

# Andrew D Mcculloch

## List of Publications by Citations

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179  
papers

8,506  
citations

50  
h-index

88  
g-index

188  
ext. papers

9,709  
ext. citations

5.8  
avg. IF

5.9  
L-index

#	Paper	IF	Citations
179	Stress-dependent finite growth in soft elastic tissues. <i>Journal of Biomechanics</i> , <b>1994</b> , 27, 455-67	2.9	1038
178	The cardiac mechanical stretch sensor machinery involves a Z disc complex that is defective in a subset of human dilated cardiomyopathy. <i>Cell</i> , <b>2002</b> , 111, 943-55	56.2	631
177	Finite element stress analysis of left ventricular mechanics in the beating dog heart. <i>Journal of Biomechanics</i> , <b>1995</b> , 28, 1167-77	2.9	260
176	Angiotensin II stimulates the autocrine production of transforming growth factor-beta 1 in adult rat cardiac fibroblasts. <i>Journal of Molecular and Cellular Cardiology</i> , <b>1995</b> , 27, 2347-57	5.8	217
175	Three-dimensional analysis of regional cardiac function: a model of rabbit ventricular anatomy. <i>Progress in Biophysics and Molecular Biology</i> , <b>1998</b> , 69, 157-83	4.7	216
174	Coupling of a 3D finite element model of cardiac ventricular mechanics to lumped systems models of the systemic and pulmonic circulation. <i>Annals of Biomedical Engineering</i> , <b>2007</b> , 35, 1-18	4.7	193
173	An FHL1-containing complex within the cardiomyocyte sarcomere mediates hypertrophic biomechanical stress responses in mice. <i>Journal of Clinical Investigation</i> , <b>2008</b> , 118, 3870-80	15.9	184
172	Modeling beta-adrenergic control of cardiac myocyte contractility in silico. <i>Journal of Biological Chemistry</i> , <b>2003</b> , 278, 47997-8003	5.4	177
171	Laminar fiber architecture and three-dimensional systolic mechanics in canine ventricular myocardium. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , <b>1999</b> , 276, H595-607	5.2	166
170	Anisotropic stretch-induced hypertrophy in neonatal ventricular myocytes micropatterned on deformable elastomers. <i>Biotechnology and Bioengineering</i> , <b>2003</b> , 81, 578-87	4.9	161
169	Effect of Laminar Orthotropic Myofiber Architecture on Regional Stress and Strain in the Canine Left Ventricle. <i>Journal of Elasticity</i> , <b>2000</b> , 61, 143-164	1.5	161
168	Patient-Specific Models of Cardiac Biomechanics. <i>Journal of Computational Physics</i> , <b>2013</b> , 244, 4-21	4.1	133
167	Differential responses of adult cardiac fibroblasts to in vitro biaxial strain patterns. <i>Journal of Molecular and Cellular Cardiology</i> , <b>1999</b> , 31, 1833-43	5.8	127
166	Automated measurement of myofiber disarray in transgenic mice with ventricular expression of ras. <i>The Anatomical Record</i> , <b>1998</b> , 252, 612-25		126
165	Systems analysis of PKA-mediated phosphorylation gradients in live cardiac myocytes. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2006</b> , 103, 12923-8	11.5	123
164	Flux-balance analysis of mitochondrial energy metabolism: consequences of systemic stoichiometric constraints. <i>American Journal of Physiology - Regulatory Integrative and Comparative Physiology</i> , <b>2001</b> , 280, R695-704	3.2	121
163	Measurement of strain and analysis of stress in resting rat left ventricular myocardium. <i>Journal of Biomechanics</i> , <b>1993</b> , 26, 665-76	2.9	117

