

# Gerard A Ateshian

## List of Publications by Year in Descending Order

**Source:** <https://exaly.com/author-pdf/9201106/gerard-a-ateshian-publications-by-year.pdf>

**Version:** 2024-04-29

This document has been generated based on the publications and citations recorded by exaly.com. For the latest version of this publication list, visit the link given above.

The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

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	A Hybrid Biphasic Mixture Formulation for Modeling Dynamics in Porous Deformable Biological Tissues.. <i>Archive of Applied Mechanics</i> , <b>2022</b> , 92, 491-511	2.2	1
164	Toward Development of a Diabetic Synovium Culture Model.. <i>Frontiers in Bioengineering and Biotechnology</i> , <b>2022</b> , 10, 825046	5.8	0
163	Direct Osmotic Pressure Measurements in Articular Cartilage Demonstrate Nonideal and Concentration-Dependent Phenomena. <i>Journal of Biomechanical Engineering</i> , <b>2021</b> , 143,	2.1	3
162	How Does Chondrolabral Damage and Labral Repair Influence the Mechanics of the Hip in the Setting of Cam Morphology? A Finite-Element Modeling Study. <i>Clinical Orthopaedics and Related Research</i> , <b>2021</b> ,	2.2	1
161	Modeling Pulse Wave Propagation Through a Stenotic Artery With Fluid Structure Interaction: A Validation Study Using Ultrasound Pulse Wave Imaging. <i>Journal of Biomechanical Engineering</i> , <b>2021</b> , 143,	2.1	2
160	Sustained Delivery of SB-431542, a Type I Transforming Growth Factor Beta-1 Receptor Inhibitor, to Prevent Arthrofibrosis. <i>Tissue Engineering - Part A</i> , <b>2021</b> , 27, 1411-1421	3.9	2
159	Finite Element Implementation of Biphasic-Fluid Structure Interactions in febio. <i>Journal of Biomechanical Engineering</i> , <b>2021</b> , 143,	2.1	1
158	Attachment of cartilage wear particles to the synovium negatively impacts friction properties. <i>Journal of Biomechanics</i> , <b>2021</b> , 127, 110668	2.9	1
157	On the use of constrained reactive mixtures of solids to model finite deformation isothermal elastoplasticity and elastoplastic damage mechanics. <i>Journal of the Mechanics and Physics of Solids</i> , <b>2021</b> , 155, 104534-104534	5	0
156	Pulsed electromagnetic fields promote repair of focal articular cartilage defects with engineered osteochondral constructs. <i>Biotechnology and Bioengineering</i> , <b>2020</b> , 117, 1584-1596	4.9	9
155	Immature bovine cartilage wear by fatigue failure and delamination. <i>Journal of Biomechanics</i> , <b>2020</b> , 107, 109852	2.9	4
154	Sustained low-dose dexamethasone delivery via a PLGA microsphere-embedded agarose implant for enhanced osteochondral repair. <i>Acta Biomaterialia</i> , <b>2020</b> , 102, 326-340	10.8	27
153	Tissue engineered autologous cartilage-bone grafts for temporomandibular joint regeneration. <i>Science Translational Medicine</i> , <b>2020</b> , 12,	17.5	16
152	Cartilage Wear Particles Induce an Inflammatory Response Similar to Cytokines in Human Fibroblast-Like Synoviocytes. <i>Journal of Orthopaedic Research</i> , <b>2019</b> , 37, 1979-1987	3.8	9
151	A Formulation for Fluid Structure-Interactions in FEBio Using Mixture Theory. <i>Journal of Biomechanical Engineering</i> , <b>2019</b> ,	2.1	9
150	Prediction of probability of fatality due to brain injury in traffic accidents. <i>Traffic Injury Prevention</i> , <b>2019</b> , 20, S27-S31	1.8	3
149	Simulating cerebral edema and delayed fatality after traumatic brain injury using triphasic swelling biomechanics. <i>Traffic Injury Prevention</i> , <b>2019</b> , 20, 820-825	1.8	1

