

Jeffrey W Holmes

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

97
papers

3,914
citations

33
h-index

61
g-index

109
ext. papers

4,633
ext. citations

4.6
avg, IF

5.55
L-index

#	Paper	IF	Citations
97	A rapid electromechanical model to predict reverse remodeling following cardiac resynchronization therapy. <i>Biomechanics and Modeling in Mechanobiology</i> , 2021 , 1	3.8	0
96	Individual variability in animal-specific hemodynamic compensation following myocardial infarction. <i>Journal of Molecular and Cellular Cardiology</i> , 2021 , 163, 156-166	5.8	1
95	Mechano-chemo signaling interactions modulate matrix production by cardiac fibroblasts. <i>Matrix Biology Plus</i> , 2021 , 10, 100055	5.1	5
94	A Comparison of Fiber Based Material Laws for Myocardial Scar.. <i>Journal of Elasticity</i> , 2021 , 145, 321-337	1.5	0
93	The connexin 43 carboxyl terminal mimetic peptide Γ T1 prompts differentiation of a collagen scar matrix in humans resembling unwounded skin. <i>FASEB Journal</i> , 2021 , 35, e21762	0.9	3
92	Computational models of cardiac hypertrophy. <i>Progress in Biophysics and Molecular Biology</i> , 2021 , 159, 75-85	4.7	6
91	A multiscale model of cardiac concentric hypertrophy incorporating both mechanical and hormonal drivers of growth. <i>Biomechanics and Modeling in Mechanobiology</i> , 2021 , 20, 293-307	3.8	7
90	Network model-based screen for FDA-approved drugs affecting cardiac fibrosis. <i>CPT: Pharmacometrics and Systems Pharmacology</i> , 2021 , 10, 377-388	4.5	1
89	Cardiac Magnetic Resonance Assessment of Response to Cardiac Resynchronization Therapy and Programming Strategies. <i>JACC: Cardiovascular Imaging</i> , 2021 , 14, 2369-2383	8.4	1
88	Computational model predicts paracrine and intracellular drivers of fibroblast phenotype after myocardial infarction. <i>Matrix Biology</i> , 2020 , 91-92, 136-151	11.4	15
87	Longitudinal Reinforcement of Acute Myocardial Infarcts Improves Function by Transmurally Redistributing Stretch and Stress. <i>Journal of Biomechanical Engineering</i> , 2020 , 142,	2.1	5
86	Open-Source Routines for Building Personalized Left Ventricular Models From Cardiac Magnetic Resonance Imaging Data. <i>Journal of Biomechanical Engineering</i> , 2020 , 142,	2.1	1
85	Predictions of hypertrophy and its regression in response to pressure overload. <i>Biomechanics and Modeling in Mechanobiology</i> , 2020 , 19, 1079-1089	3.8	4
84	Spatial scaling in multiscale models: methods for coupling agent-based and finite-element models of wound healing. <i>Biomechanics and Modeling in Mechanobiology</i> , 2019 , 18, 1297-1309	3.8	9
83	Variable outcomes of human heart attack recapitulated in genetically diverse mice. <i>Npj Regenerative Medicine</i> , 2019 , 4, 5	15.8	11
82	Model First and Ask Questions Later: Confessions of a Reformed Experimentalist. <i>Journal of Biomechanical Engineering</i> , 2019 ,	2.1	4
81	A microscopically motivated model for the remodeling of cardiomyocytes. <i>Biomechanics and Modeling in Mechanobiology</i> , 2019 , 18, 1233-1245	3.8	4

