Jay D Humphrey

List of Publications by Year
in descending order

272 papers	17,170 citations	15495 65 h-index	21521 114 g-index
281 all docs	281 docs citations	281 times ranked	11369 citing authors

#	Article	IF	Citations
1	Reduced Smooth Muscle Contractile Capacity Facilitates Maladaptive Arterial Remodeling. Journal of Biomechanical Engineering, 2022, 144, .	0.6	3
2	Comment on â€œTensional homeostasis at different length scalesâ€•by D. StamenoviÄ‡ and M. L. Smith, <i>Soft Matter</i>, 2021, 17, 10274â€“10285, DOI: 10.1039/D0SM01911A. Soft Matter, 2022, 18, 675-679.	1.2	0
3	Tissue engineered vascular grafts transform into autologous neovessels capable of native function and growth. Communications Medicine, 2022, 2, .	1.9	18
4	Critical Pressure of Intramural Delamination in Aortic Dissection. Annals of Biomedical Engineering, 2022, 50, 183-194.	1.3	10
5	Understanding Pulmonary Autograft Remodeling After the Ross Procedure: Stick to the Facts. Frontiers in Cardiovascular Medicine, 2022, 9, 829120.	1.1	6
6	mTOR inhibition prevents angiotensin IIâ€“induced aortic rupture and pseudoaneurysm but promotes dissection in Apoe-deficient mice. JCI Insight, 2022, 7, .	2.3	8
7	Simulating progressive intramural damage leading to aortic dissection using DeepONet: an operatorâ€“regression neural network. Journal of the Royal Society Interface, 2022, 19, 20210670.	1.5	21
8	In vivo development of tissue engineered vascular grafts: a fluid-solid-growth model. Biomechanics and Modeling in Mechanobiology, 2022, 21, 827-848.	1.4	5
9	Compromised Cardiopulmonary Function in Fibulin-5 Deficient Mice. Journal of Biomechanical Engineering, 2022, 144, .	0.6	0
10	CineCT platform for in vivo and ex vivo measurement of 3D high resolution Lagrangian strains in the left ventricle following myocardial infarction and intramyocardial delivery of theranostic hydrogel. Journal of Molecular and Cellular Cardiology, 2022, 166, 74-90.	0.9	8
11	Animal models and methods to study arterial stiffness. , 2022, , 137-151.		0
12	Predicting and understanding arterial elasticity from key microstructural features by bidirectional deep learning. Acta Biomaterialia, 2022, 147, 63-72.	4.1	9
13	Deletion of matrix metalloproteinase-12 compromises mechanical homeostasis and leads to an aged aortic phenotype in young mice. Journal of Biomechanics, 2022, 141, 111179.	0.9	3
14	Enablers and drivers of vascular remodeling. , 2022, , 277-285.		0
15	Evolving Mural Defects, Dilatation, and Biomechanical Dysfunction in Angiotensin IIâ€“Induced Thoracic Aortopathies. Arteriosclerosis, Thrombosis, and Vascular Biology, 2022, 42, 973-986.	1.1	3
16	Fibronectinâ€“Integrin Î±5 Signaling in Vascular Complications of Type 1 Diabetes. Diabetes, 2022, 71, 2020-2033.	0.3	4
17	Mechanisms of Vascular Remodeling in Hypertension. American Journal of Hypertension, 2021, 34, 432-441.	1.0	54
18	Developmental origins of mechanical homeostasis in the aorta. Developmental Dynamics, 2021, 250, 629-639.	0.8	28

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19	Electrospun Tissue-Engineered Arterial Graft Thickness Affects Long-Term Composition and Mechanics. Tissue Engineering - Part A, 2021, 27, 593-603.	1.6	11
20	From Transcript to Tissue: Multiscale Modeling from Cell Signaling to Matrix Remodeling. Annals of Biomedical Engineering, 2021, 49, 1701-1715.	1.3	26
21	Differential propensity of dissection along the aorta. Biomechanics and Modeling in Mechanobiology, 2021, 20, 895-907.	1.4	13
22	Complementary roles of mechanotransduction and inflammation in vascular homeostasis. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2021, 477, 20200622.	1.0	8