148	A Functional Tissue-Engineered Synovium Model to Study Osteoarthritis Progression and Treatment. <i>Tissue Engineering - Part A</i> , <b>2019</b> , 25, 538-553	3.9	7
147	Hip chondrolabral mechanics during activities of daily living: Role of the labrum and interstitial fluid pressurization. <i>Journal of Biomechanics</i> , <b>2018</b> , 69, 113-120	2.9	12
146	Perspectives on Sharing Models and Related Resources in Computational Biomechanics Research. <i>Journal of Biomechanical Engineering</i> , <b>2018</b> , 140,	2.1	8
145	Finite Element Formulation of Multiphasic Shell Elements for Cell Mechanics Analyses in FEBio. <i>Journal of Biomechanical Engineering</i> , <b>2018</b> ,	2.1	5
144	Reactive Constrained Mixtures for Modeling the Solid Matrix of Biological Tissues <b>2018</b> , 69-105		
143	Physiologic Medium Maintains the Homeostasis of Immature Bovine Articular Cartilage Explants in Long-Term Culture. <i>Journal of Biomechanical Engineering</i> , <b>2018</b> ,	2.1	2
142	Finite Element Framework for Computational Fluid Dynamics in FEBio. <i>Journal of Biomechanical Engineering</i> , <b>2018</b> , 140,	2.1	14
141	Discussion: The Architecture of Fat Grafting II: Impact of Cannula Diameter. <i>Plastic and Reconstructive Surgery</i> , <b>2018</b> , 142, 1226-1228	2.7	1
140	A Plugin Framework for Extending the Simulation Capabilities of FEBio. <i>Biophysical Journal</i> , <b>2018</b> , 115, 1630-1637	2.9	5
139	A Surface-to-Surface Finite Element Algorithm for Large Deformation Frictional Contact in febio. <i>Journal of Biomechanical Engineering</i> , <b>2018</b> , 140,	2.1	12
138	Human chondrocyte migration behaviour to guide the development of engineered cartilage. <i>Journal of Tissue Engineering and Regenerative Medicine</i> , <b>2017</b> , 11, 877-886	4.4	19
137	Transient expression of the diseased phenotype of osteoarthritic chondrocytes in engineered cartilage. <i>Journal of Orthopaedic Research</i> , <b>2017</b> , 35, 829-836	3.8	7
136	Constrained Cage Culture Improves Engineered Cartilage Functional Properties by Enhancing Collagen Network Stability. <i>Tissue Engineering - Part A</i> , <b>2017</b> , 23, 847-858	3.9	9
135	Toward understanding the role of cartilage particulates in synovial inflammation. <i>Osteoarthritis and Cartilage</i> , <b>2017</b> , 25, 1353-1361	6.2	19
134	FEBio: History and Advances. <i>Annual Review of Biomedical Engineering</i> , <b>2017</b> , 19, 279-299	12	20
133	Reactive Constrained Mixtures for Modeling the Solid Matrix of Biological Tissues. <i>Journal of Elasticity</i> , <b>2017</b> , 129, 69-105	1.5	4
132	Fibroblast-like synoviocyte mechanosensitivity to fluid shear is modulated by interleukin-1 $\alpha$ <i>Journal of Biomechanics</i> , <b>2017</b> , 60, 91-99	2.9	11
131	Mixture Theory for Modeling Biological Tissues: Illustrations from Articular Cartilage. <i>Studies in Mechanobiology, Tissue Engineering and Biomaterials</i> , <b>2017</b> , 1-51	0.5	5

