Hai-Chao Han

List of Publications by Year
in descending order

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		159358	189595
120	2,968	30	50
papers	citations	h-index	g-index

127	127	127	3323
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Effects of material non-symmetry on the mechanical behavior of arterial wall. Journal of the Mechanical Behavior of Biomedical Materials, 2022, 129, 105157.	1.5	7
2	Numerical simulations of the nonsymmetric growth and remodeling of arteries under axial twisting. Journal of Biomechanics, 2022, 140, 111165.	0.9	2
3	Characterization of residual stresses from cold expansion using spatial statistics. Fatigue and Fracture of Engineering Materials and Structures, 2021, 44, 101-114.	1.7	1
4	Arterial Wall Stiffening in Caveolin-1 Deficiency-Induced Pulmonary Artery Hypertension in Mice. Experimental Mechanics, 2021, 61, 217-228.	1.1	4
5	A Hemodynamic Comparison of Myocardial Bridging and Coronary Atherosclerotic Stenosis: A Computational Model With Experimental Evaluation. Journal of Biomechanical Engineering, 2021, 143, .	0.6	3
6	Novel Architected Material for Cardiac Patches. Jom, 2021, 73, 1765-1773.	0.9	0
7	Quantitative Evaluation of Faculty Research Productivity. The Department Chair, 2021, 32, 20-21.	0.1	0
8	Buckling of Arteries With Noncircular Cross Sections: Theory and Finite Element Simulations. Frontiers in Physiology, 2021, 12, 712636.	1.3	8
9	Growth-profile configuration for specific deformations of tubular organs: A study of growth-induced thinning and dilation of the human cervix. PLoS ONE, 2021, 16, e0255895.	1.1	2
10	Quantifying Engineering Faculty Performance Based on Expectations on Key Activities and Integration Using Flexible Weighting Factors. Journal of Biomechanical Engineering, 2020, 142, .	0.6	1
11	Hemodynamic effects of myocardial bridging in patients with hypertrophic cardiomyopathy. American Journal of Physiology - Heart and Circulatory Physiology, 2019, 317, H1282-H1291.	1.5	18
12	Computational simulations of the helical buckling behavior of blood vessels. International Journal for Numerical Methods in Biomedical Engineering, 2019, 35, e3277.	1.0	14
13	Computational Modeling of Human Left Ventricle to Assess the Effects of Trabeculae Carneae on the Diastolic and Systolic Functions. Journal of Biomechanical Engineering, 2019, 141, .	0.6	2
14	Trabecular cutting: a novel surgical therapy to increase diastolic compliance. Journal of Applied Physiology, 2019, 127, 457-463.	1.2	1
15	Comparison of Biomechanical Properties and Microstructure of Trabeculae Carneae, Papillary Muscles, and Myocardium in the Human Heart. Journal of Biomechanical Engineering, 2019, 141, .	0.6	18
16	Numerical Simulation of Myocardial Bridging in Patients with Hypertrophic Cardiomyopathy. MCB Molecular and Cellular Biomechanics, 2019, 16, 16-17.	0.3	1
17	Fluid-structure interaction modeling of aneurysmal arteries under steady-state and pulsatile blood flow: a stability analysis. Computer Methods in Biomechanics and Biomedical Engineering, 2018, 21, 219-231.	0.9	36
18	Understanding the mechanisms of mechanical unloading to achieve myocardial recovery. American Journal of Physiology - Heart and Circulatory Physiology, 2018, 315, H1519-H1520.	1.5	0

