart failure: A case study. Progress in Biophysics and Molecular Biology, 2011, 107, 147-155.	2.9	113
30	Proarrhythmic Consequences of a KCNQ1 AKAP-Binding Domain Mutation. Circulation Research, 2004, 95, 1216-1224.	4.5	110
31	A single strain-based growth law predicts concentric and eccentric cardiac growth during pressure and volume overload. Mechanics Research Communications, 2012, 42, 40-50.	1.8	102
32	A more efficient search strategy for aging genes based on connectivity. Bioinformatics, 2005, 21, 338-348.	4.1	95
33	Biomechanics of Cardiac Electromechanical Coupling and Mechanoelectric Feedback. Journal of Biomechanical Engineering, 2014, 136, 021007.	1.3	94
34	Measurement of Orientation and Distribution of Cellular Alignment and Cytoskeletal Organization. Annals of Biomedical Engineering, 1999, 27, 712-720.	2.5	93
35	Systems approaches and algorithms for discovery of combinatorial therapies. Wiley Interdisciplinary Reviews: Systems Biology and Medicine, 2010, 2, 181-193.	6.6	91
36	A Novel Mechanism Involving Four-and-a-half LIM Domain Protein-1 and Extracellular Signal-regulated Kinase-2 Regulates Titin Phosphorylation and Mechanics. Journal of Biological Chemistry, 2012, 287, 29273-29284.	3.4	89

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37	Non-homogeneous analysis of three-dimensional transmural finite deformation in canine ventricular myocardium. Journal of Biomechanics, 1991, 24, 539-548.	2.1	86
38	Glycated collagen cross-linking alters cardiac mechanics in volume-overload hypertrophy. American Journal of Physiology - Heart and Circulatory Physiology, 2003, 284, H1277-H1284.	3.2	83
39	Coupling of Adjacent Tropomyosins Enhances Cross-Bridge-Mediated Cooperative Activation in a Markov Model of the Cardiac Thin Filament. Biophysical Journal, 2010, 98, 2254-2264.	0.5	79
40	Effects of biventricular pacing and scar size in a computational model of the failing heart with left bundle branch block. Medical Image Analysis, 2009, 13, 362-369.	11.6	78
41	Connexin defects underlie arrhythmogenic right ventricular cardiomyopathy in a novel mouse model. Human Molecular Genetics, 2014, 23, 1134-1150.	2.9	78
42	Direct 3D bioprinting of cardiac micro-tissues mimicking native myocardium. Biomaterials, 2020, 256, 120204.	11.4	72
43	Structural contributions to fibrillatory rotors in a patient-derived computational model of the atria. Europace, 2014, 16, iv3-iv10.	1.7	70
44	Mechanistic systems models of cell signaling networks: a case study of myocyte adrenergic regulation. Progress in Biophysics and Molecular Biology, 2004, 85, 261-278.	2.9	66
45	Systems Approach to Understanding Electromechanical Activity in the Human Heart. Circulation, 2008, 118, 1202-1211.	1.6	66
46	Nonhomogeneous analysis of epicardial strain distributions during acute myocardial ischemia in the dog. Journal of Biomechanics, 1993, 26, 19-35.	2.1	64
47	Cardiac cell typeâ€“specific gene regulatory programs and disease risk association. Science Advances, 2021, 7, .	10.3	63
48	Three-dimensional residual strain in midanterior canine left ventricle. American Journal of Physiology - Heart and Circulatory Physiology, 1997, 273, H1968-H1976.	3.2	62
49	Relationship Between Regional Shortening and Asynchronous Electrical Activation in a Threeâ€Dimensional Model of Ventricular Electromechanics. Journal of Cardiovascular Electrophysiology, 2003, 14, S196-S202.	1.7	62
50	Model Study of ATP and ADP Buffering, Transport of Ca2+ and Mg2+,and Regulation of Ion Pumps in Ventricular Myocyte. Biophysical Journal, 2001, 81, 614-629.	0.5	59
51	Nonuniform Muscle Fiber Orientation Causes Spiral Wave Drift in a Finite Element Model of Cardiac Action Potential Propagation. Journal of Cardiovascular Electrophysiology, 1994, 5, 496-509.	1.7	58
52	Ventricular Filling Slows Epicardial Conduction and Increases Action Potential Duration in an Optical Mapping Study of the Isolated Rabbit Heart. Journal of Cardiovascular Electrophysiology, 2003, 14, 739-749.	1.7	57
53	Electromechanical model of cardiac resynchronization in the dilated failing heart with left bundle branch block. Journal of Electrocardiology, 2003, 36, 57-61.	0.9	55