130	Heterogeneous engineered cartilage growth results from gradients of media-supplemented active TGF- $\beta$ and is ameliorated by the alternative supplementation of latent TGF- $\beta$ . <i>Biomaterials</i> , <b>2016</b> , 77, 173-185	15.6	44
129	A puzzle assembly strategy for fabrication of large engineered cartilage tissue constructs. <i>Journal of Biomechanics</i> , <b>2016</b> , 49, 668-677	2.9	8
128	Continuum theory of fibrous tissue damage mechanics using bond kinetics: application to cartilage tissue engineering. <i>Interface Focus</i> , <b>2016</b> , 6, 20150063	3.9	26
127	Dexamethasone Release from Within Engineered Cartilage as a Chondroprotective Strategy Against Interleukin-1. <i>Tissue Engineering - Part A</i> , <b>2016</b> , 22, 621-32	3.9	15
126	High intensity focused ultrasound as a tool for tissue engineering: Application to cartilage. <i>Medical Engineering and Physics</i> , <b>2016</b> , 38, 192-8	2.4	3
125	A Gauss-Kronrod-Trapezoidal integration scheme for modeling biological tissues with continuous fiber distributions. <i>Computer Methods in Biomechanics and Biomedical Engineering</i> , <b>2016</b> , 19, 883-93	2.1	6
124	Agarose Hydrogel Characterization for Regenerative Medicine Applications: Focus on Engineering Cartilage <b>2016</b> , 258-273		7
123	Optimizing nutrient channel spacing and revisiting TGF-beta in large engineered cartilage constructs. <i>Journal of Biomechanics</i> , <b>2016</b> , 49, 2089-2094	2.9	6
122	Biphasic Analysis of Cartilage Stresses in the Patellofemoral Joint. <i>Journal of Knee Surgery</i> , <b>2016</b> , 29, 92-8	2.4	15
121	High seeding density of human chondrocytes in agarose produces tissue-engineered cartilage approaching native mechanical and biochemical properties. <i>Journal of Biomechanics</i> , <b>2016</b> , 49, 1909-1917	2.9	32
120	Nutrient Channels Aid the Growth of Articular Surface-Sized Engineered Cartilage Constructs. <i>Tissue Engineering - Part A</i> , <b>2016</b> , 22, 1063-74	3.9	18
119	Long-term storage and preservation of tissue engineered articular cartilage. <i>Journal of Orthopaedic Research</i> , <b>2016</b> , 34, 141-8	3.8	11
118	Grading of osteoarthritic cartilage: Correlations between histology and biomechanics. <i>Journal of Orthopaedic Research</i> , <b>2016</b> , 34, 8-9	3.8	9
117	Wear and damage of articular cartilage with friction against orthopedic implant materials. <i>Journal of Biomechanics</i> , <b>2015</b> , 48, 1957-64	2.9	50
116	Fabrication of tissue engineered osteochondral grafts for restoring the articular surface of diarthrodial joints. <i>Methods</i> , <b>2015</b> , 84, 103-8	4.6	10
115	Viscoelasticity using reactive constrained solid mixtures. <i>Journal of Biomechanics</i> , <b>2015</b> , 48, 941-7	2.9	18
114	Porous titanium bases for osteochondral tissue engineering. <i>Acta Biomaterialia</i> , <b>2015</b> , 27, 286-293	10.8	31
113	The friction coefficient of shoulder joints remains remarkably low over 24 h of loading. <i>Journal of Biomechanics</i> , <b>2015</b> , 48, 3945-9	2.9	6

