Gerard A Ateshian

List of Publications by Citations

165 papers	9,511 citations	49 h-index	94 g-index
181 ext. papers	10,532 ext. citations	3.5 avg, IF	6.26 L-index

#	Paper	IF	Citations
165	Functional tissue engineering of articular cartilage through dynamic loading of chondrocyte-seeded agarose gels. *Journal of Biomechanical Engineering*, **2000**, 122, 252-60	2.1	738
164	FEBio: finite elements for biomechanics. *Journal of Biomechanical Engineering*, **2012**, 134, 011005	2.1	525
163	Experimental verification and theoretical prediction of cartilage interstitial fluid pressurization at an impermeable contact interface in confined compression. *Journal of Biomechanics*, **1998**, 31, 927-34	2.9	377
162	The role of interstitial fluid pressurization in articular cartilage lubrication. *Journal of Biomechanics*, **2009**, 42, 1163-76	2.9	325
161	Knee cartilage topography, thickness, and contact areas from MRI: in-vitro calibration and in-vivo measurements. *Osteoarthritis and Cartilage*, **1999**, 7, 95-109	6.2	295
160	Synergistic action of growth factors and dynamic loading for articular cartilage tissue engineering. *Tissue Engineering*, **2003**, 9, 597-611		281
159	A Conewise Linear Elasticity mixture model for the analysis of tension-compression nonlinearity in articular cartilage. *Journal of Biomechanical Engineering*, **2000**, 122, 576-86	2.1	242
158	Experimental verification of the role of interstitial fluid pressurization in cartilage lubrication. *Journal of Orthopaedic Research*, **2004**, 22, 565-70	3.8	223
157	A paradigm for functional tissue engineering of articular cartilage via applied physiologic deformational loading. *Annals of Biomedical Engineering*, **2004**, 32, 35-49	4.7	204
156	Anatomically shaped osteochondral constructs for articular cartilage repair. *Journal of Biomechanics*, **2003**, 36, 1853-64	2.9	178
155	Cartilage interstitial fluid load support in unconfined compression. *Journal of Biomechanics*, **2003**, 36, 1785-96	2.9	172
154	An automated approach for direct measurement of two-dimensional strain distributions within articular cartilage under unconfined compression. *Journal of Biomechanical Engineering*, **2002**, 124, 557-67	2.1	168
153	The role of flow-independent viscoelasticity in the biphasic tensile and compressive responses of articular cartilage. *Journal of Biomechanical Engineering*, **2001**, 123, 410-7	2.1	167
152	Modeling of neutral solute transport in a dynamically loaded porous permeable gel: implications for articular cartilage biosynthesis and tissue engineering. *Journal of Biomechanical Engineering*, **2003**, 125, 602-14	2.1	164
151	A theoretical solution for the frictionless rolling contact of cylindrical biphasic articular cartilage layers. *Journal of Biomechanics*, **1995**, 28, 1341-55	2.9	158
150	Anisotropy, inhomogeneity, and tension-compression nonlinearity of human glenohumeral cartilage in finite deformation. *Journal of Biomechanics*, **2005**, 38, 799-809	2.9	151
149	Experimental verification of the roles of intrinsic matrix viscoelasticity and tension-compression nonlinearity in the biphasic response of cartilage. *Journal of Biomechanical Engineering*, **2003**, 125, 84-93	2.1	150

148	Modeling the matrix of articular cartilage using a continuous fiber angular distribution predicts many observed phenomena. *Journal of Biomechanical Engineering*, **2009**, 131, 061003	2.1	148
147	Interstitial fluid pressurization during confined compression cyclical loading of articular cartilage. *Annals of Biomedical Engineering*, **2000**, 28, 150-9	4.7	148
146	On the theory of reactive mixtures for modeling biological growth. *Biomechanics and Modeling in Mechanobiology*, **2007**, 6, 423-45	3.8	139
145	Anisotropic strain-dependent material properties of bovine articular cartilage in the transitional range from tension to compression. *Journal of Biomechanics*, **2004**, 37, 1251-61	2.9	134