54	Calcium and IP3 dynamics in cardiac myocytes: experimental and computational perspectives and approaches. Frontiers in Pharmacology, 2014, 5, 35.	3.5	55

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55	Predictive model identifies key network regulators of cardiomyocyte mechano-signaling. PLoS Computational Biology, 2017, 13, e1005854.	3.2	53
56	An ionic model of stretch-activated and stretch-modulated currents in rabbit ventricular myocytes. Europace, 2005, 7, S128-S134.	1.7	52
57	Multi-scale Modeling of the Cardiovascular System: Disease Development, Progression, and Clinical Intervention. Annals of Biomedical Engineering, 2016, 44, 2642-2660.	2.5	50
58	Ventricular Dilation and Electrical Dyssynchrony Synergistically Increase Regional Mechanical Nonuniformity But Not Mechanical Dyssynchrony. Circulation: Heart Failure, 2010, 3, 528-536.	3.9	49
59	Caveolae in ventricular myocytes are required for stretch-dependent conduction slowing. Journal of Molecular and Cellular Cardiology, 2014, 76, 265-274.	1.9	49
60	Computational Studies of the Effect of the S23D/S24D Troponin I Mutation on Cardiac Troponin Structural Dynamics. Biophysical Journal, 2014, 107, 1675-1685.	0.5	48
61	Atrial-selective targeting of arrhythmogenic phase-3 early afterdepolarizations in human myocytes. Journal of Molecular and Cellular Cardiology, 2016, 96, 63-71.	1.9	46
62	3D printed micro-scale force gauge arrays to improve human cardiac tissue maturation and enable high throughput drug testing. Acta Biomaterialia, 2019, 95, 319-327.	8.3	46
63	PKA Phosphorylation of Cardiac Troponin I Modulates Activation andÂRelaxation Kinetics of Ventricular Myofibrils. Biophysical Journal, 2014, 107, 1196-1204.	0.5	45
64	Endothelin receptor B, a candidate gene from human studies at high altitude, improves cardiac tolerance to hypoxia in genetically engineered heterozygote mice. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 10425-10430.	7.1	45
65	Properties of cardiac conduction in a cell-based computational model. PLoS Computational Biology, 2019, 15, e1007042.	3.2	44
66	Mechanoelectric Feedback in a Model of the Passively Inflated Left Ventricle. Annals of Biomedical Engineering, 2001, 29, 414-426.	2.5	43
67	Effect of transmurally heterogeneous myocyte excitationâ€“contraction coupling on canine left ventricular electromechanics. Experimental Physiology, 2009, 94, 541-552.	2.0	43
68	A Computational Modeling and Simulation Approach to Investigate Mechanisms of Subcellular cAMP Compartmentation. PLoS Computational Biology, 2016, 12, e1005005.	3.2	43
69	A three-dimensional finite element model of human atrial anatomy: New methods for cubic Hermite meshes with extraordinary vertices. Medical Image Analysis, 2013, 17, 525-537.	11.6	42
70	Nonequilibrium Reactivation of Na + Current Drives Early Afterdepolarizations in Mouse Ventricle. Circulation: Arrhythmia and Electrophysiology, 2014, 7, 1205-1213.	4.8	42
71	Bitopic Sphingosine 1-Phosphate Receptor 3 (S1P3) Antagonist Rescue from Complete Heart Block: Pharmacological and Genetic Evidence for Direct S1P3 Regulation of Mouse Cardiac Conduction. Molecular Pharmacology, 2016, 89, 176-186.	2.3	41
72	Mechanisms of conduction slowing during myocardial stretch by ventricular volume loading in the rabbit. American Journal of Physiology - Heart and Circulatory Physiology, 2008, 295, H1270-H1278.	3.2	40

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73	Mechanical discoordination increases continuously after the onset of left bundle branch block despite constant electrical dyssynchrony in a computational model of cardiac electromechanics and growth. Europace, 2012, 14, v65-v72.	1.7	40
74	Troponin I Mutations R146G and R21C Alter Cardiac Troponin Function, Contractile Properties, and Modulation by Protein Kinase A (PKA)-mediated Phosphorylation. Journal of Biological Chemistry, 2015, 290, 27749-27766.	3.4	36
75	Cell cultures as models of cardiac mechanoelectric feedback. Progress in Biophysics and Molecular Biology, 2008, 97, 367-382.	2.9	33