80	Trajectory of right ventricular indices is an early predictor of outcomes in hypoplastic left heart syndrome. <i>Congenital Heart Disease</i> , 2019 , 14, 1185-1192	3.1	3
79	The Impact of Hemodynamic Reflex Compensation Following Myocardial Infarction on Subsequent Ventricular Remodeling. <i>Journal of Biomechanical Engineering</i> , 2019 ,	2.1	4
78	Multiscale Coupling of an Agent-Based Model of Tissue Fibrosis and a Logic-Based Model of Intracellular Signaling. <i>Frontiers in Physiology</i> , 2019 , 10, 1481	4.6	12
77	Implications of scar structure and mechanics for post-infarction cardiac repair and regeneration. <i>Experimental Cell Research</i> , 2019 , 376, 98-103	4.2	8
76	Role of boundary conditions in determining cell alignment in response to stretch. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018 , 115, 986-991	11.5	54
75	Predicting the Time Course of Ventricular Dilation and Thickening Using a Rapid Compartmental Model. <i>Journal of Cardiovascular Translational Research</i> , 2018 , 11, 109-122	3.3	18
74	Guidelines for experimental models of myocardial ischemia and infarction. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , 2018 , 314, H812-H838	5.2	249
73	Surgical reinforcement alters collagen alignment and turnover in healing myocardial infarcts. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , 2018 , 315, H1041-H1050	5.2	8
72	Potential strain-dependent mechanisms defining matrix alignment in healing tendons. <i>Biomechanics and Modeling in Mechanobiology</i> , 2018 , 17, 1569-1580	3.8	11
71	A Comparison of Phenomenologic Growth Laws for Myocardial Hypertrophy 2018 , 257-281		
70	Multiscale computational model of Achilles tendon wound healing: Untangling the effects of repair and loading. <i>PLoS Computational Biology</i> , 2018 , 14, e1006652	5	12
69	Imaging left-ventricular mechanical activation in heart failure patients using cine DENSE MRI: Validation and implications for cardiac resynchronization therapy. <i>Journal of Magnetic Resonance Imaging</i> , 2017 , 46, 887-896	5.6	14
68	A Comparison of Phenomenologic Growth Laws for Myocardial Hypertrophy. <i>Journal of Elasticity</i> , 2017 , 129, 257-281	1.5	30
67	Effect of ablation pattern on mechanical function in the atrium. <i>PACE - Pacing and Clinical Electrophysiology</i> , 2017 , 40, 648-654	1.6	8
66	Biomechanics of Myocardial Ischemia and Infarction. <i>Studies in Mechanobiology, Tissue Engineering and Biomaterials</i> , 2017 , 233-269	0.5	
65	Computational modeling of cardiac fibroblasts and fibrosis. <i>Journal of Molecular and Cellular Cardiology</i> , 2016 , 93, 73-83	5.8	33
64	Modifying the mechanics of healing infarcts: Is better the enemy of good?. <i>Journal of Molecular and Cellular Cardiology</i> , 2016 , 93, 115-24	5.8	47
63	Making better scar: Emerging approaches for modifying mechanical and electrical properties following infarction and ablation. <i>Progress in Biophysics and Molecular Biology</i> , 2016 , 120, 134-48	4.7	25

62	Emergence of Collagen Orientation Heterogeneity in Healing Infarcts and an Agent-Based Model. <i>Biophysical Journal</i> , 2016 , 110, 2266-77	2.9	18
61	Why Is Infarct Expansion Such an Elusive Therapeutic Target?. <i>Journal of Cardiovascular Translational Research</i> , 2015 , 8, 421-30	3.3	17
60	Effect of Scar Compaction on the Therapeutic Efficacy of Anisotropic Reinforcement Following Myocardial Infarction in the Dog. <i>Journal of Cardiovascular Translational Research</i> , 2015 , 8, 353-61	3.3	13
59	Comparison of quantitative wall-motion analysis and strain for detection of coronary stenosis with three-dimensional dobutamine stress echocardiography. <i>Echocardiography</i> , 2015 , 32, 349-60	1.5	6
58	Physiological Implications of Myocardial Scar Structure. <i>Comprehensive Physiology</i> , 2015 , 5, 1877-909	7.7	115
57	Changes in Global and Regional Mechanics Due to Atrial Fibrillation: Insights From a Coupled Finite-Element and Circulation Model. <i>Annals of Biomedical Engineering</i> , 2015 , 43, 1600-13	4.7	10
56	An ultrasound-driven kinematic model for deformation of the infarcted mouse left ventricle incorporating a near-incompressibility constraint. <i>Ultrasound in Medicine and Biology</i> , 2015 , 41, 532-41	3.5	
55	Identification of a novel mitochondrial uncoupler that does not depolarize the plasma membrane. <i>Molecular Metabolism</i> , 2014 , 3, 114-23	8.8	118
54	Coupled agent-based and finite-element models for predicting scar structure following myocardial infarction. <i>Progress in Biophysics and Molecular Biology</i> , 2014 , 115, 235-43	4.7	37
53	Mechanical boundary conditions bias fibroblast invasion in a collagen-fibrin wound model. <i>Biophysical Journal</i> , 2014 , 106, 932-43	2.9	20
52	Effects of stretch and shortening on gene expression in intact myocardium. <i>Physiological Genomics</i> , 2014 , 46, 57-65	3.6	11
51	Impact of mechanical activation, scar, and electrical timing on cardiac resynchronization therapy response and clinical outcomes. <i>Journal of the American College of Cardiology</i> , 2014 , 63, 1657-66	15.1	94
50	Postprocedure mapping of cardiac resynchronization lead position using standard fluoroscopy systems: implications for the nonresponder with scar. <i>PACE - Pacing and Clinical Electrophysiology</i> , 2014 , 37, 757-67	1.6	4
49	Wall-motion based analysis of global and regional left atrial mechanics. <i>IEEE Transactions on Medical Imaging</i> , 2013 , 32, 1765-76	11.7	6
48	Cardiac Restraint and Support Following Myocardial Infarction. <i>Studies in Mechanobiology, Tissue Engineering and Biomaterials</i> , 2013 , 169-206	0.5	4
47	Mechanics of Cell Growth. <i>Mechanics Research Communications</i> , 2012 , 42, 118-125	2.2	17
46	Structural mechanism for alteration of collagen gel mechanics by glutaraldehyde crosslinking. <i>Connective Tissue Research</i> , 2012 , 53, 285-97	3.3	32
45	Regional mechanics determine collagen fiber structure in healing myocardial infarcts. <i>Journal of Molecular and Cellular Cardiology</i> , 2012 , 52, 1083-90	5.8	80