112	Cytokine preconditioning of engineered cartilage provides protection against interleukin-1 insult. <i>Arthritis Research and Therapy</i> , <b>2015</b> , 17, 361	5.7	6
111	Toward patient-specific articular contact mechanics. <i>Journal of Biomechanics</i> , <b>2015</b> , 48, 779-86	2.9	25
110	Matrix Production in Large Engineered Cartilage Constructs Is Enhanced by Nutrient Channels and Excess Media Supply. <i>Tissue Engineering - Part C: Methods</i> , <b>2015</b> , 21, 747-57	2.9	29
109	Effect of glutaraldehyde fixation on the frictional response of immature bovine articular cartilage explants. <i>Journal of Biomechanics</i> , <b>2014</b> , 47, 694-701	2.9	9
108	Computational modeling of chemical reactions and interstitial growth and remodeling involving charged solutes and solid-bound molecules. <i>Biomechanics and Modeling in Mechanobiology</i> , <b>2014</b> , 13, 1105-20	3.8	26
107	Large, stratified, and mechanically functional human cartilage grown in vitro by mesenchymal condensation. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2014</b> , 111, 6940-5	11.5	129
106	Interstitial growth and remodeling of biological tissues: tissue composition as state variables. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , <b>2014</b> , 29, 544-56	4.1	24
105	Finite element prediction of transchondral stress and strain in the human hip. <i>Journal of Biomechanical Engineering</i> , <b>2014</b> , 136, 021021	2.1	22
104	Nutrient channels and stirring enhanced the composition and stiffness of large cartilage constructs. <i>Journal of Biomechanics</i> , <b>2014</b> , 47, 3847-54	2.9	18
103	Synthesis rates and binding kinetics of matrix products in engineered cartilage constructs using chondrocyte-seeded agarose gels. <i>Journal of Biomechanics</i> , <b>2014</b> , 47, 2165-72	2.9	26
102	Growth factor priming differentially modulates components of the extracellular matrix proteome in chondrocytes and synovium-derived stem cells. <i>PLoS ONE</i> , <b>2014</b> , 9, e88053	3.7	16
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. <i>Tissue Engineering - Part A</i> , <b>2013</b> , 19, 1941-8	3.9	34
100	Accumulation of exogenous activated TGF- $\beta$ in the superficial zone of articular cartilage. <i>Biophysical Journal</i> , <b>2013</b> , 104, 1794-804	2.9	39
99	Multiphasic finite element framework for modeling hydrated mixtures with multiple neutral and charged solutes. <i>Journal of Biomechanical Engineering</i> , <b>2013</b> , 135, 111001	2.1	44
98	Tissue-engineered articular cartilage exhibits tension-compression nonlinearity reminiscent of the native cartilage. <i>Journal of Biomechanics</i> , <b>2013</b> , 46, 1784-91	2.9	33
97	Dynamic mechanical compression of devitalized articular cartilage does not activate latent TGF- $\beta$ . <i>Journal of Biomechanics</i> , <b>2013</b> , 46, 1433-9	2.9	16
96	Articular cartilage wear characterization with a particle sizing and counting analyzer. <i>Journal of Biomechanical Engineering</i> , <b>2013</b> , 135, 024501	2.1	11
95	Effects of Media Stirring and Presence of Nutrient Channels on Functional Properties of Large Engineered Cartilage Constructs <b>2013</b> ,		2

94	Finite Element Modeling of Solutes in Hydrated Deformable Biological Tissues <b>2013</b> , 231-249		2
93	Mechanics of Cell Growth. <i>Mechanics Research Communications</i> , <b>2012</b> , 42, 118-125	2.2	17
92	Microbubbles as biocompatible porogens for hydrogel scaffolds. <i>Acta Biomaterialia</i> , <b>2012</b> , 8, 4334-41	10.8	25
91	Continuum mixture models of biological growth and remodeling: past successes and future opportunities. <i>Annual Review of Biomedical Engineering</i> , <b>2012</b> , 14, 97-111	12	49
90	Solute transport across a contact interface in deformable porous media. <i>Journal of Biomechanics</i> , <b>2012</b> , 45, 1023-7	2.9	16
89	FEBio: finite elements for biomechanics. <i>Journal of Biomechanical Engineering</i> , <b>2012</b> , 134, 011005	2.1	525
88	Toward engineering a biological joint replacement. <i>Journal of Knee Surgery</i> , <b>2012</b> , 25, 187-96	2.4	26
87	Sliding contact loading enhances the tensile properties of mesenchymal stem cell-seeded hydrogels. <i>European Cells and Materials</i> , <b>2012</b> , 24, 29-45	4.3	32
86	Transient supplementation of anabolic growth factors rapidly stimulates matrix synthesis in engineered cartilage. <i>Annals of Biomedical Engineering</i> , <b>2011</b> , 39, 2491-500	4.7	30
85	Dynamic loading of immature epiphyseal cartilage pumps nutrients out of vascular canals. <i>Journal of Biomechanics</i> , <b>2011</b> , 44, 1654-9	2.9	24
84	The role of mass balance equations in growth mechanics illustrated in surface and volume dissolutions. <i>Journal of Biomechanical Engineering</i> , <b>2011</b> , 133, 011010	2.1	10
83	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. <i>Tissue Engineering - Part C: Methods</i> , <b>2011</b> , 17, 1041-9	2.9	20
82	Finite element implementation of mechanochemical phenomena in neutral deformable porous media under finite deformation. <i>Journal of Biomechanical Engineering</i> , <b>2011</b> , 133, 081005	2.1	25
81	Anisotropic hydraulic permeability under finite deformation. <i>Journal of Biomechanical Engineering</i> , <b>2010</b> , 132, 111004	2.1	37
80	Finite element algorithm for frictionless contact of porous permeable media under finite deformation and sliding. <i>Journal of Biomechanical Engineering</i> , <b>2010</b> , 132, 061006	2.1	46
79	Dynamic mechanical loading enhances functional properties of tissue-engineered cartilage using mature canine chondrocytes. <i>Tissue Engineering - Part A</i> , <b>2010</b> , 16, 1781-90	3.9	102
78	Passaged adult chondrocytes can form engineered cartilage with functional mechanical properties: a canine model. <i>Tissue Engineering - Part A</i> , <b>2010</b> , 16, 1041-51	3.9	60
77	Multigenerational interstitial growth of biological tissues. <i>Biomechanics and Modeling in Mechanobiology</i> , <b>2010</b> , 9, 689-702	3.8	53