162	Mechanical regulation of cardiac fibroblast profibrotic phenotypes. <i>Molecular Biology of the Cell</i> , <b>2017</b> , 28, 1871-1882	3.5	110
161	Computational model of three-dimensional cardiac electromechanics. <i>Computing and Visualization in Science</i> , <b>2002</b> , 4, 249-257	1	108
160	Myocardial mechanics and collagen structure in the osteogenesis imperfecta murine (oim). <i>Circulation Research</i> , <b>2000</b> , 87, 663-9	15.7	106
159	Patient-specific modeling of dyssynchronous heart failure: a case study. <i>Progress in Biophysics and Molecular Biology</i> , <b>2011</b> , 107, 147-55	4.7	104
158	Age-associated cardiac dysfunction in <i>Drosophila melanogaster</i> . <i>Circulation Research</i> , <b>2001</b> , 88, 1053-8	15.7	104
157	Three-dimensional stress and strain in passive rabbit left ventricle: a model study. <i>Annals of Biomedical Engineering</i> , <b>2000</b> , 28, 781-92	4.7	103
156	Mouse and computational models link Mlc2v dephosphorylation to altered myosin kinetics in early cardiac disease. <i>Journal of Clinical Investigation</i> , <b>2012</b> , 122, 1209-21	15.9	100
155	Proarrhythmic consequences of a KCNQ1 AKAP-binding domain mutation: computational models of whole cells and heterogeneous tissue. <i>Circulation Research</i> , <b>2004</b> , 95, 1216-24	15.7	99
154	Research Priorities for Heart Failure With Preserved Ejection Fraction: National Heart, Lung, and Blood Institute Working Group Summary. <i>Circulation</i> , <b>2020</b> , 141, 1001-1026	16.7	95
153	Targeted ablation of nesprin 1 and nesprin 2 from murine myocardium results in cardiomyopathy, altered nuclear morphology and inhibition of the biomechanical gene response. <i>PLoS Genetics</i> , <b>2014</b> , 10, e1004114	6	90
152	The Soft- and Hard-Heartedness of Cardiac Fibroblasts: Mechanotransduction Signaling Pathways in Fibrosis of the Heart. <i>Journal of Clinical Medicine</i> , <b>2017</b> , 6,	5.1	89
151	A more efficient search strategy for aging genes based on connectivity. <i>Bioinformatics</i> , <b>2005</b> , 21, 338-48	7.2	89
150	A single strain-based growth law predicts concentric and eccentric cardiac growth during pressure and volume overload. <i>Mechanics Research Communications</i> , <b>2012</b> , 42, 40-50	2.2	86
149	Measurement of orientation and distribution of cellular alignment and cytoskeletal organization. <i>Annals of Biomedical Engineering</i> , <b>1999</b> , 27, 712-20	4.7	83
148	HIF1 $\alpha$ Represses Cell Stress Pathways to Allow Proliferation of Hypoxic Fetal Cardiomyocytes. <i>Developmental Cell</i> , <b>2015</b> , 33, 507-21	10.2	82
147	Mechanical regulation of gene expression in cardiac myocytes and fibroblasts. <i>Nature Reviews Cardiology</i> , <b>2019</b> , 16, 361-378	14.8	80
146	Non-homogeneous analysis of three-dimensional transmural finite deformation in canine ventricular myocardium. <i>Journal of Biomechanics</i> , <b>1991</b> , 24, 539-48	2.9	76
145	A novel mechanism involving four-and-a-half LIM domain protein-1 and extracellular signal-regulated kinase-2 regulates titin phosphorylation and mechanics. <i>Journal of Biological Chemistry</i> , <b>2012</b> , 287, 29273-84	5.4	74

