Patrick W Alford

List of Publications by Year
in descending order

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39 papers	2,342 citations	331670 21 h-index	315739 38 g-index
40 all docs	40 docs citations	40 times ranked	3199 citing authors

#	Article	IF	Citations
1	Ensembles of engineered cardiac tissues for physiological and pharmacological study: Heart on a chip. Lab on A Chip, 2011, 11, 4165.	6.0	452
2	Anisotropic forces from spatially constrained focal adhesions mediate contact guidance directed cell migration. Nature Communications, 2017, 8, 14923.	12.8	221
3	Controlling the contractile strength of engineered cardiac muscle by hierarchal tissue architecture. Biomaterials, 2012, 33, 5732-5741.	11.4	195
4	Cyclic strain induces dual-mode endothelial-mesenchymal transformation of the cardiac valve. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 19943-19948.	7.1	145
5	Biohybrid thin films for measuring contractility in engineered cardiovascular muscle. Biomaterials, 2010, 31, 3613-3621.	11.4	144
6	Growth and remodeling in a thick-walled artery model: effects of spatial variations in wall constituents. Biomechanics and Modeling in Mechanobiology, 2008, 7, 245-262.	2.8	137
7	The role of mechanical forces in dextral rotation during cardiac looping in the chick embryo. Developmental Biology, 2004, 272, 339-350.	2.0	125
8	Blast-induced phenotypic switching in cerebral vasospasm. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 12705-12710.	7.1	115
9	Vascular smooth muscle contractility depends on cell shape. Integrative Biology (United Kingdom), 2011, 3, 1063-1070.	1.3	110
10	A Possible Role for Integrin Signaling in Diffuse Axonal Injury. PLoS ONE, 2011, 6, e22899.	2.5	97
11	Vascular smooth muscle cell functional contractility depends on extracellular mechanical properties. Journal of Biomechanics, 2015, 48, 3044-3051.	2.1	66
12	Bimodal sensing of guidance cues in mechanically distinct microenvironments. Nature Communications, 2018, 9, 4891.	12.8	52
13	Prefailure and Failure Mechanics of the Porcine Ascending Thoracic Aorta: Experiments and a Multiscale Model. Journal of Biomechanical Engineering, 2014, 136, 021028.	1.3	45
14	Computational study of growth and remodelling in the aortic arch. Computer Methods in Biomechanics and Biomedical Engineering, 2008, 11, 525-538.	1.6	43
15	Failure of the Porcine Ascending Aorta: Multidirectional Experiments and a Unifying Microstructural Model. Journal of Biomechanical Engineering, 2017, 139, .	1.3	43
16	Investigation of human iPSC-derived cardiac myocyte functional maturation by single cell traction force microscopy. PLoS ONE, 2018, 13, e0194909.	2.5	41
17	The contractile strength of vascular smooth muscle myocytes is shape dependent. Integrative Biology (United Kingdom), 2014, 6, 152-163.	1.3	34
18	Cytoskeletal prestress regulates nuclear shape and stiffness in cardiac myocytes. Experimental Biology and Medicine, 2015, 240, 1543-1554.	2.4	33

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19	Mechanical injuries of neurons induce tau mislocalization to dendritic spines and tau-dependent synaptic dysfunction. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 29069-29079.	7.1	30
20	Smooth Muscle Phenotype Switching in Blast Traumatic Brain Injury-Induced Cerebral Vasospasm. Translational Stroke Research, 2014, 5, 385-393.	4.2	26
21	Regional epicardial strain in the embryonic chick heart during the early looping stages. Journal of Biomechanics, 2003, 36, 1135-1141.	2.1	21
22	Long-term vascular contractility assay using genipin-modified muscular thin films. Biofabrication, 2014, 6, 045005.	7.1	18
23	Smooth muscle architecture within cell-dense vascular tissues influences functional contractility. Integrative Biology (United Kingdom), 2014, 6, 1201-1210.	1.3	18
24	Empirically Determined Vascular Smooth Muscle Cell Mechano-Adaptation Law. Journal of Biomechanical Engineering, 2017, 139, .	1.3	18
25	Cellular Microbiaxial Stretching to Measure a Single-Cell Strain Energy Density Function. Journal of Biomechanical Engineering, 2017, 139, .	1.3	17
26	Amyloid Beta Influences Vascular Smooth Muscle Contractility and Mechanoadaptation. Journal of Biomechanical Engineering, 2016, 138, .	1.3	16
27	Architecture-Dependent Anisotropic Hysteresis in Smooth Muscle Cells. Biophysical Journal, 2018, 115, 2044-2054.	0.5	14
28	Intrinsic Cell Stress is Independent of Organization in Engineered Cell Sheets. Cardiovascular Engineering and Technology, 2018, 9, 181-192.	1.6	10
29	Large-deformation strain energy density function for vascular smooth muscle cells. Journal of Biomechanics, 2020, 111, 110005.	2.1	10
30	Ice Hockey Summit II. Clinical Journal of Sport Medicine, 2015, 25, 78-87.	1.8	8
31	Orientation of neurites influences severity of mechanically induced tau pathology. Biophysical Journal, 2021, 120, 3272-3282.	0.5	8
32	Architecture-Dependent Mechano-Adaptation in Single Vascular Smooth Muscle Cells. Journal of Biomechanical Engineering, 2021, 143, .	1.3	7
33	Ice Hockey Summit II: Zero Tolerance for Head Hits and Fighting. PM and R, 2015, 7, 283-295.	1.6	6
34	Characterizing Tissue Remodeling and Mechanical Heterogeneity in Cerebral Aneurysms. Journal of Vascular Research, 2022, 59, 34-42.	1.4	4
35	Microfluidic Genipin Deposition Technique for Extended Culture of Micropatterned Vascular Muscular Thin Films. Journal of Visualized Experiments, 2015, , e52971.	0.3	2
36	Anisotropic Mechanics of Vascular Smooth Muscle Cells Exposed to Dynamic Loads. Journal of Biomechanical Engineering, 2021, 143, .	1.3	1

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37	Cellular Microbiaxial Stretching Assay for Measurement and Characterization of the Anisotropic Mechanical Properties of Micropatterned Cells. Current Protocols, 2022, 2, e370.	2.9	1
38	High-Throughput Microtissue Contractility Assay for In Vitro Analysis of Vascular Mechanics. , 2013, , .		0
39	Elasticity-Based Targeted Growth Models of Morphogenesis. Methods in Molecular Biology, 2015, 1189, 339-350.	0.9	0