23	Integrating blood cell mechanics, platelet adhesive dynamics and coagulation cascade for modelling thrombus formation in normal and diabetic blood. Journal of the Royal Society Interface, 2021, 18, 20200834.	1.5	44
24	Mechanical homeostasis in tissue equivalents: a review. Biomechanics and Modeling in Mechanobiology, 2021, 20, 833-850.	1.4	36
25	Non-invasive inference of thrombus material properties with physics-informed neural networks. Computer Methods in Applied Mechanics and Engineering, 2021, 375, 113603.	3.4	82
26	Differential biomechanical responses of elastic and muscular arteries to angiotensin II-induced hypertension. Journal of Biomechanics, 2021, 119, 110297.	0.9	13
27	Adventitial remodeling protects against aortic rupture following late smooth muscle-specific disruption of TGFÎ² signaling. Journal of the Mechanical Behavior of Biomedical Materials, 2021, 116, 104264.	1.5	13
28	Arterial Stiffness and Cardiovascular Risk in Hypertension. Circulation Research, 2021, 128, 864-886.	2.0	213
29	Evolving structure-function relations during aortic maturation and aging revealed by multiphoton microscopy. Mechanisms of Ageing and Development, 2021, 196, 111471.	2.2	22
30	A computational framework for modeling cellâ€“matrix interactions in soft biological tissues. Biomechanics and Modeling in Mechanobiology, 2021, 20, 1851-1870.	1.4	23
31	Quantitative not qualitative histology differentiates aneurysmal from nondilated ascending aortas and reveals a net gain of medial components. Scientific Reports, 2021, 11, 13185.	1.6	12
32	Biomechanical consequences of compromised elastic fiber integrity and matrix cross-linking on abdominal aortic aneurysmal enlargement. Acta Biomaterialia, 2021, 134, 422-434.	4.1	21
33	Hemodynamic performance of tissue-engineered vascular grafts in Fontan patients. Npj Regenerative Medicine, 2021, 6, 38.	2.5	23
34	What do cells regulate in soft tissues on short time scales?. Acta Biomaterialia, 2021, 134, 348-356.	4.1	5
35	Multi-view Digital Image Correlation Systems for In Vitro Testing of Arteries from Mice to Humans. Experimental Mechanics, 2021, 61, 1455-1472.	1.1	9
36	Excessive adventitial stress drives inflammation-mediated fibrosis in hypertensive aortic remodelling in mice. Journal of the Royal Society Interface, 2021, 18, 20210336.	1.5	24

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37	Vascular Mechanobiology: Homeostasis, Adaptation, and Disease. Annual Review of Biomedical Engineering, 2021, 23, 1-27.	5.7	75
38	Mechanisms of Hypoxia-Induced Pulmonary Arterial Stiffening in Mice Revealed by a Functional Genetics Assay of Structural, Functional, and Transcriptomic Data. Frontiers in Physiology, 2021, 12, 726253.	1.3	5
39	Inhibition of HIPK2 Alleviates Thoracic Aortic Disease in Mice With Progressively Severe Marfan Syndrome. Arteriosclerosis, Thrombosis, and Vascular Biology, 2021, 41, 2483-2493.	1.1	4
40	Constrained Mixture Models of Soft Tissue Growth and Remodeling â€" Twenty Years After. Journal of Elasticity, 2021, 145, 49-75.	0.9	38
41	Uncertainty quantification in subjectâ€specific estimation of local vessel mechanical properties. International Journal for Numerical Methods in Biomedical Engineering, 2021, 37, e3535.	1.0	12
42	Comparative Study of Human and Murine Aortic Biomechanics and Hemodynamics in Vascular Aging. Frontiers in Physiology, 2021, 12, 746796.	1.3	10
43	Roles of mTOR in thoracic aortopathy understood by complex intracellular signaling interactions. PLoS Computational Biology, 2021, 17, e1009683.	1.5	16