76	Desmosomal junctions are necessary for adult sinus node function. Cardiovascular Research, 2016, 111, 274-286.	3.8	33
77	Multi-scale computational models of familial hypertrophic cardiomyopathy: genotype to phenotype. Journal of the Royal Society Interface, 2011, 8, 1550-1561.	3.4	30
78	Novel Role for Vinculin in Ventricular Myocyte Mechanics and Dysfunction. Biophysical Journal, 2013, 104, 1623-1633.	0.5	30
79	Cardiac myosin activation with 2-deoxy-ATP via increased electrostatic interactions with actin. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 11502-11507.	7.1	30
80	Syndecanâ€4 Protects the Heart From the Profibrotic Effects of Thrombinâ€Cleaved Osteopontin. Journal of the American Heart Association, 2020, 9, e013518.	3.7	30
81	Three-dimensional transistor arrays for intra- and inter-cellular recording. Nature Nanotechnology, 2022, 17, 292-300.	31.5	30
82	Determination of threeâ€dimensional ventricular strain distributions in geneâ€targeted mice using tagged MRI. Magnetic Resonance in Medicine, 2010, 64, 1281-1288.	3.0	29
83	Using Markov State Models to Develop a Mechanistic Understanding of Protein Kinase A Regulatory Subunit RIÎ± Activation in Response to cAMP Binding. Journal of Biological Chemistry, 2014, 289, 30040-30051.	3.4	29
84	Intramyocardial injection of hydrogel with high interstitial spread does not impact action potential propagation. Acta Biomaterialia, 2015, 26, 13-22.	8.3	28
85	Regional Myocardial Perfusion and Mechanics: A Model-Based Method of Analysis. Annals of Biomedical Engineering, 1998, 26, 743-755.	2.5	26
86	Mechanisms of length history-dependent tension in an ionic model of the cardiac myocyte. American Journal of Physiology - Heart and Circulatory Physiology, 1998, 274, H1032-H1040.	3.2	26
87	Transmural gradients of myocardial structure and mechanics: Implications for fiber stress and strain in pressure overload. Progress in Biophysics and Molecular Biology, 2016, 122, 215-226.	2.9	26
88	Flowâ€"function relations during graded coronary occlusions in the dog: effects of transmural location and segment orientation. Cardiovascular Research, 1998, 37, 636-645.	3.8	24
89	Cardiac Systems Biology. Annals of the New York Academy of Sciences, 2005, 1047, 283-295.	3.8	24
90	The role of mechanoelectric feedback in vulnerability to electric shock. Progress in Biophysics and Molecular Biology, 2008, 97, 461-478.	2.9	24

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91	Patient-specific modeling of ventricular activation pattern using surface ECG-derived vectorcardiogram in bundle branch block. Progress in Biophysics and Molecular Biology, 2014, 115, 305-313.	2.9	24
92	Non-invasive, model-based measures of ventricular electrical dyssynchrony for predicting CRT outcomes. Europace, 2016, 18, iv104-iv112.	1.7	23
93	Cardiac image modelling: Breadth and depth in heart disease. Medical Image Analysis, 2016, 33, 38-43.	11.6	23
94	Cai et al. reply. Nature, 2009, 458, E9-E10.	27.8	22
95	Prolonged Exposure to Microgravity Reduces Cardiac Contractility and Initiates Remodeling in Drosophila. Cell Reports, 2020, 33, 108445.	6.4	22
96	Integrative Models for Understanding the Structural Basis of Regional Mechanical Dysfunction in Ischemic Myocardium. Annals of Biomedical Engineering, 2000, 28, 979-990.	2.5	21
97	Maintaining resting cardiac fibroblasts in vitro by disrupting mechanotransduction. PLoS ONE, 2020, 15, e0241390.	2.5	21
98	Model-Based Analysis of Optically Mapped Epicardial Activation Patterns and Conduction Velocity. Annals of Biomedical Engineering, 2000, 28, 1085-1092.	2.5	20
99	In vivo finite element model-based image analysis of pacemaker lead mechanics. Medical Image Analysis, 2001, 5, 255-270.	11.6	20
100	Multi-core CPU or GPU-accelerated Multiscale Modeling for Biomolecular Complexes. Computational and Mathematical Biophysics, 2013, 1, 164-179.	1.1	20
101	High-order finite element methods for cardiac monodomain simulations. Frontiers in Physiology, 2015, 6, 217.	2.8	20