144	Coupling of adjacent tropomyosins enhances cross-bridge-mediated cooperative activation in a markov model of the cardiac thin filament. <i>Biophysical Journal</i> , <b>2010</b> , 98, 2254-64	2.9	70
143	Systems approaches and algorithms for discovery of combinatorial therapies. <i>Wiley Interdisciplinary Reviews: Systems Biology and Medicine</i> , <b>2010</b> , 2, 181-193	6.6	70
142	Effects of biventricular pacing and scar size in a computational model of the failing heart with left bundle branch block. <i>Medical Image Analysis</i> , <b>2009</b> , 13, 362-9	15.4	69
141	Glycated collagen cross-linking alters cardiac mechanics in volume-overload hypertrophy. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , <b>2003</b> , 284, H1277-84	5.2	69
140	Connexin defects underlie arrhythmogenic right ventricular cardiomyopathy in a novel mouse model. <i>Human Molecular Genetics</i> , <b>2014</b> , 23, 1134-50	5.6	64
139	Biomechanics of cardiac electromechanical coupling and mechanoelectric feedback. <i>Journal of Biomechanical Engineering</i> , <b>2014</b> , 136, 021007	2.1	63
138	Mechanistic systems models of cell signaling networks: a case study of myocyte adrenergic regulation. <i>Progress in Biophysics and Molecular Biology</i> , <b>2004</b> , 85, 261-78	4.7	59
137	Nonhomogeneous analysis of epicardial strain distributions during acute myocardial ischemia in the dog. <i>Journal of Biomechanics</i> , <b>1993</b> , 26, 19-35	2.9	57
136	Systems approach to understanding electromechanical activity in the human heart: a national heart, lung, and blood institute workshop summary. <i>Circulation</i> , <b>2008</b> , 118, 1202-11	16.7	56
135	Relationship between regional shortening and asynchronous electrical activation in a three-dimensional model of ventricular electromechanics. <i>Journal of Cardiovascular Electrophysiology</i> , <b>2003</b> , 14, S196-202	2.7	56
134	Model study of ATP and ADP buffering, transport of Ca(2+) and Mg(2+), and regulation of ion pumps in ventricular myocyte. <i>Biophysical Journal</i> , <b>2001</b> , 81, 614-29	2.9	53
133	Ventricular filling slows epicardial conduction and increases action potential duration in an optical mapping study of the isolated rabbit heart. <i>Journal of Cardiovascular Electrophysiology</i> , <b>2003</b> , 14, 739-49	2.7	52
132	Nonuniform muscle fiber orientation causes spiral wave drift in a finite element model of cardiac action potential propagation. <i>Journal of Cardiovascular Electrophysiology</i> , <b>1994</b> , 5, 496-509	2.7	52
131	Electromechanical model of cardiac resynchronization in the dilated failing heart with left bundle branch block. <i>Journal of Electrocardiology</i> , <b>2003</b> , 36 Suppl, 57-61	1.4	51
130	Structural contributions to fibrillatory rotors in a patient-derived computational model of the atria. <i>Europace</i> , <b>2014</b> , 16 Suppl 4, iv3-iv10	3.9	48
129	Ventricular dilation and electrical dyssynchrony synergistically increase regional mechanical nonuniformity but not mechanical dyssynchrony: a computational model. <i>Circulation: Heart Failure</i> , <b>2010</b> , 3, 528-36	7.6	46
128	Three-dimensional residual strain in midanterior canine left ventricle. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , <b>1997</b> , 273, H1968-76	5.2	46
127	Calcium and IP3 dynamics in cardiac myocytes: experimental and computational perspectives and approaches. <i>Frontiers in Pharmacology</i> , <b>2014</b> , 5, 35	5.6	42