144	Optical determination of anisotropic material properties of bovine articular cartilage in compression. *Journal of Biomechanics*, **2003**, 36, 339-53	2.9	130
143	Large, stratified, and mechanically functional human cartilage grown in vitro by mesenchymal condensation. *Proceedings of the National Academy of Sciences of the United States of America*, **2014**, 111, 6940-5	11.5	129
142	Biomechanical and topographic considerations for autologous osteochondral grafting in the knee. *American Journal of Sports Medicine*, **2001**, 29, 201-6	6.8	127
141	Contact analysis of biphasic transversely isotropic cartilage layers and correlations with tissue failure. *Journal of Biomechanics*, **1999**, 32, 1037-47	2.9	123
140	Spatial and temporal development of chondrocyte-seeded agarose constructs in free-swelling and dynamically loaded cultures. *Journal of Biomechanics*, **2006**, 39, 1489-97	2.9	116
139	Microscale frictional response of bovine articular cartilage from atomic force microscopy. *Journal of Biomechanics*, **2004**, 37, 1679-87	2.9	110
138	Computer simulations of patellofemoral joint surgery. Patient-specific models for tuberosity transfer. *American Journal of Sports Medicine*, **2003**, 31, 87-98	6.8	108
137	Heterogeneous transmural proteoglycan distribution provides a mechanism for regulating residual stresses in the aorta. *American Journal of Physiology - Heart and Circulatory Physiology*, **2008**, 294, H1197-205	5.2	105
136	Patellofemoral stresses during open and closed kinetic chain exercises. An analysis using computer simulation. *American Journal of Sports Medicine*, **2001**, 29, 480-7	6.8	105
135	Dynamic mechanical loading enhances functional properties of tissue-engineered cartilage using mature canine chondrocytes. *Tissue Engineering - Part A*, **2010**, 16, 1781-90	3.9	102
134	Inhomogeneous cartilage properties enhance superficial interstitial fluid support and frictional properties, but do not provide a homogeneous state of stress. *Journal of Biomechanical Engineering*, **2003**, 125, 569-77	2.1	100
133	Equivalence between short-time biphasic and incompressible elastic material responses. *Journal of Biomechanical Engineering*, **2007**, 129, 405-12	2.1	96
132	Direct measurement of osmotic pressure of glycosaminoglycan solutions by membrane osmometry at room temperature. *Biophysical Journal*, **2005**, 89, 1543-50	2.9	80
131	Contact areas in the thumb carpometacarpal joint. *Journal of Orthopaedic Research*, **1995**, 13, 450-8	3.8	77

130	The correspondence between equilibrium biphasic and triphasic material properties in mixture models of articular cartilage. *Journal of Biomechanics*, **2004**, 37, 391-400	2.9	76
129	Zonal chondrocytes seeded in a layered agarose hydrogel create engineered cartilage with depth-dependent cellular and mechanical inhomogeneity. *Tissue Engineering - Part A*, **2009**, 15, 2315-24	3.9	71
128	On the electric potentials inside a charged soft hydrated biological tissue: streaming potential versus diffusion potential. *Journal of Biomechanical Engineering*, **2000**, 122, 336-46	2.1	63
127	A mixture theory analysis for passive transport in osmotic loading of cells. *Journal of Biomechanics*, **2006**, 39, 464-75	2.9	61
126	Functional tissue engineering of chondral and osteochondral constructs. *Biorheology*, **2004**, 41, 577-90	1.7	61
125	Passaged adult chondrocytes can form engineered cartilage with functional mechanical properties: a canine model. *Tissue Engineering - Part A*, **2010**, 16, 1041-51	3.9	60
124	Effect of dynamic loading on the frictional response of bovine articular cartilage. *Journal of Biomechanics*, **2005**, 38, 1665-73	2.9	59
123	Cartilage interstitial fluid load support in unconfined compression following enzymatic digestion. *Journal of Biomechanical Engineering*, **2004**, 126, 779-86	2.1	54