44	Progressive Microstructural Deterioration Dictates Evolving Biomechanical Dysfunction in the Marfan Aorta. Frontiers in Cardiovascular Medicine, 2021, 8, 800730.	1.1	14
45	Co-localization of microstructural damage and excessive mechanical strain at aortic branches in angiotensin-II-infused mice. Biomechanics and Modeling in Mechanobiology, 2020, 19, 81-97.	1.4	11
46	Biomechanics and Mechanobiology of Extracellular Matrix Remodeling. Studies in Mechanobiology, Tissue Engineering and Biomaterials, 2020, , 1-20.	0.7	0
47	Venous Mechanical Properties After Arteriovenous Fistulae in Mice. Journal of Surgical Research, 2020, 248, 129-136.	0.8	0
48	Effects of Braiding Parameters on Tissue Engineered Vascular Graft Development. Advanced Healthcare Materials, 2020, 9, e2001093.	3.9	18
49	A nonlinear rotation-free shell formulation with prestressing for vascular biomechanics. Scientific Reports, 2020, 10, 17528.	1.6	11
50	Vascular adaptation in the presence of external support - A modeling study. Journal of the Mechanical Behavior of Biomedical Materials, 2020, 110, 103943.	1.5	10
51	Paradoxical aortic stiffening and subsequent cardiac dysfunction in Hutchinsonâ€"Gilford progeria syndrome. Journal of the Royal Society Interface, 2020, 17, 20200066.	1.5	21
52	Cell signaling model for arterial mechanobiology. PLoS Computational Biology, 2020, 16, e1008161.	1.5	39
53	Artery to vein configuration of arteriovenous fistula improves hemodynamics to increase maturation and patency. Science Translational Medicine, 2020, 12, .	5.8	15
54	Aortic remodeling is modest and sex-independent in mice when hypertension is superimposed on aging. Journal of Hypertension, 2020, 38, 1312-1321.	0.3	21

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55	Fast, rate-independent, finite element implementation of a 3D constrained mixture model of soft tissue growth and remodeling. Computer Methods in Applied Mechanics and Engineering, 2020, 368, 113156.	3.4	17
56	Spontaneous reversal of stenosis in tissue-engineered vascular grafts. Science Translational Medicine, 2020, 12, .	5.8	81
57	Multimodality Imaging-Based Characterization of Regional Material Properties in a Murine Model of Aortic Dissection. Scientific Reports, 2020, 10, 9244.	1.6	20
58	A computational bio-chemo-mechanical model of in vivo tissue-engineered vascular graft development. Integrative Biology (United Kingdom), 2020, 12, 47-63.	0.6	19
59	A three-dimensional phase-field model for multiscale modeling of thrombus biomechanics in blood vessels. PLoS Computational Biology, 2020, 16, e1007709.	1.5	51
60	Smooth Muscle Cell Reprogramming in Aortic Aneurysms. Cell Stem Cell, 2020, 26, 542-557.e11.	5.2	114
61	Computer-Controlled Biaxial Bioreactor for Investigating Cell-Mediated Homeostasis in Tissue Equivalents. Journal of Biomechanical Engineering, 2020, 142, .	0.6	14
62	Mechanics-driven mechanobiological mechanisms of arterial tortuosity. Science Advances, 2020, 6, .	4.7	24
63	Chronic mTOR activation induces a degradative smooth muscle cell phenotype. Journal of Clinical Investigation, 2020, 130, 1233-1251.	3.9	59
64	Numerical knockoutsâ€"In silico assessment of factors predisposing to thoracic aortic aneurysms. PLoS Computational Biology, 2020, 16, e1008273.	1.5	19
65	P.58 Genetic Background Dictates Aortic Fibrosis in Hypertensive Mice. Artery Research, 2020, 26, S81-S82.	0.3	1
66	Vascular dimorphism ensured by regulated proteoglycan dynamics favors rapid umbilical artery closure at birth. ELife, 2020, 9, .	2.8	16
