Ellen M Arruda

List of Publications by Year in Descending Order

87 papers	7,963 citations	33 h-index	89 g-index
93 ext. papers	8,782 ext. citations	4.7 avg, IF	5.86 L-index

#	Paper	IF	Citations
87	Investigation of Fiber-Driven Mechanical Behavior of Human and Porcine Bladder Tissue Tested Under Identical Conditions. *Journal of Biomechanical Engineering*, **2021**, 143,	2.1	2
86	Constitutive modeling of the anterior cruciate ligament bundles and patellar tendon with full-field methods. *Journal of the Mechanics and Physics of Solids*, **2021**, 156, 104577	5	6
85	Shock wave impact on the viability of MDA-MB-231 cells. *PLoS ONE*, **2020**, 15, e0234138	3.7	2
84	Robust high resolution strain imaging by alternating pulsed field gradient stimulated echo imaging (APGSTEi) at 7 Tesla. *Journal of Magnetic Resonance*, **2020**, 310, 106620	3	7
83	Fiber splay precludes the direct identification of ligament material properties: Implications for ACL graft selection. *Journal of Biomechanics*, **2020**, 113, 110104	2.9	3
82	The Effect of Articular Cartilage Focal Defect Size and Location in Whole Knee Biomechanics Models. *Journal of Biomechanical Engineering*, **2020**, 142,	2.1	3
81	Shock wave impact on the viability of MDA-MB-231 cells **2020**, 15, e0234138		
80	Shock wave impact on the viability of MDA-MB-231 cells **2020**, 15, e0234138		
79	Shock wave impact on the viability of MDA-MB-231 cells **2020**, 15, e0234138		
78	Shock wave impact on the viability of MDA-MB-231 cells **2020**, 15, e0234138		
77	Generalized error-minimizing, rational inverse Langevin approximations. *Mathematics and Mechanics of Solids*, **2019**, 24, 1630-1647	2.3	6
76	Evaluating continuum level descriptions of the medial collateral ligament. *International Journal of Solids and Structures*, **2018**, 138, 245-263	3.1	5
75	Full-volume displacement mapping of anterior cruciate ligament bundles with dualMRI. *Extreme Mechanics Letters*, **2018**, 19, 7-14	3.9	11
74	The effect of football helmet facemasks on impact behavior during linear drop tests. *Journal of Biomechanics*, **2018**, 79, 227-231	2.9	10
73	Tissue-engineered tendon constructs for rotator cuff repair in sheep. *Journal of Orthopaedic Research*, **2018**, 36, 289-299	3.8	16
72	Femoral entheseal shape and attachment angle as potential risk factors for anterior cruciate ligament injury. *Journal of the Mechanical Behavior of Biomedical Materials*, **2018**, 88, 313-321	4.1	8
71	Abiotic tooth enamel. *Nature*, **2017**, 543, 95-98	50.4	127

70	Digital image correlation-aided mechanical characterization of the anteromedial and posterolateral bundles of the anterior cruciate ligament. *Acta Biomaterialia*, **2017**, 56, 44-57	10.8	16
69	Tissue-Engineered Tendon for Enthesis Regeneration in a Rat Rotator Cuff Model. *BioResearch Open Access*, **2017**, 6, 47-57	2.4	16
68	A study on the role of articular cartilage soft tissue constitutive form in models of whole knee biomechanics. *Biomechanics and Modeling in Mechanobiology*, **2017**, 16, 117-138	3.8	14
67	Fresh and Frozen Tissue-Engineered Three-Dimensional Bone-Ligament-Bone Constructs for Sheep Anterior Cruciate Ligament Repair Following a 2-Year Implantation. *BioResearch Open Access*, **2016**, 5, 289-298	2.4	9
66	Deconstructing the anterior cruciate ligament: what we know and do not know about function, material properties, and injury mechanics. *Journal of Biomechanical Engineering*, **2015**, 137, 020906	2.1	39
65	Aramid nanofiber-reinforced transparent nanocomposites. *Journal of Composite Materials*, **2015**, 49, 1873-1879	2.7	58
64	An error-minimizing approach to inverse Langevin approximations. *Rheologica Acta*, **2015**, 54, 887-902	2.3	21
63	Design of armor for protection against blast and impact. *Journal of the Mechanics and Physics of Solids*, **2015**, 85, 98-111	5	31
62	Fresh versus frozen engineered bone-ligament-bone grafts for sheep anterior cruciate ligament repair. *Tissue Engineering - Part C: Methods*, **2015**, 21, 548-56	2.9	15
61	Allogeneic versus autologous derived cell sources for use in engineered bone-ligament-bone grafts in sheep anterior cruciate ligament repair. *Tissue Engineering - Part A*, **2015**, 21, 1047-54	3.9	21
60	Rate dependent finite strain constitutive modeling of polyurethane and polyurethane–clay nanocomposites. *International Journal of Solids and Structures*, **2015**, 54, 147-155	3.1	17
59	Hyperelastic modeling of location-dependent human distal femoral cartilage mechanics. *International Journal of Non-Linear Mechanics*, **2015**, 68, 146-156	2.8	12
58	Simultaneously high stiffness and damping in nanoengineered microtruss composites. *ACS Nano*, **2014**, 8, 3468-75	16.7	35
57	Effect of soft segment and clay volume fraction on rate dependent damping of polyurethane and polyurethane-clay nanocomposites. *Journal of Reinforced Plastics and Composites*, **2014**, 33, 2129-2135	2.9	3
56	Effect of implantation on engineered skeletal muscle constructs. *Journal of Tissue Engineering and Regenerative Medicine*, **2013**, 7, 434-42	4.4	46
55	TGF-[illegible] enhances contractility in engineered skeletal muscle. *Journal of Tissue Engineering and Regenerative Medicine*, **2013**, 7, 562-71	4.4	29
54	Evaluation of hyperelastic models for the non-linear and non-uniform high strain-rate mechanics of tibial cartilage. *Journal of Biomechanics*, **2013**, 46, 1604-10	2.9	14
53	Simultaneously high stiffness and damping in a class of wavy layered composites. *Composite Structures*, **2013**, 101, 104-110	5.3	16