122	Multigenerational interstitial growth of biological tissues. *Biomechanics and Modeling in Mechanobiology*, **2010**, 9, 689-702	3.8	53
121	Dynamic loading of deformable porous media can induce active solute transport. *Journal of Biomechanics*, **2008**, 41, 3152-7	2.9	52
120	Dynamic response of immature bovine articular cartilage in tension and compression, and nonlinear viscoelastic modeling of the tensile response. *Journal of Biomechanical Engineering*, **2006**, 128, 623-30	2.1	52
119	Electrostatic and non-electrostatic contributions of proteoglycans to the compressive equilibrium modulus of bovine articular cartilage. *Journal of Biomechanics*, **2010**, 43, 1343-50	2.9	51
118	Wear and damage of articular cartilage with friction against orthopedic implant materials. *Journal of Biomechanics*, **2015**, 48, 1957-64	2.9	50
117	Differences in interleukin-1 response between engineered and native cartilage. *Tissue Engineering - Part A*, **2008**, 14, 1721-30	3.9	50
116	Continuum mixture models of biological growth and remodeling: past successes and future opportunities. *Annual Review of Biomedical Engineering*, **2012**, 14, 97-111	12	49
115	The Role of Osmotic Pressure and Tension-Compression Nonlinearity in the Frictional Response of Articular Cartilage. *Transport in Porous Media*, **2003**, 50, 5-33	3.1	49
114	Patellofemoral joint biomechanics and tissue engineering. *Clinical Orthopaedics and Related Research*, **2005**, 81-90	2.2	49
113	Effects of enzymatic degradation on the frictional response of articular cartilage in stress relaxation. *Journal of Biomechanics*, **2005**, 38, 1343-9	2.9	47

112	Finite element algorithm for frictionless contact of porous permeable media under finite deformation and sliding. *Journal of Biomechanical Engineering*, **2010**, 132, 061006	2.1	46
111	Influence of temporary chondroitinase ABC-induced glycosaminoglycan suppression on maturation of tissue-engineered cartilage. *Tissue Engineering - Part A*, **2009**, 15, 2065-72	3.9	45
110	Chondroitin sulfate reduces the friction coefficient of articular cartilage. *Journal of Biomechanics*, **2007**, 40, 1847-54	2.9	45
109	Heterogeneous engineered cartilage growth results from gradients of media-supplemented active TGF-β and is ameliorated by the alternative supplementation of latent TGF-β *Biomaterials*, **2016**, 77, 173-185	15.6	44
108	Multiphasic finite element framework for modeling hydrated mixtures with multiple neutral and charged solutes. *Journal of Biomechanical Engineering*, **2013**, 135, 111001	2.1	44
107	Accumulation of exogenous activated TGF-β in the superficial zone of articular cartilage. *Biophysical Journal*, **2013**, 104, 1794-804	2.9	39
106	A theoretical analysis of water transport through chondrocytes. *Biomechanics and Modeling in Mechanobiology*, **2007**, 6, 91-101	3.8	39
105	Frictional response of bovine articular cartilage under creep loading following proteoglycan digestion with chondroitinase ABC. *Journal of Biomechanical Engineering*, **2006**, 128, 131-4	2.1	39
104	Anisotropic hydraulic permeability under finite deformation. *Journal of Biomechanical Engineering*, **2010**, 132, 111004	2.1	37
103	Effect of dynamic loading on the transport of solutes into agarose hydrogels. *Biophysical Journal*, **2009**, 97, 968-75	2.9	36
102	Anatomy of the human patellofemoral joint articular cartilage: surface curvature analysis. *Journal of Orthopaedic Research*, **1997**, 15, 468-72	3.8	36
101	Insulin, ascorbate, and glucose have a much greater influence than transferrin and selenous acid on the in vitro growth of engineered cartilage in chondrogenic media. *Tissue Engineering - Part A*, **2013**, 19, 1941-8	3.9	34
100	Tissue-engineered articular cartilage exhibits tension-compression nonlinearity reminiscent of the native cartilage. *Journal of Biomechanics*, **2013**, 46, 1784-91	2.9	33
99	The effect of devitalized trabecular bone on the formation of osteochondral tissue-engineered constructs. *Biomaterials*, **2008**, 29, 4292-9	15.6	33