67	Title is missing!. , 2020, 16, e1007709.		0
68	Title is missing!. , 2020, 16, e1007709.		0
69	Title is missing!. , 2020, 16, e1007709.		0
70	Title is missing!. , 2020, 16, e1007709.		0
71	Cell signaling model for arterial mechanobiology. , 2020, 16, e1008161.		0
72	Cell signaling model for arterial mechanobiology. , 2020, 16, e1008161.		0

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73	Cell signaling model for arterial mechanobiology. , 2020, 16, e1008161.		0
74	Cell signaling model for arterial mechanobiology. , 2020, 16, e1008161.		0
75	Cell signaling model for arterial mechanobiology. , 2020, 16, e1008161.		0
76	Cell signaling model for arterial mechanobiology. , 2020, 16, e1008161.		0
77	Cell signaling model for arterial mechanobiology. , 2020, 16, e1008161.		0
78	Cell signaling model for arterial mechanobiology. , 2020, 16, e1008161.		0
79	Growth and remodelling of living tissues: perspectives, challenges and opportunities. Journal of the Royal Society Interface, 2019, 16, 20190233.	1.5	142
80	Optimization of Tissue-Engineered Vascular Graft Design Using Computational Modeling. Tissue Engineering - Part C: Methods, 2019, 25, 561-570.	1.1	47
81	Modeling lamellar disruption within the aortic wall using a particle-based approach. Scientific Reports, 2019, 9, 15320.	1.6	22
82	Computational modeling predicts immuno-mechanical mechanisms of maladaptive aortic remodeling in hypertension. International Journal of Engineering Science, 2019, 141, 35-46.	2.7	24
83	Differential outcomes of venous and arterial tissue engineered vascular grafts highlight the importance of coupling long-term implantation studies with computational modeling. Acta Biomaterialia, 2019, 94, 183-194.	4.1	34
84	Arterial Stiffness: Different Metrics, Different Meanings. Journal of Biomechanical Engineering, 2019, 141, .	0.6	33
85	Sex-dependent differences in central artery haemodynamics in normal and fibulin-5 deficient mice: implications for ageing. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2019, 475, 20180076.	1.0	20
86	Biomechanical characterization of murine pulmonary arteries. Journal of Biomechanics, 2019, 84, 18-26.	0.9	21
87	Mechanobiological stability of biological soft tissues. Journal of the Mechanics and Physics of Solids, 2019, 125, 298-325.	2.3	27
88	Maladaptive aortic remodeling in hypertension associates with dysfunctional smooth muscle contractility. American Journal of Physiology - Heart and Circulatory Physiology, 2019, 316, H265-H278.	1.5	27
89	Central artery stiffness and thoracic aortopathy. American Journal of Physiology - Heart and Circulatory Physiology, 2019, 316, H169-H182.	1.5	44
90	Fundamental Roles of Axial Stretch in Isometric and Isobaric Evaluations of Vascular Contractility. Journal of Biomechanical Engineering, 2019, 141, .	0.6	19

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91	Absence of LTBP-3 attenuates the aneurysmal phenotype but not spinal effects on the aorta in Marfan syndrome. Biomechanics and Modeling in Mechanobiology, 2019, 18, 261-273.	1.4	19
92	Local variations in material and structural properties characterize murine thoracic aortic aneurysm mechanics. Biomechanics and Modeling in Mechanobiology, 2019, 18, 203-218.	1.4	52
93	Systems pharmacologyâ€"based integration of human and mouse data for drug repurposing to treat thoracic aneurysms. JCI Insight, 2019, 4, .	2.3	21
94	A mechanobiologically equilibrated constrained mixture model for growth and remodeling of soft tissues. ZAMM Zeitschrift Fur Angewandte Mathematik Und Mechanik, 2018, 98, 2048-2071.	0.9	33