52	Reactive Aramid Nanostructures as High-Performance Polymeric Building Blocks for Advanced Composites. *Advanced Functional Materials*, **2013**, 23, 2072-2080	15.6	124
51	Heterogeneity of tibial plateau cartilage in response to a physiological compressive strain rate. *Journal of Orthopaedic Research*, **2013**, 31, 370-5	3.8	29
50	A Micromechanical Viscoelastic Constitutive Model for Native and Engineered Anterior Cruciate Ligaments **2013**, 351-363		4
49	Three-dimensional engineered bone-ligament-bone constructs for anterior cruciate ligament replacement. *Tissue Engineering - Part A*, **2012**, 18, 103-16	3.9	75
48	Prostatic fibrosis is associated with lower urinary tract symptoms. *Journal of Urology*, **2012**, 188, 1375-81	2.5	89
47	The effects of the interphase and strain gradients on the elasticity of layer by layer (LBL) polymer/clay nanocomposites. *International Journal of Solids and Structures*, **2011**, 48, 1044-1053	3.1	33
46	Dispersions of aramid nanofibers: a new nanoscale building block. *ACS Nano*, **2011**, 5, 6945-54	16.7	337
45	A closed-form, hierarchical, multi-interphase model for compositesDerivation, verification and application to nanocomposites. *Journal of the Mechanics and Physics of Solids*, **2011**, 59, 43-63	5	69
44	A constitutive model for finite deformation response of layered polyurethane-montmorillonite nanocomposites. *Mechanics of Materials*, **2011**, 43, 186-193	3.3	9
43	Regional stiffening with aging in tibialis anterior tendons of mice occurs independent of changes in collagen fibril morphology. *Journal of Applied Physiology*, **2011**, 111, 999-1006	3.7	47
42	The Role of Interface and Reinforcement in the Finite Deformation Response of Polyurethane-Montmorillonite Nanocomposites. *Conference Proceedings of the Society for Experimental Mechanics*, **2011**, 133-137	0.3	
41	Nonlinear Viscoelasticity of Native and Engineered Ligament and Tendon. *Conference Proceedings of the Society for Experimental Mechanics*, **2011**, 423-427	0.3	
40	Implantation increases tensile strength and collagen content of self-assembled tendon constructs. *Journal of Applied Physiology*, **2010**, 108, 875-81	3.7	25
39	Development of a scaffoldless three-dimensional engineered nerve using a nerve-fibroblast co-culture. *In Vitro Cellular and Developmental Biology - Animal*, **2010**, 46, 438-44	2.6	20
38	LBL assembled laminates with hierarchical organization from nano- to microscale: high-toughness nanomaterials and deformation imaging. *ACS Nano*, **2009**, 3, 1564-72	16.7	64
37	Three-dimensional engineered bone from bone marrow stromal cells and their autogenous extracellular matrix. *Tissue Engineering - Part A*, **2009**, 15, 187-95	3.9	29
36	Morphological and functional characteristics of three-dimensional engineered bone-ligament-bone constructs following implantation. *Journal of Biomechanical Engineering*, **2009**, 131, 101017	2.1	30
35	The effect of implantation on scaffoldless three-dimensional engineered bone constructs. *In Vitro Cellular and Developmental Biology - Animal*, **2009**, 45, 512-22	2.6	11