98	Duty Cycle of Deformational Loading Influences the Growth of Engineered Articular Cartilage. *Cellular and Molecular Bioengineering*, **2009**, 2, 386-394	3.9	32
97	Sliding contact loading enhances the tensile properties of mesenchymal stem cell-seeded hydrogels. *European Cells and Materials*, **2012**, 24, 29-45	4.3	32
96	High seeding density of human chondrocytes in agarose produces tissue-engineered cartilage approaching native mechanical and biochemical properties. *Journal of Biomechanics*, **2016**, 49, 1909-1917	2.9	32
95	Porous titanium bases for osteochondral tissue engineering. *Acta Biomaterialia*, **2015**, 27, 286-293	10.8	31

94	Transient supplementation of anabolic growth factors rapidly stimulates matrix synthesis in engineered cartilage. *Annals of Biomedical Engineering*, **2011**, 39, 2491-500	4.7	30
93	Matrix Production in Large Engineered Cartilage Constructs Is Enhanced by Nutrient Channels and Excess Media Supply. *Tissue Engineering - Part C: Methods*, **2015**, 21, 747-57	2.9	29
92	Dependence of zonal chondrocyte water transport properties on osmotic environment. *Cellular and Molecular Bioengineering*, **2008**, 1, 339-348	3.9	29
91	Hydrostatic pressurization and depletion of trapped lubricant pool during creep contact of a rippled indenter against a biphasic articular cartilage layer. *Journal of Biomechanical Engineering*, **2003**, 125, 585-93	2.1	29
90	Two-dimensional strain fields on the cross-section of the human patellofemoral joint under physiological loading. *Journal of Biomechanics*, **2009**, 42, 1275-81	2.9	28
89	Continuum modeling of biological tissue growth by cell division, and alteration of intracellular osmolytes and extracellular fixed charge density. *Journal of Biomechanical Engineering*, **2009**, 131, 101001	2.1	27
88	Anisotropy of fibrous tissues in relation to the distribution of tensed and buckled fibers. *Journal of Biomechanical Engineering*, **2007**, 129, 240-9	2.1	27
87	Sustained low-dose dexamethasone delivery via a PLGA microsphere-embedded agarose implant for enhanced osteochondral repair. *Acta Biomaterialia*, **2020**, 102, 326-340	10.8	27
86	Continuum theory of fibrous tissue damage mechanics using bond kinetics: application to cartilage tissue engineering. *Interface Focus*, **2016**, 6, 20150063	3.9	26
85	Computational modeling of chemical reactions and interstitial growth and remodeling involving charged solutes and solid-bound molecules. *Biomechanics and Modeling in Mechanobiology*, **2014**, 13, 1105-20	3.8	26
84	Synthesis rates and binding kinetics of matrix products in engineered cartilage constructs using chondrocyte-seeded agarose gels. *Journal of Biomechanics*, **2014**, 47, 2165-72	2.9	26
83	Toward engineering a biological joint replacement. *Journal of Knee Surgery*, **2012**, 25, 187-96	2.4	26
82	The temporal response of the friction coefficient of articular cartilage depends on the contact area. *Journal of Biomechanics*, **2007**, 40, 3257-60	2.9	26
81	Two-dimensional strain fields on the cross-section of the bovine humeral head under contact loading. *Journal of Biomechanics*, **2008**, 41, 3145-51	2.9	26
80	Toward patient-specific articular contact mechanics. *Journal of Biomechanics*, **2015**, 48, 779-86	2.9	25
79	Microbubbles as biocompatible porogens for hydrogel scaffolds. *Acta Biomaterialia*, **2012**, 8, 4334-41	10.8	25
78	A frame-invariant formulation of Fung elasticity. *Journal of Biomechanics*, **2009**, 42, 781-5	2.9	25
77	Finite element implementation of mechanochemical phenomena in neutral deformable porous media under finite deformation. *Journal of Biomechanical Engineering*, **2011**, 133, 081005	2.1	25

76	Osmotic loading of spherical gels: a biomimetic study of hindered transport in the cell protoplasm. *Journal of Biomechanical Engineering*, **2007**, 129, 503-10	2.1	25