126	Effect of transmurally heterogeneous myocyte excitation-contraction coupling on canine left ventricular electromechanics. <i>Experimental Physiology</i> , <b>2009</b> , 94, 541-52	2.4	42
125	An ionic model of stretch-activated and stretch-modulated currents in rabbit ventricular myocytes. <i>Europace</i> , <b>2005</b> , 7 Suppl 2, 128-34	3.9	40
124	Mechanoelectric feedback in a model of the passively inflated left ventricle. <i>Annals of Biomedical Engineering</i> , <b>2001</b> , 29, 414-26	4.7	38
123	Mechanisms of conduction slowing during myocardial stretch by ventricular volume loading in the rabbit. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , <b>2008</b> , 295, H1270-H1278	5.2	37
122	Multi-scale Modeling of the Cardiovascular System: Disease Development, Progression, and Clinical Intervention. <i>Annals of Biomedical Engineering</i> , <b>2016</b> , 44, 2642-60	4.7	36
121	Endothelin receptor B, a candidate gene from human studies at high altitude, improves cardiac tolerance to hypoxia in genetically engineered heterozygote mice. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2015</b> , 112, 10425-30	11.5	35
120	Computational studies of the effect of the S23D/S24D troponin I mutation on cardiac troponin structural dynamics. <i>Biophysical Journal</i> , <b>2014</b> , 107, 1675-85	2.9	35
119	PKA phosphorylation of cardiac troponin I modulates activation and relaxation kinetics of ventricular myofibrils. <i>Biophysical Journal</i> , <b>2014</b> , 107, 1196-1204	2.9	35
118	Nonequilibrium reactivation of Na <sup>+</sup> current drives early afterdepolarizations in mouse ventricle. <i>Circulation: Arrhythmia and Electrophysiology</i> , <b>2014</b> , 7, 1205-13	6.4	35
117	A Computational Modeling and Simulation Approach to Investigate Mechanisms of Subcellular cAMP Compartmentation. <i>PLoS Computational Biology</i> , <b>2016</b> , 12, e1005005	5	33
116	Direct 3D bioprinting of cardiac micro-tissues mimicking native myocardium. <i>Biomaterials</i> , <b>2020</b> , 256, 120204	15.6	32
115	A three-dimensional finite element model of human atrial anatomy: new methods for cubic Hermite meshes with extraordinary vertices. <i>Medical Image Analysis</i> , <b>2013</b> , 17, 525-37	15.4	31
114	Cell cultures as models of cardiac mechanoelectric feedback. <i>Progress in Biophysics and Molecular Biology</i> , <b>2008</b> , 97, 367-82	4.7	31
113	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. <i>Europace</i> , <b>2012</b> , 14 Suppl 5, v65-v72	3.9	30
112	Predictive model identifies key network regulators of cardiomyocyte mechano-signaling. <i>PLoS Computational Biology</i> , <b>2017</b> , 13, e1005854	5	30
111	3D printed micro-scale force gauge arrays to improve human cardiac tissue maturation and enable high throughput drug testing. <i>Acta Biomaterialia</i> , <b>2019</b> , 95, 319-327	10.8	29
110	Atrial-selective targeting of arrhythmogenic phase-3 early afterdepolarizations in human myocytes. <i>Journal of Molecular and Cellular Cardiology</i> , <b>2016</b> , 96, 63-71	5.8	27
109	Using Markov state models to develop a mechanistic understanding of protein kinase A regulatory subunit RI $\alpha$ activation in response to cAMP binding. <i>Journal of Biological Chemistry</i> , <b>2014</b> , 289, 30040-51	5.4	27