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19	The Effect of Pentagalloyl Glucose on the Wall Mechanics and Inflammatory Activity of Rat Abdominal Aortic Aneurysms. Journal of Biomechanical Engineering, 2018, 140, .	0.6	10
20	Twist buckling of veins under torsional loading. Journal of Biomechanics, 2017, 58, 123-130.	0.9	15
21	The Effect of Trabeculae Carneae on Left Ventricular Diastolic Compliance: Improvement in Compliance With Trabecular Cutting. Journal of Biomechanical Engineering, 2017, 139, .	0.6	21
22	Investigation of Stent Implant Mechanics Using Linear Analytical and Computational Approach. Cardiovascular Engineering and Technology, 2017, 8, 81-90.	0.7	6
23	Arterial wall remodeling under sustained axial twisting in rats. Journal of Biomechanics, 2017, 60, 124-133.	0.9	7
24	Numerical Simulation of Thrombotic Occlusion in Tortuous Arterioles. , 2017, 2, 095-111.		2
25	Numerical Simulation of Thrombotic Occlusion in Tortuous Arterioles. Journal of Cardiology and Cardiovascular Medicine, 2017, 2, 95-111.	0.1	1
26	Mechanical Properties of High Entropy Alloy Al0.1CoCrFeNi for Peripheral Vascular Stent Application. Cardiovascular Engineering and Technology, 2016, 7, 448-454.	0.7	31
27	Artery buckling analysis using a two-layered wall model with collagen dispersion. Journal of the Mechanical Behavior of Biomedical Materials, 2016, 60, 515-524.	1.5	20
28	Computational simulation of platelet interactions in the initiation of stent thrombosis due to stent malapposition. Physical Biology, 2016, 13, 016001.	0.8	24
29	Buckling Reduces eNOS Production and Stimulates Extracellular Matrix Remodeling in Arteries in Organ Culture. Annals of Biomedical Engineering, 2016, 44, 2840-2850.	1.3	6
30	Myocardial Infarction Superimposed on Aging: MMP-9 Deletion Promotes M2 Macrophage Polarization. Journals of Gerontology - Series A Biological Sciences and Medical Sciences, 2016, 71, 475-483.	1.7	62
31	Effect of Axial Stretch on Lumen Collapse of Arteries. Journal of Biomechanical Engineering, 2016, 138, .	0.6	9
32	Mechanical behavior and wall remodeling of blood vessels under axial twist. Yiyong Shengwu Lixue/Journal of Medical Biomechanics, 2016, 31, 319-326.	1.0	2
33	SIRT1 and FOXO Mediate Contractile Differentiation of Vascular Smooth Muscle Cells under Cyclic Stretch. Cellular Physiology and Biochemistry, 2015, 37, 1817-1829.	1.1	36
34	Biomechanics of Cardiac Function. , 2015, 5, 1623-1644.		67
35	Artery Remodeling Under Axial Twist in Three Days Organ Culture. Annals of Biomedical Engineering, 2015, 43, 1738-1747.	1.3	10
36	Artery buckling affects the mechanical stress in atherosclerotic plaques. BioMedical Engineering OnLine, 2015, 14, S4.	1.3	16