75	Interstitial growth and remodeling of biological tissues: tissue composition as state variables. *Journal of the Mechanical Behavior of Biomedical Materials*, **2014**, 29, 544-56	4.1	24
74	Dynamic loading of immature epiphyseal cartilage pumps nutrients out of vascular canals. *Journal of Biomechanics*, **2011**, 44, 1654-9	2.9	24
73	Low-serum media and dynamic deformational loading in tissue engineering of articular cartilage. *Annals of Biomedical Engineering*, **2008**, 36, 769-79	4.7	23
72	Finite element prediction of transchondral stress and strain in the human hip. *Journal of Biomechanical Engineering*, **2014**, 136, 021021	2.1	22
71	Characterization of the Concentration-Dependence of Solute Diffusivity and Partitioning in a Model Dextran-Agarose Transport System. *Cellular and Molecular Bioengineering*, **2009**, 2, 295-305	3.9	21
70	FEBio: History and Advances. *Annual Review of Biomedical Engineering*, **2017**, 19, 279-299	12	20
69	Effects of hypertonic (NaCl) two-dimensional and three-dimensional culture conditions on the properties of cartilage tissue engineered from an expanded mature bovine chondrocyte source. *Tissue Engineering - Part C: Methods*, **2011**, 17, 1041-9	2.9	20
68	Human chondrocyte migration behaviour to guide the development of engineered cartilage. *Journal of Tissue Engineering and Regenerative Medicine*, **2017**, 11, 877-886	4.4	19
67	Toward understanding the role of cartilage particulates in synovial inflammation. *Osteoarthritis and Cartilage*, **2017**, 25, 1353-1361	6.2	19
66	Validation of theoretical framework explaining active solute uptake in dynamically loaded porous media. *Journal of Biomechanics*, **2010**, 43, 2267-73	2.9	19
65	Viscoelasticity using reactive constrained solid mixtures. *Journal of Biomechanics*, **2015**, 48, 941-7	2.9	18
64	Nutrient channels and stirring enhanced the composition and stiffness of large cartilage constructs. *Journal of Biomechanics*, **2014**, 47, 3847-54	2.9	18
63	Nutrient Channels Aid the Growth of Articular Surface-Sized Engineered Cartilage Constructs. *Tissue Engineering - Part A*, **2016**, 22, 1063-74	3.9	18
62	Mechanics of Cell Growth. *Mechanics Research Communications*, **2012**, 42, 118-125	2.2	17
61	Dynamic mechanical compression of devitalized articular cartilage does not activate latent TGF-□ *Journal of Biomechanics*, **2013**, 46, 1433-9	2.9	16
60	Solute transport across a contact interface in deformable porous media. *Journal of Biomechanics*, **2012**, 45, 1023-7	2.9	16
59	Growth factor priming differentially modulates components of the extracellular matrix proteome in chondrocytes and synovium-derived stem cells. *PLoS ONE*, **2014**, 9, e88053	3.7	16

58	Tissue engineered autologous cartilage-bone grafts for temporomandibular joint regeneration. *Science Translational Medicine*, **2020**, 12,	17.5	16
57	Dexamethasone Release from Within Engineered Cartilage as a Chondroprotective Strategy Against Interleukin-1 *Tissue Engineering - Part A*, **2016**, 22, 621-32	3.9	15
56	Biphasic Analysis of Cartilage Stresses in the Patellofemoral Joint. *Journal of Knee Surgery*, **2016**, 29, 92-8	2.4	15
55	Influence of chondroitin sulfate on the biochemical, mechanical and frictional properties of cartilage explants in long-term culture. *Journal of Biomechanics*, **2009**, 42, 286-90	2.9	14
54	Influence of the partitioning of osmolytes by the cytoplasm on the passive response of cells to osmotic loading. *Biophysical Journal*, **2009**, 97, 2886-93	2.9	14
53	Finite Element Framework for Computational Fluid Dynamics in FEBio. *Journal of Biomechanical Engineering*, **2018**, 140,	2.1	14
52	Hip chondrolabral mechanics during activities of daily living: Role of the labrum and interstitial fluid pressurization. *Journal of Biomechanics*, **2018**, 69, 113-120	2.9	12
51	Integrative biomechanics: a paradigm for clinical applications of fundamental mechanics. *Journal of Biomechanics*, **2009**, 42, 1444-1451	2.9	12