44	Mechanical regulation of fibroblast migration and collagen remodelling in healing myocardial infarcts. <i>Journal of Physiology</i> , 2012 , 590, 4585-602	3.9	55
43	Anisotropic reinforcement of acute anteroapical infarcts improves pump function. <i>Circulation: Heart Failure</i> , 2012 , 5, 515-22	7.6	41
42	Strains at the myotendinous junction predicted by a micromechanical model. <i>Journal of Biomechanics</i> , 2011 , 44, 2795-801	2.9	26
41	Model-based design of mechanical therapies for myocardial infarction. <i>Journal of Cardiovascular Translational Research</i> , 2011 , 4, 82-91	3.3	52
40	Evolution of scar structure, mechanics, and ventricular function after myocardial infarction in the rat. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , 2010 , 298, H221-8	5.2	150
39	Contribution of extracellular matrix to the mechanical properties of the heart. <i>Journal of Molecular and Cellular Cardiology</i> , 2010 , 48, 490-6	5.8	163
38	Quantitative three-dimensional wall motion analysis predicts ischemic region size and location. <i>Annals of Biomedical Engineering</i> , 2010 , 38, 1367-76	4.7	8
37	Fibroblasts migrate faster in the direction of applied tension in a collagen-fibrin wound model. <i>FASEB Journal</i> , 2010 , 24, 599.8	0.9	
36	Region-based endocardium tracking on real-time three-dimensional ultrasound. <i>Ultrasound in Medicine and Biology</i> , 2009 , 35, 256-65	3.5	40
35	Coronary Occlusion Detection with 4D Optical Flow Based Strain Estimation on 4D Ultrasound. <i>Lecture Notes in Computer Science</i> , 2009 , 211-219	0.9	6
34	Remodeling of engineered tissue anisotropy in response to altered loading conditions. <i>Annals of Biomedical Engineering</i> , 2008 , 36, 1322-34	4.7	57
33	Model-based development of four-dimensional wall motion measures. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2007 , 196, 3061-3069	5.7	2
32	Isometric contraction induces rapid myocyte remodeling in cultured rat right ventricular papillary muscles. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , 2007 , 293, H3707-12	5.2	26
31	Collagen fiber alignment does not explain mechanical anisotropy in fibroblast populated collagen gels. <i>Journal of Biomechanical Engineering</i> , 2007 , 129, 642-50	2.1	48
30	Theoretical quality assessment of myocardial elastography with in vivo validation. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , 2007 , 54, 2233-45	3.2	78
29	Mechanical load initiates hypertrophic scar formation through decreased cellular apoptosis. <i>FASEB Journal</i> , 2007 , 21, 3250-61	0.9	348
28	Effect of passive cardiac containment on ventricular synchrony and cardiac function in awake dogs. <i>European Journal of Cardio-thoracic Surgery</i> , 2007 , 31, 55-64	3	7
27	Tissue engineering of skeletal muscle. <i>Tissue Engineering</i> , 2007 , 13, 2781-90		63