108	Determination of three-dimensional ventricular strain distributions in gene-targeted mice using tagged MRI. <i>Magnetic Resonance in Medicine</i> , <b>2010</b> , 64, 1281-8	4.4	27
107	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. <i>Molecular Pharmacology</i> , <b>2016</b> , 89, 176-86	4.3	27
106	Properties of cardiac conduction in a cell-based computational model. <i>PLoS Computational Biology</i> , <b>2019</b> , 15, e1007042	5	26
105	Caveolae in ventricular myocytes are required for stretch-dependent conduction slowing. <i>Journal of Molecular and Cellular Cardiology</i> , <b>2014</b> , 76, 265-74	5.8	26
104	Novel role for vinculin in ventricular myocyte mechanics and dysfunction. <i>Biophysical Journal</i> , <b>2013</b> , 104, 1623-33	2.9	26
103	Multi-scale computational models of familial hypertrophic cardiomyopathy: genotype to phenotype. <i>Journal of the Royal Society Interface</i> , <b>2011</b> , 8, 1550-61	4.1	26
102	Troponin I Mutations R146G and R21C Alter Cardiac Troponin Function, Contractile Properties, and Modulation by Protein Kinase A (PKA)-mediated Phosphorylation. <i>Journal of Biological Chemistry</i> , <b>2015</b> , 290, 27749-66	5.4	25
101	Cardiac systems biology. <i>Annals of the New York Academy of Sciences</i> , <b>2005</b> , 1047, 283-95	6.5	23
100	Intramyocardial injection of hydrogel with high interstitial spread does not impact action potential propagation. <i>Acta Biomaterialia</i> , <b>2015</b> , 26, 13-22	10.8	22
99	Regional myocardial perfusion and mechanics: a model-based method of analysis. <i>Annals of Biomedical Engineering</i> , <b>1998</b> , 26, 743-55	4.7	22
98	Desmosomal junctions are necessary for adult sinus node function. <i>Cardiovascular Research</i> , <b>2016</b> , 111, 274-86	9.9	22
97	Cai et al. reply. <i>Nature</i> , <b>2009</b> , 458, E9-E10	50.4	21
96	Mechanisms of length history-dependent tension in an ionic model of the cardiac myocyte. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , <b>1998</b> , 274, H1032-40	5.2	21
95	Patient-specific modeling of ventricular activation pattern using surface ECG-derived vectorcardiogram in bundle branch block. <i>Progress in Biophysics and Molecular Biology</i> , <b>2014</b> , 115, 305-13	4.7	20
94	The role of mechanoelectric feedback in vulnerability to electric shock. <i>Progress in Biophysics and Molecular Biology</i> , <b>2008</b> , 97, 461-78	4.7	20
93	Flow-function relations during graded coronary occlusions in the dog: effects of transmural location and segment orientation. <i>Cardiovascular Research</i> , <b>1998</b> , 37, 636-45	9.9	20
92	Integrative models for understanding the structural basis of regional mechanical dysfunction in ischemic myocardium. <i>Annals of Biomedical Engineering</i> , <b>2000</b> , 28, 979-90	4.7	19
91	In vivo finite element model-based image analysis of pacemaker lead mechanics. <i>Medical Image Analysis</i> , <b>2001</b> , 5, 255-70	15.4	18

90	Regional myocardial mechanics: integrative computational models of flow-function relations. <i>Journal of Nuclear Cardiology</i> , <b>2001</b> , 8, 506-19	2.1	17
89	Model-based analysis of optically mapped epicardial activation patterns and conduction velocity. <i>Annals of Biomedical Engineering</i> , <b>2000</b> , 28, 1085-92	4.7	17
88	Bridging scales through multiscale modeling: a case study on protein kinase A. <i>Frontiers in Physiology</i> , <b>2015</b> , 6, 250	4.6	16
87	Computational Methods for Soft Tissue Biomechanics <b>2003</b> , 273-342		16
86	Transmural gradients of myocardial structure and mechanics: Implications for fiber stress and strain in pressure overload. <i>Progress in Biophysics and Molecular Biology</i> , <b>2016</b> , 122, 215-226	4.7	16
85	Atlas-Based Computational Analysis of Heart Shape and Function in Congenital Heart Disease. <i>Journal of Cardiovascular Translational Research</i> , <b>2018</b> , 11, 123-132	3.3	14
84	Non-invasive, model-based measures of ventricular electrical dyssynchrony for predicting CRT outcomes. <i>Europace</i> , <b>2016</b> , 18, iv104-iv112	3.9	14
83	High-order finite element methods for cardiac monodomain simulations. <i>Frontiers in Physiology</i> , <b>2015</b> , 6, 217	4.6	14
82	Multi-core CPU or GPU-accelerated Multiscale Modeling for Biomolecular Complexes. <i>Computational and Mathematical Biophysics</i> , <b>2013</b> , 1,	1.7	14
81	Integrating metabolomics and phenomics with systems models of cardiac hypoxia. <i>Progress in Biophysics and Molecular Biology</i> , <b>2008</b> , 96, 209-25	4.7	14
80	Atlas-Based Ventricular Shape Analysis for Understanding Congenital Heart Disease. <i>Progress in Pediatric Cardiology</i> , <b>2016</b> , 43, 61-69	0.4	14
79	Computational modeling of subcellular transport and signaling. <i>Current Opinion in Structural Biology</i> , <b>2014</b> , 25, 92-7	8.1	13
78	Functionally and structurally integrated computational modeling of ventricular physiology. <i>The Japanese Journal of Physiology</i> , <b>2004</b> , 54, 531-9		13
77	Syndecan-4 Protects the Heart From the Profibrotic Effects of Thrombin-Cleaved Osteopontin. <i>Journal of the American Heart Association</i> , <b>2020</b> , 9, e013518	6	12
76	Toward a hierarchy of mechanisms in CaMKII-mediated arrhythmia. <i>Frontiers in Pharmacology</i> , <b>2014</b> , 5, 110	5.6	12
75	Effects of magnesium on cardiac excitation-contraction coupling. <i>Journal of the American College of Nutrition</i> , <b>2004</b> , 23, 514S-517S	3.5	12
74	Electrophysiology and metabolism of caveolin-3-overexpressing mice. <i>Basic Research in Cardiology</i> , <b>2016</b> , 111, 28	11.8	12
73	Effects of Cardiac Troponin I Mutation P83S on Contractile Properties and the Modulation by PKA-Mediated Phosphorylation. <i>Journal of Physical Chemistry B</i> , <b>2016</b> , 120, 8238-53	3.4	12