34	Highly ductile multilayered films by layer-by-layer assembly of oppositely charged polyurethanes for biomedical applications. *Langmuir*, **2009**, 25, 14093-9	4	30
33	The Role of Nanoparticle Layer Separation in the Finite Deformation Response of Layered Polyurethane-Clay Nanocomposites. *Macromolecules*, **2009**, 42, 6588-6595	5.5	64
32	Ultrastructure of myotendinous junctions in tendon-skeletal muscle constructs engineered in vitro. *Histology and Histopathology*, **2009**, 24, 541-50	1.4	33
31	Scleraxis is expressed in adult tendons and is upregulated in response to mechanical loading. *FASEB Journal*, **2009**, 23, 955.30	0.9	
30	Can nature's design be improved upon? High strength, transparent nacre-like nanocomposites with double network of sacrificial cross links. *Journal of Physical Chemistry B*, **2008**, 112, 14359-63	3.4	93
29	A Particle Size-Shape-Dependent Three-Phase Two-Step Mori-Tanaka Method for Studying the Interphase of Polymer/Clay Nanocomposites **2008**,		3
28	A Non-Local Visco-Plastic Model With Strain Laplacian Effects and Interphase Effects for Simulating the Stiffness and Yield Strength of a Class of Polymer Nanocomposites **2008**,		3
27	Denervation does not change the ratio of collagen I and collagen III mRNA in the extracellular matrix of muscle. *American Journal of Physiology - Regulatory Integrative and Comparative Physiology*, **2007**, 292, R983-7	3.2	29
26	Ultrastrong and stiff layered polymer nanocomposites. *Science*, **2007**, 318, 80-3	33.3	1322
25	Development of Scaffold-less 3D Bone Tissue Engineered from Rat Bone Marrow Stromal Cells. *FASEB Journal*, **2007**, 21, A1233	0.9	2
24	Constitutive Modeling of a Thermoplastic Olefin Over a Broad Range of Strain Rates. *Journal of Engineering Materials and Technology, Transactions of the ASME*, **2006**, 128, 551-558	1.8	20
23	Regional variation of tibialis anterior tendon mechanics is lost following denervation. *Journal of Applied Physiology*, **2006**, 101, 1113-7	3.7	41
22	Structure and functional evaluation of tendon-skeletal muscle constructs engineered in vitro. *Tissue Engineering*, **2006**, 12, 3149-58		111
21	Myotendinous junction protein expression in engineered muscle-tendon constructs. *FASEB Journal*, **2006**, 20, A413	0.9	
20	Structure and Functional Evaluation of Tendon?Skeletal Muscle Constructs Engineeredin Vitro. *Tissue Engineering*, **2006**, 061012064037003		
19	Tissue engineering of recellularized small-diameter vascular grafts. *Tissue Engineering*, **2005**, 11, 778-86		101
18	Remodeling of biological tissue: Mechanically induced reorientation of a transversely isotropic chain network. *Journal of the Mechanics and Physics of Solids*, **2005**, 53, 1552-1573	5	149
17	Finite strain response, microstructural evolution and □phase transformation of crystalline isotactic polypropylene. *Polymer*, **2005**, 46, 455-470	3.9	55

16	Engineering of functional tendon. *Tissue Engineering*, **2004**, 10, 755-61		131
15	A rheological network model for the continuum anisotropic and viscoelastic behavior of soft tissue. *Biomechanics and Modeling in Mechanobiology*, **2004**, 3, 56-65	3.8	77
14	Finite element simulations of orthotropic hyperelasticity. *Finite Elements in Analysis and Design*, **2002**, 38, 983-998	2.2	28
13	Characterization and Constitutive Modeling of a Plasticized Poly(vinyl Chloride) for a Broad Range of Strain Rates. *Rubber Chemistry and Technology*, **2001**, 74, 560-573	1.7	10
12	Elastic-Viscoplastic Deformation of Polymers **2001**, 398-407		1
11	A New Constitutive Model for the Compressibility of Elastomers at Finite Deformations. *Rubber Chemistry and Technology*, **2001**, 74, 541-559	1.7	86
10	Swelling and Mechanical Stretching of Elastomeric Materials. *Mathematics and Mechanics of Solids*, **2001**, 6, 641-659	2.3	42
9	Finite element modeling of human skin using an isotropic, nonlinear elastic constitutive model. *Journal of Biomechanics*, **2000**, 33, 645-52	2.9	155
8	Constitutive Models of Rubber Elasticity: A Review. *Rubber Chemistry and Technology*, **2000**, 73, 504-523	1.7	751
7	Nonisothermal model of glass fiber drawing stability. *Rheologica Acta*, **1996**, 35, 584-596	2.3	15
6	An investigation into the three-dimensional stress-birefringence-strain relationship in elastomers. *Polymer Engineering and Science*, **1995**, 35, 395-402	2.3	23
5	Effects of strain rate, temperature and thermomechanical coupling on the finite strain deformation of glassy polymers. *Mechanics of Materials*, **1995**, 19, 193-212	3.3	454
4	The large strain compression, tension, and simple shear of polycarbonate. *Polymer Engineering and Science*, **1994**, 34, 716-725	2.3	121
3	A three-dimensional constitutive model for the large stretch behavior of rubber elastic materials. *Journal of the Mechanics and Physics of Solids*, **1993**, 41, 389-412	5	1972
2	Evolution of plastic anisotropy in amorphous polymers during finite straining. *International Journal of Plasticity*, **1993**, 9, 697-720	7.6	341
1	Effects of initial anisotropy on the finite strain deformation behavior of glassy polymers. *International Journal of Plasticity*, **1993**, 9, 783-811	7.6	82