50	A Surface-to-Surface Finite Element Algorithm for Large Deformation Frictional Contact in febio. *Journal of Biomechanical Engineering*, **2018**, 140,	2.1	12
49	Fibroblast-like synoviocyte mechanosensitivity to fluid shear is modulated by interleukin-1 *Journal of Biomechanics*, **2017**, 60, 91-99	2.9	11
48	Articular cartilage wear characterization with a particle sizing and counting analyzer. *Journal of Biomechanical Engineering*, **2013**, 135, 024501	2.1	11
47	Long-term storage and preservation of tissue engineered articular cartilage. *Journal of Orthopaedic Research*, **2016**, 34, 141-8	3.8	11
46	Fabrication of tissue engineered osteochondral grafts for restoring the articular surface of diarthrodial joints. *Methods*, **2015**, 84, 103-8	4.6	10
45	The role of mass balance equations in growth mechanics illustrated in surface and volume dissolutions. *Journal of Biomechanical Engineering*, **2011**, 133, 011010	2.1	10
44	Constrained Cage Culture Improves Engineered Cartilage Functional Properties by Enhancing Collagen Network Stability. *Tissue Engineering - Part A*, **2017**, 23, 847-858	3.9	9
43	Cartilage Wear Particles Induce an Inflammatory Response Similar to Cytokines in Human Fibroblast-Like Synoviocytes. *Journal of Orthopaedic Research*, **2019**, 37, 1979-1987	3.8	9
42	A Formulation for Fluid Structure-Interactions in FEBio Using Mixture Theory. *Journal of Biomechanical Engineering*, **2019**,	2.1	9
41	Pulsed electromagnetic fields promote repair of focal articular cartilage defects with engineered osteochondral constructs. *Biotechnology and Bioengineering*, **2020**, 117, 1584-1596	4.9	9

40	Effect of glutaraldehyde fixation on the frictional response of immature bovine articular cartilage explants. *Journal of Biomechanics*, **2014**, 47, 694-701	2.9	9
39	Grading of osteoarthritic cartilage: Correlations between histology and biomechanics. *Journal of Orthopaedic Research*, **2016**, 34, 8-9	3.8	9
38	Perspectives on Sharing Models and Related Resources in Computational Biomechanics Research. *Journal of Biomechanical Engineering*, **2018**, 140,	2.1	8
37	A puzzle assembly strategy for fabrication of large engineered cartilage tissue constructs. *Journal of Biomechanics*, **2016**, 49, 668-677	2.9	8
36	Transient expression of the diseased phenotype of osteoarthritic chondrocytes in engineered cartilage. *Journal of Orthopaedic Research*, **2017**, 35, 829-836	3.8	7
35	Chondrocyte nuclear response to osmotic loading. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society*, **2006**, 2006, 3659-61		7
34	Spatially varying material properties of the rat caudal intervertebral disc. *Spine*, **2006**, 31, E486-93	3.3	7
33	Agarose Hydrogel Characterization for Regenerative Medicine Applications: Focus on Engineering Cartilage **2016**, 258-273		7
32	A Functional Tissue-Engineered Synovium Model to Study Osteoarthritis Progression and Treatment. *Tissue Engineering - Part A*, **2019**, 25, 538-553	3.9	7
31	The friction coefficient of shoulder joints remains remarkably low over 24 h of loading. *Journal of Biomechanics*, **2015**, 48, 3945-9	2.9	6
30	A Gauss-Kronrod-Trapezoidal integration scheme for modeling biological tissues with continuous fiber distributions. *Computer Methods in Biomechanics and Biomedical Engineering*, **2016**, 19, 883-93	2.1	6
29	Cytokine preconditioning of engineered cartilage provides protection against interleukin-1 insult. *Arthritis Research and Therapy*, **2015**, 17, 361	5.7	6
28	Modeling of active transmembrane transport in a mixture theory framework. *Annals of Biomedical Engineering*, **2010**, 38, 1801-14	4.7	6
27	Optimizing nutrient channel spacing and revisiting TGF-beta in large engineered cartilage constructs. *Journal of Biomechanics*, **2016**, 49, 2089-2094	2.9	6