76	Modeling of active transmembrane transport in a mixture theory framework. <i>Annals of Biomedical Engineering</i> , <b>2010</b> , 38, 1801-14	4.7	6
75	Electrostatic and non-electrostatic contributions of proteoglycans to the compressive equilibrium modulus of bovine articular cartilage. <i>Journal of Biomechanics</i> , <b>2010</b> , 43, 1343-50	2.9	51
74	Validation of theoretical framework explaining active solute uptake in dynamically loaded porous media. <i>Journal of Biomechanics</i> , <b>2010</b> , 43, 2267-73	2.9	19
73	Continuum modeling of biological tissue growth by cell division, and alteration of intracellular osmolytes and extracellular fixed charge density. <i>Journal of Biomechanical Engineering</i> , <b>2009</b> , 131, 101001 <sup>2,1</sup>		27
72	Functional Tissue Engineering of Articular Cartilage With Adult Chondrocytes <b>2009</b> ,		1
71	Influence of temporary chondroitinase ABC-induced glycosaminoglycan suppression on maturation of tissue-engineered cartilage. <i>Tissue Engineering - Part A</i> , <b>2009</b> , 15, 2065-72	3.9	45
70	Modeling the matrix of articular cartilage using a continuous fiber angular distribution predicts many observed phenomena. <i>Journal of Biomechanical Engineering</i> , <b>2009</b> , 131, 061003	2.1	148
69	Two-dimensional strain fields on the cross-section of the human patellofemoral joint under physiological loading. <i>Journal of Biomechanics</i> , <b>2009</b> , 42, 1275-81	2.9	28
68	Duty Cycle of Deformational Loading Influences the Growth of Engineered Articular Cartilage. <i>Cellular and Molecular Bioengineering</i> , <b>2009</b> , 2, 386-394	3.9	32
67	Characterization of the Concentration-Dependence of Solute Diffusivity and Partitioning in a Model Dextran-Agarose Transport System. <i>Cellular and Molecular Bioengineering</i> , <b>2009</b> , 2, 295-305	3.9	21
66	Influence of chondroitin sulfate on the biochemical, mechanical and frictional properties of cartilage explants in long-term culture. <i>Journal of Biomechanics</i> , <b>2009</b> , 42, 286-90	2.9	14
65	A frame-invariant formulation of Fung elasticity. <i>Journal of Biomechanics</i> , <b>2009</b> , 42, 781-5	2.9	25
64	Integrative biomechanics: a paradigm for clinical applications of fundamental mechanics. <i>Journal of Biomechanics</i> , <b>2009</b> , 42, 1444-1451	2.9	12
63	The role of interstitial fluid pressurization in articular cartilage lubrication. <i>Journal of Biomechanics</i> , <b>2009</b> , 42, 1163-76	2.9	325
62	Zonal chondrocytes seeded in a layered agarose hydrogel create engineered cartilage with depth-dependent cellular and mechanical inhomogeneity. <i>Tissue Engineering - Part A</i> , <b>2009</b> , 15, 2315-24	3.9	71
61	Effect of dynamic loading on the transport of solutes into agarose hydrogels. <i>Biophysical Journal</i> , <b>2009</b> , 97, 968-75	2.9	36
60	Influence of the partitioning of osmolytes by the cytoplasm on the passive response of cells to osmotic loading. <i>Biophysical Journal</i> , <b>2009</b> , 97, 2886-93	2.9	14
59	Differences in interleukin-1 response between engineered and native cartilage. <i>Tissue Engineering - Part A</i> , <b>2008</b> , 14, 1721-30	3.9	50