95	Data-driven Modeling of Hemodynamics and its Role on Thrombus Size and Shape in Aortic Dissections. Scientific Reports, 2018, 8, 2515.	1.6	23
96	Oversized Biodegradable Arterial Grafts Promote Enhanced Neointimal Tissue Formation. Tissue Engineering - Part A, 2018, 24, 1251-1261.	1.6	12
97	Journal of Biomechanical Engineering: Legacy Paper 2017. Journal of Biomechanical Engineering, 2018, 140, .	0.6	0
98	Particle-based computational modelling of arterial disease. Journal of the Royal Society Interface, 2018, 15, 20180616.	1.5	20
99	Combining in vivo and in vitro biomechanical data reveals key roles of perivascular tethering in central artery function. PLoS ONE, 2018, 13, e0201379.	1.1	39
100	Regional Heterogeneity in the Regulation of Vasoconstriction in Arteries and Its Role in Vascular Mechanics. Advances in Experimental Medicine and Biology, 2018, 1097, 105-128.	0.8	9
101	Strongly Coupled Morphological Features of Aortic Aneurysms Drive Intraluminal Thrombus. Scientific Reports, 2018, 8, 13273.	1.6	18
102	Compromised mechanical homeostasis in arterial aging and associated cardiovascular consequences. Biomechanics and Modeling in Mechanobiology, 2018, 17, 1281-1295.	1.4	47
103	Critical roles of time-scales in soft tissue growth and remodeling. APL Bioengineering, 2018, 2, 026108.	3.3	26
104	Immuno-driven and Mechano-mediated Neotissue Formation in Tissue Engineered Vascular Grafts. Annals of Biomedical Engineering, 2018, 46, 1938-1950.	1.3	51
105	Vascular mechanobiology, immunobiology, and arterial growth and remodeling. , 2018, , 215-248.		6
106	Modeling mechano-driven and immuno-mediated aortic maladaptation in hypertension. Biomechanics and Modeling in Mechanobiology, 2018, 17, 1497-1511.	1.4	42
107	LNK deficiency promotes acute aortic dissection and rupture. JCI Insight, 2018, 3, .	2.3	15
108	Loss of Lymphocyte Adaptor Protein LNK Predisposes to Acute Aortic Dissection. FASEB Journal, 2018, 32, .	0.2	0

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109	Growth and remodeling of load-bearing biological soft tissues. Meccanica, 2017, 52, 645-664.	1.2	119
110	Biomechanical Phenotyping of the Murine Aorta: What Is the Best Control?. Journal of Biomechanical Engineering, 2017, 139, .	0.6	10
111	Multi-Modality Imaging Enables Detailed Hemodynamic Simulations in Dissecting Aneurysms in Mice. IEEE Transactions on Medical Imaging, 2017, 36, 1297-1305.	5.4	36
112	Deficient Circumferential Growth Is the Primary Determinant of Aortic Obstruction Attributable to Partial Elastin Deficiency. Arteriosclerosis, Thrombosis, and Vascular Biology, 2017, 37, 930-941.	1.1	45
113	Comparison of 10 murine models reveals a distinct biomechanical phenotype in thoracic aortic aneurysms. Journal of the Royal Society Interface, 2017, 14, 20161036.	1.5	92
114	An augmented iterative method for identifying a stress-free reference configuration in image-based biomechanical modeling. Journal of Biomechanics, 2017, 58, 227-231.	0.9	35
115	Potential biomechanical roles of risk factors in the evolution of thrombusâ€laden abdominal aortic aneurysms. International Journal for Numerical Methods in Biomedical Engineering, 2017, 33, e2893.	1.0	13
116	Correlation of Wall Microstructure and Heterogeneous Distributions of Strain in Evolving Murine Abdominal Aortic Aneurysms. Cardiovascular Engineering and Technology, 2017, 8, 193-204.	0.7	8
117	Gradual loading ameliorates maladaptation in computational simulations of vein graft growth and remodelling. Journal of the Royal Society Interface, 2017, 14, 20160995.	1.5	34