72	Molecular Effects of cTnI DCM Mutations on Calcium Sensitivity and Myofilament Activation-An Integrated Multiscale Modeling Study. <i>Journal of Physical Chemistry B</i> , <b>2016</b> , 120, 8264-75	3.4	12
71	Systems Biophysics: Multiscale Biophysical Modeling of Organ Systems. <i>Biophysical Journal</i> , <b>2016</b> , 110, 1023-7	2.9	11
70	Evaluation of non-Gaussian diffusion in cardiac MRI. <i>Magnetic Resonance in Medicine</i> , <b>2017</b> , 78, 1174-1186	4.4	11
69	Long QT syndrome caveolin-3 mutations differentially modulate K <sub>v</sub> 4 and Ca <sub>v</sub> 1.2 channels to contribute to action potential prolongation. <i>Journal of Physiology</i> , <b>2019</b> , 597, 1531-1551	3.9	11
68	Cardiac myosin activation with 2-deoxy-ATP via increased electrostatic interactions with actin. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2019</b> , 116, 11502-11507	11.5	10
67	Tissue-Specific Optical Mapping Models of Swine Atria Informed by Optical Coherence Tomography. <i>Biophysical Journal</i> , <b>2018</b> , 114, 1477-1489	2.9	10
66	Phase shifting prior to spatial filtering enhances optical recordings of cardiac action potential propagation. <i>Annals of Biomedical Engineering</i> , <b>2001</b> , 29, 854-61	4.7	10
65	Increased cell membrane capacitance is the dominant mechanism of stretch-dependent conduction slowing in the rabbit heart: a computational study. <i>Cellular and Molecular Bioengineering</i> , <b>2015</b> , 8, 237-246	3.9	9
64	Biomechanics Simulations Using Cubic Hermite Meshes with Extraordinary Nodes for Isogeometric Cardiac Modeling. <i>Computer Aided Geometric Design</i> , <b>2016</b> , 43, 27-38	1.2	9
63	Timing and magnitude of systolic stretch affect myofilament activation and mechanical work. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , <b>2014</b> , 307, H353-60	5.2	9
62	Computational Methods for Cardiac Electrophysiology. <i>Handbook of Numerical Analysis</i> , <b>2004</b> , 12, 129-187	18.7	9
61	Prolonged Exposure to Microgravity Reduces Cardiac Contractility and Initiates Remodeling in Drosophila. <i>Cell Reports</i> , <b>2020</b> , 33, 108445	10.6	9
60	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. <i>Mathematical Biosciences</i> , <b>2016</b> , 277, 126-35	3.9	9
59	Array atomic force microscopy for real-time multiparametric analysis. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2019</b> , 116, 5872-5877	11.5	8
58	Perspectives on Sharing Models and Related Resources in Computational Biomechanics Research. <i>Journal of Biomechanical Engineering</i> , <b>2018</b> , 140,	2.1	8
57	Cardiac cell type-specific gene regulatory programs and disease risk association. <i>Science Advances</i> , <b>2021</b> , 7,	14.3	8
56	Three-dimensional transistor arrays for intra- and inter-cellular recording.. <i>Nature Nanotechnology</i> , <b>2021</b> ,	28.7	8
55	Quantification of model and data uncertainty in a network analysis of cardiac myocyte mechanosignalling. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , <b>2020</b> , 378, 20190336	3	7