102	Bridging scales through multiscale modeling: a case study on protein kinase A. Frontiers in Physiology, 2015, 6, 250.	2.8	20
103	Atlas-based ventricular shape analysis for understanding congenital heart disease. Progress in Pediatric Cardiology, 2016, 43, 61-69.	0.4	20
104	Systems Biophysics: Multiscale Biophysical Modeling of Organ Systems. Biophysical Journal, 2016, 110, 1023-1027.	0.5	20
105	Atlas-Based Computational Analysis of Heart Shape and Function in Congenital Heart Disease. Journal of Cardiovascular Translational Research, 2018, 11, 123-132.	2.4	19
106	Long QT syndrome caveolinâ€3 mutations differentially modulate K v 4 and Ca v 1.2 channels to contribute to action potential prolongation. Journal of Physiology, 2019, 597, 1531-1551.	2.9	19
107	Regional myocardial mechanics: Integrative computational models of flow-function relations. Journal of Nuclear Cardiology, 2001, 8, 506-519.	2.1	18
108	Molecular Effects of cTnC DCM Mutations on Calcium Sensitivity and Myofilament Activationâ€"An Integrated Multiscale Modeling Study. Journal of Physical Chemistry B, 2016, 120, 8264-8275.	2.6	18

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109	Array atomic force microscopy for real-time multiparametric analysis. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 5872-5877.	7.1	18
110	Computational Methods for Soft Tissue Biomechanics. , 2003, , 273-342.		18
111	Integrating metabolomics and phenomics with systems models of cardiac hypoxia. Progress in Biophysics and Molecular Biology, 2008, 96, 209-225.	2.9	17
112	Biomechanics simulations using cubic Hermite meshes with extraordinary nodes for isogeometric cardiac modeling. Computer Aided Geometric Design, 2016, 43, 27-38.	1.2	17
113	Computational ECG mapping and respiratory gating to optimize stereotactic ablative radiotherapy workflow for refractory ventricular tachycardia. Heart Rhythm O2, 2021, 2, 511-520.	1.7	17
114	Modulating the tension-time integral of the cardiac twitch prevents dilated cardiomyopathy in murine hearts. JCI Insight, 2020, 5, .	5.0	17
115	Effects of Magnesium on Cardiac Excitation-Contraction Coupling. Journal of the American College of Nutrition, 2004, 23, 514S-517S.	1.8	16
116	Perspectives on Sharing Models and Related Resources in Computational Biomechanics Research. Journal of Biomechanical Engineering, 2018, 140, .	1.3	16
117	Toward a hierarchy of mechanisms in CaMKII-mediated arrhythmia. Frontiers in Pharmacology, 2014, 5, 110.	3.5	15
118	Computational modeling of subcellular transport and signaling. Current Opinion in Structural Biology, 2014, 25, 92-97.	5.7	15
119	Electrophysiology and metabolism of caveolin-3-overexpressing mice. Basic Research in Cardiology, 2016, 111, 28.	5.9	15
120	Effects of Cardiac Troponin I Mutation P83S on Contractile Properties and the Modulation by PKA-Mediated Phosphorylation. Journal of Physical Chemistry B, 2016, 120, 8238-8253.	2.6	15
121	Integrative Biological ModellingIn Silico. Novartis Foundation Symposium, 0, , 4-25.	1.1	14
122	Modeling the human cardiome in silico. Journal of Nuclear Cardiology, 2000, 7, 496-499.	2.1	13
123	Functionally and Structurally Integrated Computational Modeling of Ventricular Physiology. The Japanese Journal of Physiology, 2004, 54, 531-539.	0.9	13
124	Model of Human Fetal Growth in Hypoplastic Left Heart Syndrome: Reduced Ventricular Growth Due to Decreased Ventricular Filling and Altered Shape. Frontiers in Pediatrics, 2017, 5, 25.	1.9	13
125	Tissue-Specific Optical Mapping Models of Swine Atria Informed by Optical Coherence Tomography. Biophysical Journal, 2018, 114, 1477-1489.	0.5	13
126	Improved compressed sensing and superâ€resolution of cardiac diffusion MRI with structureâ€guided total variation. Magnetic Resonance in Medicine, 2020, 84, 1868-1880.	3.0	13

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127	Timing and magnitude of systolic stretch affect myofilament activation and mechanical work. American Journal of Physiology - Heart and Circulatory Physiology, 2014, 307, H353-H360.	3.2	12