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37	Building a better infarct: Modulation of collagen cross-linking to increase infarct stiffness and reduce left ventricular dilation post-myocardial infarction. Journal of Molecular and Cellular Cardiology, 2015, 85, 229-239.	0.9	59
38	Investigation of the optimal collagen fibre orientation in human iliac arteries. Journal of the Mechanical Behavior of Biomedical Materials, 2015, 52, 108-119.	1.5	37
39	Simulation of the microscopic process during initiation of stent thrombosis. Computers in Biology and Medicine, 2015, 56, 182-191.	3.9	20
40	Stability of Carotid Artery Under Steady-State and Pulsatile Blood Flow: A Fluidâ€“Structure Interaction Study. Journal of Biomechanical Engineering, 2015, 137, 061007.	0.6	14
41	Critical buckling pressure in mouse carotid arteries with altered elastic fibers. Journal of the Mechanical Behavior of Biomedical Materials, 2015, 46, 69-82.	1.5	9
42	Computational Simulations in the Cardiovascular System. Scientific World Journal, The, 2014, 2014, 1-1.	0.8	0
43	Artery buckling stimulates cell proliferation and NF-Î¹B signaling. American Journal of Physiology - Heart and Circulatory Physiology, 2014, 307, H542-H551.	1.5	10
44	Mechanical instability of normal and aneurysmal arteries. Journal of Biomechanics, 2014, 47, 3868-3875.	0.9	18
45	Cardiac aging is initiated by matrix metalloproteinase-9-mediated endothelial dysfunction. American Journal of Physiology - Heart and Circulatory Physiology, 2014, 306, H1398-H1407.	1.5	51
46	Artery buckling analysis using a four-fiber wall model. Journal of Biomechanics, 2014, 47, 2790-2796.	0.9	28
47	A model to determine the effect of collagen fiber alignment on heart function post myocardial infarction. Theoretical Biology and Medical Modelling, 2014, 11, 6.	2.1	30
48	Cardiac function of the naked mole-rat: ecophysiological responses to working underground. American Journal of Physiology - Heart and Circulatory Physiology, 2014, 306, H730-H737.	1.5	32
49	An In Vivo Rat Model of Artery Buckling for Studying Wall Remodeling. Annals of Biomedical Engineering, 2014, 42, 1658-1667.	1.3	16
50	Platelet size and density affect shear-induced thrombus formation in tortuous arterioles. Physical Biology, 2013, 10, 056003.	0.8	31
51	Artery Buckling: New Phenotypes, Models, and Applications. Annals of Biomedical Engineering, 2013, 41, 1399-1410.	1.3	72
52	Twist buckling behavior of arteries. Biomechanics and Modeling in Mechanobiology, 2013, 12, 915-927.	1.4	33
53	Smooth muscle cell contraction increases the critical buckling pressure of arteries. Journal of Biomechanics, 2013, 46, 841-844.	0.9	16
54	Mechanical buckling of arterioles in collateral development. Journal of Theoretical Biology, 2013, 316, 42-48.	0.8	5

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55	Matrix Metalloproteinase-28 Deletion Exacerbates Cardiac Dysfunction and Rupture After Myocardial Infarction in Mice by Inhibiting M2 Macrophage Activation. Circulation Research, 2013, 112, 675-688.	2.0	187
56	Aneurismal Arteries are Vulnerable to Mechanical Buckling. , 2013, , .		0
57	Effect of Red Blood Cells on Platelet Activation and Thrombus Formation in Tortuous Arterioles. Frontiers in Bioengineering and Biotechnology, 2013, 1, 18.	2.0	14
58	Effects of elastin degradation and surrounding matrix support on artery stability. American Journal of Physiology - Heart and Circulatory Physiology, 2012, 302, H873-H884.	1.5	74
59	Twisted Blood Vessels: Symptoms, Etiology and Biomechanical Mechanisms. Journal of Vascular Research, 2012, 49, 185-197.	0.6	347
60	STRESS ANALYSIS OF CAROTID ARTERY STENT UNDER BENDING AND TORSION. Journal of Biomechanics, 2012, 45, S637.	0.9	1
61	Mechanical buckling of artery under pulsatile pressure. Journal of Biomechanics, 2012, 45, 1192-1198.	0.9	33
62	Alterations in Pulse Pressure Affect Artery Function. Cellular and Molecular Bioengineering, 2012, 5, 474-487.	1.0	15
63	Mathematical modeling of left ventricular dimensional changes in mice during aging. BMC Systems Biology, 2012, 6, S10.	3.0	15
64	The Stability of Veins Under Torsion. , 2012, , .		1
65	Increased tortuosity promotes platelet activation and thrombus formation in microvessels. FASEB Journal, 2012, 26, 1058.10.	0.2	1
66	Contributions of Platelet Activation and Collision to Thrombus Formation in Tortuous Venules. , 2012, , .		0
67	The effect of collagenase on the critical buckling pressure of arteries. MCB Molecular and Cellular Biomechanics, 2012, 9, 55-75.	0.3	5
68	Targeting myocardial infarction-specific protein interaction network using computational analyses. , 2011, , .		8
69	Buckling Behavior of Arteries Under Torsion. , 2011, , .		1
70	Mechanical Buckling of Artery Under Pulsatile Flow. , 2011, , .		1
71	Determination of the Critical Buckling Pressure of Blood Vessels Using the Energy Approach. Annals of Biomedical Engineering, 2011, 39, 1032-1040.	1.3	19
72	Combining experimental and mathematical modeling to reveal mechanisms of macrophage-dependent left ventricular remodeling. BMC Systems Biology, 2011, 5, 60.	3.0	56