26	Imaging cardiac mechanics: what information do we need to extract from cardiac images?. <i>Annual International Conference of the IEEE Engineering in Medicine and Biology Society</i> , 2006 , 2006, 1545-7		5
25	Model-based screening of wall motion measures for detection of ischemia in three-dimensional cardiac images. <i>Annual International Conference of the IEEE Engineering in Medicine and Biology Society</i> , 2006 , 2006, 628-31		
24	Teaching from classic papers: Hill's model of muscle contraction. <i>American Journal of Physiology - Advances in Physiology Education</i> , 2006 , 30, 67-72	1.9	20
23	Nitrite-induced cross-linking alters remodeling and mechanical properties of collagenous engineered tissues. <i>Connective Tissue Research</i> , 2006 , 47, 163-76	3.3	22
22	Advanced tools for tissue engineering: scaffolds, bioreactors, and signaling. <i>Tissue Engineering</i> , 2006 , 12, 3285-305		223
21	Structure and mechanics of healing myocardial infarcts. <i>Annual Review of Biomedical Engineering</i> , 2005 , 7, 223-53	12	286
20	Left ventricular assist device support normalizes left and right ventricular beta-adrenergic pathway properties. <i>Journal of the American College of Cardiology</i> , 2005 , 45, 668-76	15.1	73
19	Mechanical strain alters gene expression in an in vitro model of hypertrophic scarring. <i>Annals of Plastic Surgery</i> , 2005 , 55, 69-75; discussion 75	1.7	51
18	Segmentation of real-time three-dimensional ultrasound for quantification of ventricular function: a clinical study on right and left ventricles. <i>Ultrasound in Medicine and Biology</i> , 2005 , 31, 1143-58	3.5	80
17	Parameterization of left ventricular wall motion for detection of regional ischemia. <i>Annals of Biomedical Engineering</i> , 2005 , 33, 912-9	4.7	37
16	Dynamic cardiac information from optical flow using four dimensional ultrasound. <i>Annual International Conference of the IEEE Engineering in Medicine and Biology Society</i> , 2005 , 2005, 4465-8		4
15	The development of structural and mechanical anisotropy in fibroblast populated collagen gels. <i>Journal of Biomechanical Engineering</i> , 2005 , 127, 742-50	2.1	91
14	Candidate mechanical stimuli for hypertrophy during volume overload. <i>Journal of Applied Physiology</i> , 2004 , 97, 1453-60	3.7	41
13	Determinants of left ventricular shape change during filling. <i>Journal of Biomechanical Engineering</i> , 2004 , 126, 98-103	2.1	11
12	Regional functional depression immediately after ventricular septal defect closure. <i>Journal of the American Society of Echocardiography</i> , 2004 , 17, 1066-72	5.8	12
11	Creating alignment and anisotropy in engineered heart tissue: role of boundary conditions in a model three-dimensional culture system. <i>Tissue Engineering</i> , 2003 , 9, 567-77		135
10	Energetics of the Frank-Starling effect in rabbit myocardium: economy and efficiency depend on muscle length. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , 2002 , 283, H324-30	5.2	13
9	Normalized diastolic properties after left ventricular assist result from reverse remodeling of chamber geometry. <i>Circulation</i> , 2001 , 104, 1229-32	16.7	30

8	Normalized Diastolic Properties After Left Ventricular Assist Result From Reverse Remodeling of Chamber Geometry. <i>Circulation</i> , 2001 , 104,	16.7	2
7	Left ventricular assist device-induced reverse ventricular remodeling. <i>Progress in Cardiovascular Diseases</i> , 2000 , 43, 19-26	8.5	53
6	Structural and mechanical factors influencing infarct scar collagen organization. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , 2000 , 278, H194-200	5.2	39
5	Chronic unloading by left ventricular assist device reverses contractile dysfunction and alters gene expression in end-stage heart failure. <i>Circulation</i> , 2000 , 102, 2713-9	16.7	237
4	Enhanced regional deformation at the anterior papillary muscle insertion site after chordal transection. <i>Circulation</i> , 1996 , 93, 585-93	16.7	10
3	Mechano-Chemo Signaling Interactions Modulate Matrix Production by Cardiac Fibroblasts		1
2	The Connexin 43 Carboxyl Terminal Mimetic Peptide α T1 Prompts Differentiation of a Collagen Scar Matrix Resembling Unwounded Skin		2
1	Multiscale model of heart growth during pregnancy: Integrating mechanical and hormonal signaling		1