58	Heterogeneous transmural proteoglycan distribution provides a mechanism for regulating residual stresses in the aorta. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , <b>2008</b> , 294, H1197-205	5.3	105
57	PRELIMINARY VALIDATION OF MRI-BASED MODELING FOR EVALUATION OF JOINT MECHANICS. <i>Journal of Musculoskeletal Research</i> , <b>2008</b> , 11, 161-171	0.1	3
56	The effect of devitalized trabecular bone on the formation of osteochondral tissue-engineered constructs. <i>Biomaterials</i> , <b>2008</b> , 29, 4292-9	15.6	33
55	Two-dimensional strain fields on the cross-section of the bovine humeral head under contact loading. <i>Journal of Biomechanics</i> , <b>2008</b> , 41, 3145-51	2.9	26
54	Dependence of zonal chondrocyte water transport properties on osmotic environment. <i>Cellular and Molecular Bioengineering</i> , <b>2008</b> , 1, 339-348	3.9	29
53	Low-serum media and dynamic deformational loading in tissue engineering of articular cartilage. <i>Annals of Biomedical Engineering</i> , <b>2008</b> , 36, 769-79	4.7	23
52	Dynamic loading of deformable porous media can induce active solute transport. <i>Journal of Biomechanics</i> , <b>2008</b> , 41, 3152-7	2.9	52
51	A theoretical analysis of water transport through chondrocytes. <i>Biomechanics and Modeling in Mechanobiology</i> , <b>2007</b> , 6, 91-101	3.8	39
50	On the theory of reactive mixtures for modeling biological growth. <i>Biomechanics and Modeling in Mechanobiology</i> , <b>2007</b> , 6, 423-45	3.8	139
49	Chondroitin sulfate reduces the friction coefficient of articular cartilage. <i>Journal of Biomechanics</i> , <b>2007</b> , 40, 1847-54	2.9	45
48	The temporal response of the friction coefficient of articular cartilage depends on the contact area. <i>Journal of Biomechanics</i> , <b>2007</b> , 40, 3257-60	2.9	26
47	Anisotropy of fibrous tissues in relation to the distribution of tensed and buckled fibers. <i>Journal of Biomechanical Engineering</i> , <b>2007</b> , 129, 240-9	2.1	27
46	Equivalence between short-time biphasic and incompressible elastic material responses. <i>Journal of Biomechanical Engineering</i> , <b>2007</b> , 129, 405-12	2.1	96
45	Osmotic loading of spherical gels: a biomimetic study of hindered transport in the cell protoplasm. <i>Journal of Biomechanical Engineering</i> , <b>2007</b> , 129, 503-10	2.1	25
44	Frictional response of bovine articular cartilage under creep loading following proteoglycan digestion with chondroitinase ABC. <i>Journal of Biomechanical Engineering</i> , <b>2006</b> , 128, 131-4	2.1	39
43	Dynamic response of immature bovine articular cartilage in tension and compression, and nonlinear viscoelastic modeling of the tensile response. <i>Journal of Biomechanical Engineering</i> , <b>2006</b> , 128, 623-30	2.1	52
42	Chondrocyte nuclear response to osmotic loading. <i>Annual International Conference of the IEEE Engineering in Medicine and Biology Society</i> , <b>2006</b> , 2006, 3659-61		7
41	Spatially varying material properties of the rat caudal intervertebral disc. <i>Spine</i> , <b>2006</b> , 31, E486-93	3.3	7