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73	EFFECTS OF GEOMETRIC VARIATIONS ON THE BUCKLING OF ARTERIES. International Journal of Applied Mechanics, 2011, 03, 385-406.	1.3	34
74	Tortuosity Triggers Platelet Activation and Thrombus Formation in Microvessels. Journal of Biomechanical Engineering, 2011, 133, 121004.	0.6	47
75	Response to Comment on â€œA biomechanical model of artery bucklingâ€• Journal of Biomechanics, 2010, 43, 802-803.	0.9	0
76	Comparison of Artery Organ Culture and Co-culture Models for Studying Endothelial Cell Migration and Its Effect on Smooth Muscle Cell Proliferation and Migration. Annals of Biomedical Engineering, 2010, 38, 801-812.	1.3	13
77	Mechanical Buckling of Veins Under Internal Pressure. Annals of Biomedical Engineering, 2010, 38, 1345-1353.	1.3	52
78	A Nonlinear Thin-Wall Model for Vein Buckling. Cardiovascular Engineering and Technology, 2010, 1, 282-289.	0.7	19
79	Effects of Axial Stretch on Cell Proliferation and Intimal Thickness in Arteries in Organ Culture. Cellular and Molecular Bioengineering, 2010, 3, 286-295.	1.0	23
80	Response to comment on â€œA biomechanical model of artery bucklingâ€•and subsequent comments. Journal of Biomechanics, 2010, 43, 2864.	0.9	0
81	A conceptual cellular interaction model of left ventricular remodelling post-MI: dynamic network with exit-entry competition strategy. BMC Systems Biology, 2010, 4, S5.	3.0	21
82	Mechanical Performance Study of Vascular Stent Using Computational Modeling and Simulation. IFMBE Proceedings, 2010, , 1443-1446.	0.2	0
83	The effect of collagenase on arterial opening angle. , 2009, , .		1
84	The Theoretical Foundation for Artery Buckling Under Internal Pressure. Journal of Biomechanical Engineering, 2009, 131, 124501.	0.6	30
85	Alterations of Pulse Pressure Stimulate Arterial Wall Matrix Remodeling. Journal of Biomechanical Engineering, 2009, 131, 101011.	0.6	19
86	Matrix Metalloproteinase-2 and -9 Are Associated With High Stresses Predicted Using a Nonlinear Heterogeneous Model of Arteries. Journal of Biomechanical Engineering, 2009, 131, 011009.	0.6	28
87	Blood vessel buckling within soft surrounding tissue generates tortuosity. Journal of Biomechanics, 2009, 42, 2797-2801.	0.9	60
88	Finite Element Analysis of Buckling of Arteries With Aneurysms. , 2009, , .		2
89	COMPUTATIONAL SIMULATIONS OF THE BUCKLING OF OVAL AND TAPERED ARTERIES. , 2009, , 53-64.		4
90	Changes in Pulse Pressure Alter Arterial Wall Permeability. , 2009, , .		0

