Spencer E Szczesny

List of Publications by Year
in descending order

36	1,198	331259	476904
papers	citations	21 h-index	29 g-index

37	37	37	1704
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Matching material and cellular timescales maximizes cell spreading on viscoelastic substrates. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, E2686-E2695.	3.3	183
2	Interfibrillar shear stress is the loading mechanism of collagen fibrils in tendon. Acta Biomaterialia, 2014, 10, 2582-2590.	4.1	142
3	Biaxial Tensile Testing and Constitutive Modeling of Human Supraspinatus Tendon. Journal of Biomechanical Engineering, 2012, 134, 021004.	0.6	63
4	The Nuclear Option: Evidence Implicating the Cell Nucleus in Mechanotransduction. Journal of Biomechanical Engineering, 2017, 139, .	0.6	57
5	Mechanically Induced Chromatin Condensation Requires Cellular Contractility in Mesenchymal Stem Cells. Biophysical Journal, 2016, 111, 864-874.	0.2	56
6	Investigating mechanisms of tendon damage by measuring multi-scale recovery following tensile loading. Acta Biomaterialia, 2017, 57, 363-372.	4.1	54
7	Cross-Linking Chemistry of Tyramine-Modified Hyaluronan Hydrogels Alters Mesenchymal Stem Cell Early Attachment and Behavior. Biomacromolecules, 2017, 18, 855-864.	2.6	48
8	Quantification of Interfibrillar Shear Stress in Aligned Soft Collagenous Tissues via Notch Tension Testing. Scientific Reports, 2015, 5, 14649.	1.6	47
9	Incorporating plasticity of the interfibrillar matrix in shear lag models is necessary to replicate the multiscale mechanics of tendon fascicles. Journal of the Mechanical Behavior of Biomedical Materials, 2014, 40, 325-338.	1.5	46
10	Experimental and Computational Investigation of Altered Mechanical Properties in Myocardium after Hydrogel Injection. Annals of Biomedical Engineering, 2014, 42, 1546-1556.	1.3	44
11	Regional Variation in Human Supraspinatus Tendon Proteoglycans: Decorin, Biglycan, and Aggrecan. Connective Tissue Research, 2012, 53, 343-348.	1.1	41
12	Evidence that interfibrillar load transfer in tendon is supported by small diameter fibrils and not extrafibrillar tissue components. Journal of Orthopaedic Research, 2017, 35, 2127-2134.	1.2	41
13	Crimped Nanofibrous Biomaterials Mimic Microstructure and Mechanics of Native Tissue and Alter Strain Transfer to Cells. ACS Biomaterials Science and Engineering, 2017, 3, 2869-2876.	2.6	41
14	Biaxial mechanics and interâ€lamellar shearing of stemâ€cell seeded electrospun angleâ€ply laminates for annulus fibrosus tissue engineering. Journal of Orthopaedic Research, 2013, 31, 864-870.	1.2	37
15	Exposure to buffer solution alters tendon hydration and mechanics. Journal of Biomechanics, 2017, 61, 18-25.	0.9	35
16	Fatigue loading of tendon results in collagen kinking and denaturation but does not change local tissue mechanics. Journal of Biomechanics, 2018, 71, 251-256.	0.9	33
17	Macroporous Hydrogels for Stable Sequestration and Sustained Release of Vascular Endothelial Growth Factor and Basic Fibroblast Growth Factor Using Nucleic Acid Aptamers. ACS Biomaterials Science and Engineering, 2019, 5, 2382-2390.	2.6	31
18	DTAF Dye Concentrations Commonly Used to Measure Microscale Deformations in Biological Tissues Alter Tissue Mechanics. PLoS ONE, 2014, 9, e99588.	1.1	28

#	Article	IF	Citations
19	Expansion of mesenchymal stem cells on electrospun scaffolds maintains stemness, mechanoâ€responsivity, and differentiation potential. Journal of Orthopaedic Research, 2018, 36, 808-815.	1.2	27
20	Altered lumbar spine structure, biochemistry, and biomechanical properties in a canine model of mucopolysaccharidosis type VII. Journal of Orthopaedic Research, 2010, 28, 616-622.	1.2	26
21	Mechanical function near defects in an aligned nanofiber composite is preserved by inclusion of disorganized layers: Insight into meniscus structure and function. Acta Biomaterialia, 2017, 56, 102-109.	4.1	26
22	In Situ Deformations in the Immature Brain During Rapid Rotations. Journal of Biomechanical Engineering, 2010, 132, 044501.	0.6	19
23	Dependence of tendon multiscale mechanics on sample gauge length is consistent with discontinuous collagen fibrils. Acta Biomaterialia, 2020, 117, 302-309.	4.1	18
24	Review of Current Actuator Suitability for Use in Medical Implants. , 2006, 2006, 5956-9.		12
25	Mechanical Stimulation via Muscle Activity Is Necessary for the Maturation of Tendon Multiscale Mechanics During Embryonic Development. Frontiers in Cell and Developmental Biology, 2021, 9, 725563.	1.8	11
26	Remodeling and repair of orthopedic tissue: role of mechanical loading and biologics. American Journal of Orthopedics, 2010, 39, 525-30.	0.7	9
27	A Novel, Open-Source, Low-Cost Bioreactor for Load-Controlled Cyclic Loading of Tendon Explants. Journal of Biomechanical Engineering, 2022, 144, .	0.6	7
28	The Elephant in the Cell: Nuclear Mechanics and Mechanobiology. Journal of Biomechanical Engineering, 2022, 144, .	0.6	6
29	Ex vivo models of musculoskeletal tissues. Connective Tissue Research, 2020, 61, 245-247.	1.1	5
30	Review of Current Actuator Suitability for Use in Medical Implants. Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 2006, , .	0.5	2
31	Mechanical Stimulation as Both the Cause and the Cure of Tendon and Ligament Injuries. Physiology in Health and Disease, 2022, , 359-386.	0.2	2
32	Tunable Hyaluronic Acid Hydrogels to Alter and Understand Left Ventricular Remodeling. , 2012, , .		0
33	Mucopolysaccharidosis VII and the Developing Lumbar Spine: Consequences for Annulus Fibrosus and Vertebral End Plate Mechanical Properties. , 2009, , .		0
34	Continuity and Affine Fiber Kinematics in Biaxial Tension of the Supraspinatus Tendon. , 2011, , .		0
35	Material Properties Over-Estimated by Boundary Conditions in Biaxial Tension Can Be Corrected Using Finite Element Analysis. , 2012, , .		0
36	Evidence for Interfibrillar Shear Load Transfer Between Sliding Fibrils in Tendon. , 2013, , .		0