40	A mixture theory analysis for passive transport in osmotic loading of cells. <i>Journal of Biomechanics</i> , <b>2006</b> , 39, 464-75	2.9	61
39	Spatial and temporal development of chondrocyte-seeded agarose constructs in free-swelling and dynamically loaded cultures. <i>Journal of Biomechanics</i> , <b>2006</b> , 39, 1489-97	2.9	116
38	Direct measurement of osmotic pressure of glycosaminoglycan solutions by membrane osmometry at room temperature. <i>Biophysical Journal</i> , <b>2005</b> , 89, 1543-50	2.9	80
37	Anisotropy, inhomogeneity, and tension-compression nonlinearity of human glenohumeral cartilage in finite deformation. <i>Journal of Biomechanics</i> , <b>2005</b> , 38, 799-809	2.9	151
36	Effects of enzymatic degradation on the frictional response of articular cartilage in stress relaxation. <i>Journal of Biomechanics</i> , <b>2005</b> , 38, 1343-9	2.9	47
35	Effect of dynamic loading on the frictional response of bovine articular cartilage. <i>Journal of Biomechanics</i> , <b>2005</b> , 38, 1665-73	2.9	59
34	Patellofemoral joint biomechanics and tissue engineering. <i>Clinical Orthopaedics and Related Research</i> , <b>2005</b> , 81-90	2.2	49
33	Cartilage interstitial fluid load support in unconfined compression following enzymatic digestion. <i>Journal of Biomechanical Engineering</i> , <b>2004</b> , 126, 779-86	2.1	54
32	A paradigm for functional tissue engineering of articular cartilage via applied physiologic deformational loading. <i>Annals of Biomedical Engineering</i> , <b>2004</b> , 32, 35-49	4.7	204
31	Microscale frictional response of bovine articular cartilage from atomic force microscopy. <i>Journal of Biomechanics</i> , <b>2004</b> , 37, 1679-87	2.9	110
30	The correspondence between equilibrium biphasic and triphasic material properties in mixture models of articular cartilage. <i>Journal of Biomechanics</i> , <b>2004</b> , 37, 391-400	2.9	76
29	Anisotropic strain-dependent material properties of bovine articular cartilage in the transitional range from tension to compression. <i>Journal of Biomechanics</i> , <b>2004</b> , 37, 1251-61	2.9	134
28	Experimental verification of the role of interstitial fluid pressurization in cartilage lubrication. <i>Journal of Orthopaedic Research</i> , <b>2004</b> , 22, 565-70	3.8	223
27	Functional tissue engineering of chondral and osteochondral constructs. <i>Biorheology</i> , <b>2004</b> , 41, 577-90	1.7	61
26	Synergistic action of growth factors and dynamic loading for articular cartilage tissue engineering. <i>Tissue Engineering</i> , <b>2003</b> , 9, 597-611		281
25	Experimental verification of the roles of intrinsic matrix viscoelasticity and tension-compression nonlinearity in the biphasic response of cartilage. <i>Journal of Biomechanical Engineering</i> , <b>2003</b> , 125, 84-93 <sup>2.1</sup>		150
24	Inhomogeneous cartilage properties enhance superficial interstitial fluid support and frictional properties, but do not provide a homogeneous state of stress. <i>Journal of Biomechanical Engineering</i> , <b>2003</b> , 125, 569-77	2.1	100
23	Modeling of neutral solute transport in a dynamically loaded porous permeable gel: implications for articular cartilage biosynthesis and tissue engineering. <i>Journal of Biomechanical Engineering</i> , <b>2003</b> , 125, 602-14	2.1	164