118	Aging, Smooth Muscle Vitality, and Aortic Integrity. Circulation Research, 2017, 120, 1849-1851.	2.0	21
119	A hidden structural vulnerability in the thrombospondin-2 deficient aorta increases the propensity to intramural delamination. Journal of the Mechanical Behavior of Biomedical Materials, 2017, 71, 397-406.	1.5	18
120	A Computational Model of the Biochemomechanics of an Evolving Occlusive Thrombus. Journal of Elasticity, 2017, 129, 125-144.	0.9	23
121	Stress Analysis-Driven Design of Bilayered Scaffolds for Tissue-Engineered Vascular Grafts. Journal of Biomechanical Engineering, 2017, 139, .	0.6	16
122	mTOR (Mechanistic Target of Rapamycin) Inhibition Decreases Mechanosignaling, Collagen Accumulation, and Stiffening of the Thoracic Aorta in Elastin-Deficient Mice. Arteriosclerosis, Thrombosis, and Vascular Biology, 2017, 37, 1657-1666.	1.1	26
123	Multiscale and Multiaxial Mechanics of Vascular Smooth Muscle. Biophysical Journal, 2017, 113, 714-727.	0.2	22
124	Differential cell-matrix mechanoadaptations and inflammation drive regional propensities to aortic fibrosis, aneurysm or dissection in hypertension. Journal of the Royal Society Interface, 2017, 14, 20170327.	1.5	95
125	Accommodation of the human lens capsule using a finite element model based on nonlinear regionally anisotropic biomembranes. Computer Methods in Biomechanics and Biomedical Engineering, 2017, 20, 302-307.	0.9	20
126	Modeling Soft Tissue Damage and Failure Using a Combined Particle/Continuum Approach. Biomechanics and Modeling in Mechanobiology, 2017, 16, 249-261.	1.4	35

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127	Hemodynamicsâ€driven deposition of intraluminal thrombus in abdominal aortic aneurysms. International Journal for Numerical Methods in Biomedical Engineering, 2017, 33, e2828.	1.0	20
128	Effects of age-associated regional changes in aortic stiffness on human hemodynamics revealed by computational modeling. PLoS ONE, 2017, 12, e0173177.	1.1	59
129	A General Shear-Dependent Model for Thrombus Formation. PLoS Computational Biology, 2017, 13, e1005291.	1.5	104
130	Reduced Biaxial Contractility in the Descending Thoracic Aorta of Fibulin-5 Deficient Mice. Journal of Biomechanical Engineering, 2016, 138, 051008.	0.6	34
131	Novel Methodology for Characterizing Regional Variations in the Material Properties of Murine Aortas. Journal of Biomechanical Engineering, 2016, 138, .	0.6	77
132	A homogenized constrained mixture (and mechanical analog) model for growth and remodeling of soft tissue. Biomechanics and Modeling in Mechanobiology, 2016, 15, 1389-1403.	1.4	103
133	Loss of elastic fiber integrity compromises common carotid artery function: Implications for vascular aging. Artery Research, 2016, 14, 41.	0.3	28
134	Biaxial Stretch Improves Elastic Fiber Maturation, Collagen Arrangement, and Mechanical Properties in Engineered Arteries. Tissue Engineering - Part C: Methods, 2016, 22, 524-533.	1.1	63
135	A discrete mesoscopic particle model of the mechanics of a multi-constituent arterial wall. Journal of the Royal Society Interface, 2016, 13, 20150964.	1.5	11
136	A microstructurally inspired damage model for early venous thrombus. Journal of the Mechanical Behavior of Biomedical Materials, 2016, 55, 12-20.	1.5	33
137	Pharmacologically Improved Contractility Protects Against Aortic Dissection in Mice With Disrupted Transforming Growth Factor-Î² Signaling Despite Compromised Extracellular Matrix Properties. Arteriosclerosis, Thrombosis, and Vascular Biology, 2016, 36, 919-927.	1.1	65