128	Increased Cell Membrane Capacitance is the Dominant Mechanism of Stretch-Dependent Conduction Slowing in the Rabbit Heart: A Computational Study. Cellular and Molecular Bioengineering, 2015, 8, 237-246.	2.1	12
129	Computing rates of Markov models of voltage-gated ion channels by inverting partial differential equations governing the probability density functions of the conducting and non-conducting states. Mathematical Biosciences, 2016, 277, 126-135.	1.9	12
130	Evaluation of nonâ€Gaussian diffusion in cardiac MRI. Magnetic Resonance in Medicine, 2017, 78, 1174-1186.	3.0	12
131	Quantification of model and data uncertainty in a network analysis of cardiac myocyte mechanosignalling. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2020, 378, 20190336.	3.4	12
132	A Stochastic Multiscale Model of Cardiac Thin Filament Activation Using Brownian-Langevin Dynamics. Biophysical Journal, 2019, 117, 2255-2272.	0.5	11
133	Phase Shifting Prior to Spatial Filtering Enhances Optical Recordings of Cardiac Action Potential Propagation. Annals of Biomedical Engineering, 2001, 29, 854-861.	2.5	10
134	Computational Methods for Cardiac Electrophysiology. Handbook of Numerical Analysis, 2004, 12, 129-187.	1.8	10
135	Transcriptomic analysis identifies a role of PI3Kâ€"Akt signalling in the responses of skeletal muscle to acute hypoxia <i>in vivo</i>. Journal of Physiology, 2017, 595, 5797-5813.	2.9	10
136	Rotors exhibit greater surface ECG variation during ventricular fibrillation than focal sources due to wavebreak, secondary rotors, and meander. Journal of Cardiovascular Electrophysiology, 2017, 28, 1158-1166.	1.7	10
137	Optimization Framework for Patient-Specific Cardiac Modeling. Cardiovascular Engineering and Technology, 2019, 10, 553-567.	1.6	10
138	Multiscale models of cardiac muscle biophysics and tissue remodeling in hypertrophic cardiomyopathies. Current Opinion in Biomedical Engineering, 2019, 11, 35-44.	3.4	9
139	Insights and Challenges of Multi-Scale Modeling of Sarcomere Mechanics in cTn and Tm DCM Mutantsâ€"Genotype to Cellular Phenotype. Frontiers in Physiology, 2017, 8, 151.	2.8	8
140	Cardiomyocyte Expression of ZO-1 Is Essential for Normal Atrioventricular Conduction but Does Not Alter Ventricular Function. Circulation Research, 2020, 127, 284-297.	4.5	8
141	Regional variations in ex-vivo diffusion tensor anisotropy are associated with cardiomyocyte remodeling in rats after left ventricular pressure overload. Journal of Cardiovascular Magnetic Resonance, 2020, 22, 21.	3.3	8
142	Factors Affecting the Regional Mechanics of the Diastolic Heart. Institute for Nonlinear Science, 1991, , 87-119.	0.2	8
143	Subcellular Remodeling in Filamin C Deficient Mouse Hearts Impairs Myocyte Tension Development during Progression of Dilated Cardiomyopathy. International Journal of Molecular Sciences, 2022, 23, 871.	4.1	8
144	Right Ventricular Flow Vorticity Relationships With Biventricular Shape in Adult Tetralogy of Fallot. Frontiers in Cardiovascular Medicine, 2021, 8, 806107.	2.4	8

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145	Predictions of hypertrophy and its regression in response to pressure overload. Biomechanics and Modeling in Mechanobiology, 2020, 19, 1079-1089.	2.8	7
146	Effect of Pacing Site and Infarct Location on Regional Mechanics and Global Hemodynamics in a Model Based Study of Heart Failure. Lecture Notes in Computer Science, 2007, , 350-360.	1.3	7
147	Biomechanical signals regulating the structure of the heart. Current Opinion in Physiology, 2022, 25, 100482.	1.8	7
148	Myofiber prestretch magnitude determines regional systolic function during ectopic activation in the tachycardia-induced failing canine heart. American Journal of Physiology - Heart and Circulatory Physiology, 2013, 305, H192-H202.	3.2	6
149	A Microstructurally Based Multi-Scale Constitutive Model of Active Myocardial Mechanics. , 2016, , 439-460.		6
150	Histamine-induced biphasic activation of RhoA allows for persistent RhoA signaling. PLoS Biology, 2020, 18, e3000866.	5.6	6