22	Computer simulations of patellofemoral joint surgery. Patient-specific models for tuberosity transfer. <i>American Journal of Sports Medicine</i> , <b>2003</b> , 31, 87-98	6.8	108
21	Hydrostatic pressurization and depletion of trapped lubricant pool during creep contact of a rippled indenter against a biphasic articular cartilage layer. <i>Journal of Biomechanical Engineering</i> , <b>2003</b> , 125, 585-93	2.1	29
20	The Role of Osmotic Pressure and Tension-Compression Nonlinearity in the Frictional Response of Articular Cartilage. <i>Transport in Porous Media</i> , <b>2003</b> , 50, 5-33	3.1	49
19	Anatomically shaped osteochondral constructs for articular cartilage repair. <i>Journal of Biomechanics</i> , <b>2003</b> , 36, 1853-64	2.9	178
18	Optical determination of anisotropic material properties of bovine articular cartilage in compression. <i>Journal of Biomechanics</i> , <b>2003</b> , 36, 339-53	2.9	130
17	Cartilage interstitial fluid load support in unconfined compression. <i>Journal of Biomechanics</i> , <b>2003</b> , 36, 1785-96	2.9	172
16	Determination of Poisson's Ratios of Bovine Articular Cartilage in Tension and Compression Using Osmotic and Mechanical Loading <b>2002</b> , 203		2
15	An automated approach for direct measurement of two-dimensional strain distributions within articular cartilage under unconfined compression. <i>Journal of Biomechanical Engineering</i> , <b>2002</b> , 124, 557-67 <sup>1</sup>		168
14	Patellofemoral stresses during open and closed kinetic chain exercises. An analysis using computer simulation. <i>American Journal of Sports Medicine</i> , <b>2001</b> , 29, 480-7	6.8	105
13	Biomechanical and topographic considerations for autologous osteochondral grafting in the knee. <i>American Journal of Sports Medicine</i> , <b>2001</b> , 29, 201-6	6.8	127
12	The role of flow-independent viscoelasticity in the biphasic tensile and compressive responses of articular cartilage. <i>Journal of Biomechanical Engineering</i> , <b>2001</b> , 123, 410-7	2.1	167
11	Interstitial fluid pressurization during confined compression cyclical loading of articular cartilage. <i>Annals of Biomedical Engineering</i> , <b>2000</b> , 28, 150-9	4.7	148
10	On the electric potentials inside a charged soft hydrated biological tissue: streaming potential versus diffusion potential. <i>Journal of Biomechanical Engineering</i> , <b>2000</b> , 122, 336-46	2.1	63
9	A Conewise Linear Elasticity mixture model for the analysis of tension-compression nonlinearity in articular cartilage. <i>Journal of Biomechanical Engineering</i> , <b>2000</b> , 122, 576-86	2.1	242
8	Functional tissue engineering of articular cartilage through dynamic loading of chondrocyte-seeded agarose gels. <i>Journal of Biomechanical Engineering</i> , <b>2000</b> , 122, 252-60	2.1	738
7	Contact analysis of biphasic transversely isotropic cartilage layers and correlations with tissue failure. <i>Journal of Biomechanics</i> , <b>1999</b> , 32, 1037-47	2.9	123
6	Knee cartilage topography, thickness, and contact areas from MRI: in-vitro calibration and in-vivo measurements. <i>Osteoarthritis and Cartilage</i> , <b>1999</b> , 7, 95-109	6.2	295
5	Experimental verification and theoretical prediction of cartilage interstitial fluid pressurization at an impermeable contact interface in confined compression. <i>Journal of Biomechanics</i> , <b>1998</b> , 31, 927-34	2.9	377

4	Sliding Tractions on a Deformable Porous Layer. <i>Journal of Tribology</i> , <b>1998</b> , 120, 89-96	1.8	4
3	Anatomy of the human patellofemoral joint articular cartilage: surface curvature analysis. <i>Journal of Orthopaedic Research</i> , <b>1997</b> , 15, 468-72	3.8	36
2	A theoretical solution for the frictionless rolling contact of cylindrical biphasic articular cartilage layers. <i>Journal of Biomechanics</i> , <b>1995</b> , 28, 1341-55	2.9	158
1	Contact areas in the thumb carpometacarpal joint. <i>Journal of Orthopaedic Research</i> , <b>1995</b> , 13, 450-8	3.8	77