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91	The mechanical buckling of curved arteries. MCB Molecular and Cellular Biomechanics, 2009, 6, 93-9.	0.3	7
92	Nonlinear buckling of blood vessels: A theoretical study. Journal of Biomechanics, 2008, 41, 2708-2713.	0.9	39
93	Morphologic adaptation of arterial endothelial cells to longitudinal stretch in organ culture. Journal of Biomechanics, 2008, 41, 3274-3277.	0.9	18
94	Age-related cardiac muscle sarcopenia: Combining experimental and mathematical modeling to identify mechanisms. Experimental Gerontology, 2008, 43, 296-306.	1.2	99
95	Critical Buckling Pressure of Veins. , 2008, , .		3
96	The Mechanism of Pulse Pressure Affecting the Permeability of Arteries. , 2008, , .		0
97	Flow Increases Endothelial Migration and Inhibits Smooth Muscle Cell Proliferation in Artery and Co-Culture Models. , 2008, , .		0
98	Spatial variations in wall thickness, material stiffness and initial shape affect wall stress and shape of intracranial aneurysms. Neurological Research, 2007, 29, 569-577.	0.6	23
99	The Critical Buckling Pressure of Arteries. , 2007, , 175.		3
100	ACE inhibitors to block MMP-9 activity: New functions for old inhibitors. Journal of Molecular and Cellular Cardiology, 2007, 43, 664-666.	0.9	25
101	A biomechanical model of artery buckling. Journal of Biomechanics, 2007, 40, 3672-3678.	0.9	95
102	Effect of Pulse Pressure on the Vasomotor Function of Arteries. , 2007, , .		0
103	Changes of opening angle in hypertensive and hypotensive arteries in 3-day organ culture. Journal of Biomechanics, 2006, 39, 2410-2418.	0.9	30
104	Sustained Axial Loading Lengthens Arteries in Organ Culture. Annals of Biomedical Engineering, 2005, 33, 867-877.	1.3	35
105	Prediction of the Left Ventricular Ejection Fraction Improvement Using Echocardiography and Mechanical Modeling. Journal of the American Society of Echocardiography, 2005, 18, 718-721.	1.2	4
106	The relation between viable segments and left ventricular ejection fraction improvement. Journal of Medical Engineering and Technology, 2004, 28, 242-253.	0.8	1
107	An echocardiogram-based 16-segment model for predicting left ventricular ejection fraction improvement. Journal of Theoretical Biology, 2004, 228, 7-15.	0.8	5
108	Arterial Wall Adaptation under Elevated Longitudinal Stretch in Organ Culture. Annals of Biomedical Engineering, 2003, 31, 403-411.	1.3	58

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109	Assessment of Function in Tissue-Engineered Vascular Grafts. , 2003, , 258-267.		3
110	A Left Ventricle Model to Predict Post-Revascularization Ejection Fraction Based on Cine Magnetic Resonance Images. Journal of Biomechanical Engineering, 2002, 124, 52-55.	0.6	7
111	Contractile Responses in Arteries Subjected to Hypertensive Pressure in Seven-Day Organ Culture. Annals of Biomedical Engineering, 2001, 29, 467-475.	1.3	46
112	Quantitative Prediction of Improvement in Cardiac Function after Revascularization with MR Imaging and Modeling: Initial Results. Radiology, 2001, 221, 515-522.	3.6	12
113	Postsurgical Changes of the Opening Angle of Canine Autogenous Vein Graft. Journal of Biomechanical Engineering, 1998, 120, 211-216.	0.6	29
114	Direct measurement of transverse residual strains in aorta. American Journal of Physiology - Heart and Circulatory Physiology, 1996, 270, H750-H759.	1.5	39
115	Longitudinal strain of canine and porcine aortas. Journal of Biomechanics, 1995, 28, 637-641.	0.9	135
116	Species Dependence of the Zero-Stress State of Aorta: Pig Versus Rat. Journal of Biomechanical Engineering, 1991, 113, 446-451.	0.6	81
117	Residual strains in porcine and canine trachea. Journal of Biomechanics, 1991, 24, 307-315.	0.9	90
118	Linear increase law of optimum age of scientific creativity. Scientometrics, 1989, 15, 309-312.	1.6	2
119	Adaptation of endothelial cells in arteries under axial stretch in organ culture. , 0, , .		0
120	Predicting ejection fraction improvement by mechanical model and cine magnetic resonance images. , 0, , .		0