54	Model of Human Fetal Growth in Hypoplastic Left Heart Syndrome: Reduced Ventricular Growth Due to Decreased Ventricular Filling and Altered Shape. <i>Frontiers in Pediatrics</i> , <b>2017</b> , 5, 25	3.4	7
53	Maintaining resting cardiac fibroblasts in vitro by disrupting mechanotransduction. <i>PLoS ONE</i> , <b>2020</b> , 15, e0241390	3.7	7
52	Effect of Pacing Site and Infarct Location on Regional Mechanics and Global Hemodynamics in a Model Based Study of Heart Failure. <i>Lecture Notes in Computer Science</i> , <b>2007</b> , 350-360	0.9	7
51	A Stochastic Multiscale Model of Cardiac Thin Filament Activation Using Brownian-Langevin Dynamics. <i>Biophysical Journal</i> , <b>2019</b> , 117, 2255-2272	2.9	6
50	Rotors exhibit greater surface ECG variation during ventricular fibrillation than focal sources due to wavebreak, secondary rotors, and meander. <i>Journal of Cardiovascular Electrophysiology</i> , <b>2017</b> , 28, 1158-1166	2.7	6
49	Insights and Challenges of Multi-Scale Modeling of Sarcomere Mechanics in cTn and Tm DCM Mutants-Genotype to Cellular Phenotype. <i>Frontiers in Physiology</i> , <b>2017</b> , 8, 151	4.6	6
48	Myofiber prestretch magnitude determines regional systolic function during ectopic activation in the tachycardia-induced failing canine heart. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , <b>2013</b> , 305, H192-202	5.2	6
47	Integrative Biological Modelling In Silico. <i>Novartis Foundation Symposium</i> , 4-25		6
46	Optimization Framework for Patient-Specific Cardiac Modeling. <i>Cardiovascular Engineering and Technology</i> , <b>2019</b> , 10, 553-567	2.2	5
45	Improved compressed sensing and super-resolution of cardiac diffusion MRI with structure-guided total variation. <i>Magnetic Resonance in Medicine</i> , <b>2020</b> , 84, 1868-1880	4.4	5
44	Efficient Computational Modeling of Human Ventricular Activation and Its Electrocardiographic Representation: A Sensitivity Study. <i>Cardiovascular Engineering and Technology</i> , <b>2018</b> , 9, 447-467	2.2	5
43	A Microstructurally Based Multi-Scale Constitutive Model of Active Myocardial Mechanics <b>2016</b> , 439-460		5
42	Transcriptomic analysis identifies a role of PI3K-Akt signalling in the responses of skeletal muscle to acute hypoxia in vivo. <i>Journal of Physiology</i> , <b>2017</b> , 595, 5797-5813	3.9	5
41	Modulating the tension-time integral of the cardiac twitch prevents dilated cardiomyopathy in murine hearts. <i>JCI Insight</i> , <b>2020</b> , 5,	9.9	5
40	Factors Affecting the Regional Mechanics of the Diastolic Heart. <i>Institute for Nonlinear Science</i> , <b>1991</b> , 87-119		5
39	Predictions of hypertrophy and its regression in response to pressure overload. <i>Biomechanics and Modeling in Mechanobiology</i> , <b>2020</b> , 19, 1079-1089	3.8	4
38	A demonstration of modularity, reuse, reproducibility, portability and scalability for modeling and simulation of cardiac electrophysiology using Kepler Workflows. <i>PLoS Computational Biology</i> , <b>2019</b> , 15, e1006856	5	3
37	Left Ventricular Diastolic and Systolic Material Property Estimation from Image Data: LV Mechanics Challenge. <i>Lecture Notes in Computer Science</i> , <b>2015</b> , 8896, 63-73	0.9	3

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2	Maintaining resting cardiac fibroblasts in vitro by disrupting mechanotransduction <b>2020</b> , 15, e0241390		
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