138	Excessive Adventitial Remodeling Leads to Early Aortic Maladaptation in Angiotensin-Induced Hypertension. Hypertension, 2016, 67, 890-896.	1.3	93
139	Central Artery Stiffness in Hypertension and Aging. Circulation Research, 2016, 118, 379-381.	2.0	137
140	Long-Term Functional Efficacy of a Novel Electrospun Poly(Glycerol Sebacate)-Based Arterial Graft in Mice. Annals of Biomedical Engineering, 2016, 44, 2402-2416.	1.3	71
141	Differential ascending and descending aortic mechanics parallel aneurysmal propensity in a mouse model of Marfan syndrome. Journal of Biomechanics, 2016, 49, 2383-2389.	0.9	37
142	Origin of Matrix-Producing Cells That Contribute to Aortic Fibrosis in Hypertension. Hypertension, 2016, 67, 461-468.	1.3	65
143	Adaptation of active tone in the mouse descending thoracic aorta under acute changes in loading. Biomechanics and Modeling in Mechanobiology, 2016, 15, 579-592.	1.4	21
144	Histological and biomechanical changes in aÂmouse model of venous thrombus remodeling. Biorheology, 2015, 52, 235-245.	1.2	32

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145	Vascular remodeling is governed by a VEGFR3-dependent fluid shear stress set point. ELife, 2015, 4, .	2.8	177
146	Biomechanical Diversity Despite Mechanobiological Stability in Tissue Engineered Vascular Grafts Two Years Post-Implantation. Tissue Engineering - Part A, 2015, 21, 1529-1538.	1.6	47
147	Design and Use of a Novel Bioreactor for Regeneration of Biaxially Stretched Tissue-Engineered Vessels. Tissue Engineering - Part C: Methods, 2015, 21, 841-851.	1.1	29
148	An Experimentalâ€"Computational Study of Catheter Induced Alterations in Pulse Wave Velocity in Anesthetized Mice. Annals of Biomedical Engineering, 2015, 43, 1555-1570.	1.3	22
149	Distinct macrophage phenotype and collagen organization within the intraluminal thrombus of abdominal aortic aneurysm. Journal of Vascular Surgery, 2015, 62, 585-593.	0.6	24
150	An Introduction to Biomechanics. , 2015, , .		14
151	Decreased Elastic Energy Storage, Not Increased Material Stiffness, Characterizes Central Artery Dysfunction in Fibulin-5 Deficiency Independent of Sex. Journal of Biomechanical Engineering, 2015, 137, .	0.6	74
152	A Computational Model of Biochemomechanical Effects of Intraluminal Thrombus on the Enlargement of Abdominal Aortic Aneurysms. Annals of Biomedical Engineering, 2015, 43, 2852-2867.	1.3	26
153	Computational Simulation of the Adaptive Capacity of Vein Grafts in Response to Increased Pressure. Journal of Biomechanical Engineering, 2015, 137, .	0.6	29
154	Multimodal optical measurementin vitroof surface deformations and wall thickness of the pressurized aortic arch. Journal of Biomedical Optics, 2015, 20, 046005.	1.4	12
155	Multiscale modelling in biomechanics. Interface Focus, 2015, 5, 20150003.	1.5	5
156	Role of Mechanotransduction in Vascular Biology. Circulation Research, 2015, 116, 1448-1461.	2.0	299
157	Regional identification of mechanical properties in arteries. Computer Methods in Biomechanics and Biomedical Engineering, 2015, 18, 1874-1875.	0.9	4
158	<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si0033.gif" overflow="scroll"><mml:mi mathvariant="italic">Myh</mml:mi><mml:msup><mml:mrow><mml:mi mathvariant="italic">11</mml:mi></mml:mrow><mml:mrow><mml:mi>R</mml:mi><mml:mn>247</mml:mn><mml:mi>C</mml:mi><m mutations increase thoracic aorta vulnerability to intramural damage despite a general biomechanical adaptivity. Journal of Biomechanics, 2015, 48, 113-121.	0.9	44
159	A hypothesis-driven parametric study of effects of polymeric scaffold properties on tissue engineered neovessel formation. Acta Biomaterialia, 2015, 11, 283-294.	4.1	58