151	Efficient Computational Modeling of Human Ventricular Activation and Its Electrocardiographic Representation: A Sensitivity Study. Cardiovascular Engineering and Technology, 2018, 9, 447-467.	1.6	5
152	Predicting the effects of dATP on cardiac contraction using multiscale modeling of the sarcomere. Archives of Biochemistry and Biophysics, 2020, 695, 108582.	3.0	5
153	Methods and sensors for functional genomic studies of cell-cycle transitions in single cells. Physiological Genomics, 2020, 52, 468-477.	2.3	5
154	Atlas-based methods for efficient characterization of patient-specific ventricular activation patterns. Europace, 2021, 23, i88-i95.	1.7	5
155	Decreasing Compensatory Ability of Concentric Ventricular Hypertrophy in Aortic-Banded Rat Hearts. Frontiers in Physiology, 2018, 9, 37.	2.8	4
156	A demonstration of modularity, reuse, reproducibility, portability and scalability for modeling and simulation of cardiac electrophysiology using Kepler Workflows. PLoS Computational Biology, 2019, 15, e1006856.	3.2	4
157	Left Ventricular Diastolic and Systolic Material Property Estimation from Image Data. Lecture Notes in Computer Science, 2015, 8896, 63-73.	1.3	4
158	Model-based development of four-dimensional wall motion measures. Computer Methods in Applied Mechanics and Engineering, 2007, 196, 3061-3069.	6.6	3
159	Turning the Azimuthal Motions of Adjacent Tropomyosins into a CoupledÂN-body Problem in a Brownian Model of Cardiac Thin Filament Activation. Biophysical Journal, 2018, 114, 502a-503a.	0.5	3
160	A Computational Framework for Patient-Specific Multi-Scale Cardiac Modeling. , 2010, , 203-223.		3
161	Mechanostransduction in Cardiac and Stem-Cell Derived Cardiac Cells. , 2010, , 99-139.		3
162	Isolation and reconstruction of cardiac mitochondria from SBEM images using a deep learning-based method. Journal of Structural Biology, 2022, 214, 107806.	2.8	3

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163	Systems biology and multi-scale modeling of the heart. , 2009, , .		2
164	Using Kepler for Tool Integration in Microarray Analysis Workflows. Procedia Computer Science, 2014, 29, 2162-2167.	2.0	2
165	A Protocol to Collect Specific Mouse Skeletal Muscles for Metabolomics Studies. Methods in Molecular Biology, 2015, 1375, 169-179.	0.9	2
166	Computational analysis of cardiac structure and function in congenital heart disease: Translating discoveries to clinical strategies. Journal of Computational Science, 2021, 52, 101211.	2.9	2
167	Integrative biological modelling in silico. Novartis Foundation Symposium, 2002, 247, 4-19; discussion 20-5, 84-90, 244-52.	1.1	2
168	Atlas-based measures of left ventricular shape may improve characterization of adverse remodeling in anthracycline-exposed childhood cancer survivors: a cross-sectional imaging study. Cardio-Oncology, 2020, 6, 13.	1.7	1
169	Mechano-Electric Coupling and Arrhythmogenic Current Generation in a Computational Model of Coupled Myocytes. Frontiers in Physiology, 2020, 11, 519951.	2.8	1
170	Computational models of cardiovascular regulatory mechanisms. Journal of Molecular and Cellular Cardiology, 2021, 155, 111.	1.9	1
171	The effect of nonuniform anisotropy on wavefront stability in a finite element model of cardiac action potential propagation. , 1992, , .		0
172	Ventricular interaction quantified with a novel multi-scale cardiovascular model. Proceedings in Applied Mathematics and Mechanics, 2007, 7, 1141201-1141201.	0.2	0
173	MAAMD: A Workflow to Standardize Meta-Analyses of Affymetrix Microarray Data. , 2012, , .		0
174	Differences in I to and myofilament protein expression may underlie transmurallyâ€varying electromechanics in the canine left ventricle. FASEB Journal, 2008, 22, 751.3.	0.5	0
175	ROLE OF STRUCTURAL AND SIGNALING MOLECULES IN CARDIAC MECHANOTRANSDUCTION. , 2009, , 65-80.		0
176	Myocardial material parameter estimation from inâ€vivo myocardial strain measurements. FASEB Journal, 2010, 24, 782.8.	0.5	0
177	Incorporating Human Ventricular Fiber Architecture in Patientâ€Specific Computational Models. FASEB Journal, 2012, 26, 864.19.	0.5	0
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