26	Finite Element Formulation of Multiphasic Shell Elements for Cell Mechanics Analyses in FEBio. *Journal of Biomechanical Engineering*, **2018**,	2.1	5
25	Mixture Theory for Modeling Biological Tissues: Illustrations from Articular Cartilage. *Studies in Mechanobiology, Tissue Engineering and Biomaterials*, **2017**, 1-51	0.5	5
24	A Plugin Framework for Extending the Simulation Capabilities of FEBio. *Biophysical Journal*, **2018**, 115, 1630-1637	2.9	5
23	Reactive Constrained Mixtures for Modeling the Solid Matrix of Biological Tissues. *Journal of Elasticity*, **2017**, 129, 69-105	1.5	4

22	Sliding Tractions on a Deformable Porous Layer. *Journal of Tribology*, **1998**, 120, 89-96	1.8	4
21	Immature bovine cartilage wear by fatigue failure and delamination. *Journal of Biomechanics*, **2020**, 107, 109852	2.9	4
20	High intensity focused ultrasound as a tool for tissue engineering: Application to cartilage. *Medical Engineering and Physics*, **2016**, 38, 192-8	2.4	3
19	Prediction of probability of fatality due to brain injury in traffic accidents. *Traffic Injury Prevention*, **2019**, 20, S27-S31	1.8	3
18	PRELIMINARY VALIDATION OF MRI-BASED MODELING FOR EVALUATION OF JOINT MECHANICS. *Journal of Musculoskeletal Research*, **2008**, 11, 161-171	0.1	3
17	Direct Osmotic Pressure Measurements in Articular Cartilage Demonstrate Nonideal and Concentration-Dependent Phenomena. *Journal of Biomechanical Engineering*, **2021**, 143,	2.1	3
16	Effects of Media Stirring and Presence of Nutrient Channels on Functional Properties of Large Engineered Cartilage Constructs **2013**,		2
15	Determination of Poisson Ratios of Bovine Articular Cartilage in Tension and Compression Using Osmotic and Mechanical Loading **2002**, 203		2
14	Modeling Pulse Wave Propagation Through a Stenotic Artery With Fluid Structure Interaction: A Validation Study Using Ultrasound Pulse Wave Imaging. *Journal of Biomechanical Engineering*, **2021**, 143,	2.1	2
13	Finite Element Modeling of Solutes in Hydrated Deformable Biological Tissues **2013**, 231-249		2
12	Sustained Delivery of SB-431542, a Type I Transforming Growth Factor Beta-1 Receptor Inhibitor, to Prevent Arthrofibrosis. *Tissue Engineering - Part A*, **2021**, 27, 1411-1421	3.9	2
11	Physiologic Medium Maintains the Homeostasis of Immature Bovine Articular Cartilage Explants in Long-Term Culture. *Journal of Biomechanical Engineering*, **2018**,	2.1	2
10	Simulating cerebral edema and delayed fatality after traumatic brain injury using triphasic swelling biomechanics. *Traffic Injury Prevention*, **2019**, 20, 820-825	1.8	1
9	Functional Tissue Engineering of Articular Cartilage With Adult Chondrocytes **2009**,		1
8	How Does Chondrolabral Damage and Labral Repair Influence the Mechanics of the Hip in the Setting of Cam Morphology? A Finite-Element Modeling Study. *Clinical Orthopaedics and Related Research*, **2021**,	2.2	1
7	Finite Element Implementation of Biphasic-Fluid Structure Interactions in febio. *Journal of Biomechanical Engineering*, **2021**, 143,	2.1	1
6	A Hybrid Biphasic Mixture Formulation for Modeling Dynamics in Porous Deformable Biological Tissues.. *Archive of Applied Mechanics*, **2022**, 92, 491-511	2.2	1
5	Discussion: The Architecture of Fat Grafting II: Impact of Cannula Diameter. *Plastic and Reconstructive Surgery*, **2018**, 142, 1226-1228	2.7	1

4	Attachment of cartilage wear particles to the synovium negatively impacts friction properties. *Journal of Biomechanics*, **2021**, 127, 110668	2.9	1
3	On the use of constrained reactive mixtures of solids to model finite deformation isothermal elastoplasticity and elastoplastic damage mechanics. *Journal of the Mechanics and Physics of Solids*, **2021**, 155, 104534-104534	5	0
2	Toward Development of a Diabetic Synovium Culture Model.. *Frontiers in Bioengineering and Biotechnology*, **2022**, 10, 825046	5.8	0
1	Reactive Constrained Mixtures for Modeling the Solid Matrix of Biological Tissues **2018**, 69-105		