160	Tgfbr2 disruption in postnatal smooth muscle impairs aortic wall homeostasis. Journal of Clinical Investigation, 2014, 124, 755-767.	3.9	223
161	A haemodynamic predictor of intraluminal thrombus formation in abdominal aortic aneurysms. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2014, 470, 20140163.	1.0	112
162	Tissue Transglutaminase, Not Lysyl Oxidase, Dominates Early Calcium-Dependent Remodeling of Fibroblast-Populated Collagen Lattices. Cells Tissues Organs, 2014, 200, 104-117.	1.3	14

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163	Syndecan 4 is required for endothelial alignment in flow and atheroprotective signaling. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 17308-17313.	3.3	133
164	Digital image correlation-based point-wise inverse characterization of heterogeneous material properties of gallbladder <i>in vitro</i>. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2014, 470, 20140152.	1.0	34
165	Computational model of the in vivo development of a tissue engineered vein from an implanted polymeric construct. Journal of Biomechanics, 2014, 47, 2080-2087.	0.9	43
166	Biomechanical roles of medial pooling of glycosaminoglycans in thoracic aortic dissection. Biomechanics and Modeling in Mechanobiology, 2014, 13, 13-25.	1.4	93
167	A Microstructurally Motivated Model of Arterial Wall Mechanics with Mechanobiological Implications. Annals of Biomedical Engineering, 2014, 42, 488-502.	1.3	141
168	Dysfunctional Mechanosensing in Aneurysms. Science, 2014, 344, 477-479.	6.0	133
169	Quantification of regional differences in aortic stiffness in the aging human. Journal of the Mechanical Behavior of Biomedical Materials, 2014, 29, 618-634.	1.5	106
170	Beyond Burst Pressure: Initial Evaluation of the Natural History of the Biaxial Mechanical Properties of Tissue-Engineered Vascular Grafts in the Venous Circulation Using a Murine Model. Tissue Engineering - Part A, 2014, 20, 346-355.	1.6	38
171	Mechanotransduction and extracellular matrix homeostasis. Nature Reviews Molecular Cell Biology, 2014, 15, 802-812.	16.1	1,492
172	Evolving anisotropy and degree of elastolytic insult in abdominal aortic aneurysms: Potential clinical relevance?. Journal of Biomechanics, 2014, 47, 2995-3002.	0.9	11
173	Mechanobiological stability: a new paradigm to understand the enlargement of aneurysms?. Journal of the Royal Society Interface, 2014, 11, 20140680.	1.5	55
174	Vascular homeostasis and the concept of mechanobiological stability. International Journal of Engineering Science, 2014, 85, 203-223.	2.7	74
175	Consistent Biomechanical Phenotyping of Common Carotid Arteries from Seven Genetic, Pharmacological, and Surgical Mouse Models. Annals of Biomedical Engineering, 2014, 42, 1207-1223.	1.3	43
176	Characterization of evolving biomechanical properties of tissue engineered vascular grafts in the arterial circulation. Journal of Biomechanics, 2014, 47, 2070-2079.	0.9	39
177	Computational modelling suggests good, bad and ugly roles of glycosaminoglycans in arterial wall mechanics and mechanobiology. Journal of the Royal Society Interface, 2014, 11, 20140397.	1.5	66
178	Biochemomechanics of Intraluminal Thrombus in Abdominal Aortic Aneurysms. Journal of Biomechanical Engineering, 2013, 135, 021011.	0.6	85
179	An improved panoramic digital image correlation method for vascular strain analysis and material characterization. Journal of the Mechanical Behavior of Biomedical Materials, 2013, 27, 132-142.	1.5	49
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