

Van C Mow

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112
papers

12,823
citations

64
h-index

113
g-index

115
ext. papers

13,628
ext. citations

3.4
avg, IF

5.89
L-index

#	Paper	IF	Citations
112	Fluid transport and mechanical properties of articular cartilage: a review. <i>Journal of Biomechanics</i> , 1984 , 17, 377-94	2.9	727
111	Cartilage and diarthrodial joints as paradigms for hierarchical materials and structures. <i>Biomaterials</i> , 1992 , 13, 67-97	15.6	700
110	Tensile properties of the inferior glenohumeral ligament. <i>Journal of Orthopaedic Research</i> , 1992 , 10, 187-97	3.8	425
109	Tensile properties of human knee joint cartilage: I. Influence of ionic conditions, weight bearing, and fibrillation on the tensile modulus. <i>Journal of Orthopaedic Research</i> , 1986 , 4, 379-92	3.8	382
108	The mechanical environment of the chondrocyte: a biphasic finite element model of cell-matrix interactions in articular cartilage. <i>Journal of Biomechanics</i> , 2000 , 33, 1663-1673	2.9	380
107	Chondrocyte deformation and local tissue strain in articular cartilage: a confocal microscopy study. <i>Journal of Orthopaedic Research</i> , 1995 , 13, 410-21	3.8	373
106	Mechano-electrochemical properties of articular cartilage: their inhomogeneities and anisotropies. <i>Annual Review of Biomedical Engineering</i> , 2002 , 4, 175-209	12	338
105	The Relationship of Acromial Architecture to Rotator Cuff Disease. <i>Clinics in Sports Medicine</i> , 1991 , 10, 823-838	2.6	290
104	Excursion of the rotator cuff under the acromion. Patterns of subacromial contact. <i>American Journal of Sports Medicine</i> , 1994 , 22, 779-88	6.8	280
103	Drag-induced compression of articular cartilage during a permeation experiment. <i>Biorheology</i> , 1980 , 17, 111-23	1.7	260
102	Altered mechanics of cartilage with osteoarthritis: human osteoarthritis and an experimental model of joint degeneration. <i>Osteoarthritis and Cartilage</i> , 1999 , 7, 2-14	6.2	257
101	Mechanical and biochemical changes in the superficial zone of articular cartilage in canine experimental osteoarthritis. <i>Journal of Orthopaedic Research</i> , 1994 , 12, 474-84	3.8	257
100	Degeneration affects the anisotropic and nonlinear behaviors of human annulus fibrosus in compression. <i>Journal of Biomechanics</i> , 1998 , 31, 535-44	2.9	256
99	Effects of proteoglycan extraction on the tensile behavior of articular cartilage. <i>Journal of Orthopaedic Research</i> , 1990 , 8, 353-63	3.8	239
98	Is the nucleus pulposus a solid or a fluid? Mechanical behaviors of the nucleus pulposus of the human intervertebral disc. <i>Spine</i> , 1996 , 21, 1174-84	3.3	238
97	The biphasic poroviscoelastic behavior of articular cartilage: role of the surface zone in governing the compressive behavior. <i>Journal of Biomechanics</i> , 1993 , 26, 581-92	2.9	238
96	Composition and dynamics of articular cartilage: structure, function, and maintaining healthy state. <i>Journal of Orthopaedic and Sports Physical Therapy</i> , 1998 , 28, 203-15	4.2	234

95	The extracellular matrix, interstitial fluid and ions as a mechanical signal transducer in articular cartilage. <i>Osteoarthritis and Cartilage</i> , 1999 , 7, 41-58	6.2	222
94	Viscoelastic shear properties of articular cartilage and the effects of glycosidase treatments. <i>Journal of Orthopaedic Research</i> , 1993 , 11, 771-81	3.8	222
93	Degeneration and aging affect the tensile behavior of human lumbar annulus fibrosus. <i>Spine</i> , 1995 , 20, 2690-701	3.3	217
92	Tensile properties of nondegenerate human lumbar annulus fibrosus. <i>Spine</i> , 1996 , 21, 452-61	3.3	215
91	Restoration of Injured or Degenerated Articular Cartilage. <i>Journal of the American Academy of Orthopaedic Surgeons</i> , 1994 , 2, 192-201	4.5	206
90	Alterations in the mechanical behavior of the human lumbar nucleus pulposus with degeneration and aging. <i>Journal of Orthopaedic Research</i> , 1997 , 15, 318-22	3.8	184
89	Recent Developments in Synovial Joint Biomechanics. <i>SIAM Review</i> , 1980 , 22, 275-317	7.4	184
88	Glenohumeral Stability. <i>Clinical Orthopaedics and Related Research</i> , 1996 , 330, 13-30	2.2	174
87	Biomechanics of diarthrodial joints: a review of twenty years of progress. <i>Journal of Biomechanical Engineering</i> , 1993 , 115, 460-7	2.1	172
86	Effects of nonlinear strain-dependent permeability and rate of compression on the stress behavior of articular cartilage. <i>Journal of Biomechanical Engineering</i> , 1981 , 103, 61-6	2.1	172
85	The role of flow-independent viscoelasticity in the biphasic tensile and compressive responses of articular cartilage. <i>Journal of Biomechanical Engineering</i> , 2001 , 123, 410-7	2.1	167
84	Compressive mechanical properties of the human annulus fibrosus and their relationship to biochemical composition. <i>Spine</i> , 1994 , 19, 212-21	3.3	165
83	Anisotropy, inhomogeneity, and tension-compression nonlinearity of human glenohumeral cartilage in finite deformation. <i>Journal of Biomechanics</i> , 2005 , 38, 799-809	2.9	151
82	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> , 2003 , 125, 84-93 ^{2.1}		150
81	The viscoelastic behavior of the non-degenerate human lumbar nucleus pulposus in shear. <i>Journal of Biomechanics</i> , 1997 , 30, 1005-13	2.9	146
80	The Ultrastructure and Biomechanical Significance of the Tidemark of Articular Cartilage. <i>Clinical Orthopaedics and Related Research</i> , 1975 , 112, 357-362	2.2	131
79	A transversely isotropic biphasic finite element model of the meniscus. <i>Journal of Biomechanics</i> , 1992 , 25, 1027-45	2.9	129
78	Biomechanics of articular cartilage and determination of material properties. <i>Medicine and Science in Sports and Exercise</i> , 2008 , 40, 193-9	1.2	126

77	Differences in patellofemoral joint cartilage material properties and their significance to the etiology of cartilage surface fibrillation. <i>Osteoarthritis and Cartilage</i> , 1997 , 5, 377-86	6.2	125
76	A finite deformation theory for cartilage and other soft hydrated connective tissues--I. Equilibrium results. <i>Journal of Biomechanics</i> , 1990 , 23, 145-55	2.9	124
75	Glenohumeral mechanics: a study of articular geometry, contact, and kinematics. <i>Journal of Shoulder and Elbow Surgery</i> , 2001 , 10, 73-84	4.3	123
74	Contact analysis of biphasic transversely isotropic cartilage layers and correlations with tissue failure. <i>Journal of Biomechanics</i> , 1999 , 32, 1037-47	2.9	123
73	Load-controlled compression of articular cartilage induces a transient stimulation of aggrecan gene expression. <i>Archives of Biochemistry and Biophysics</i> , 1998 , 353, 29-36	4.1	121
72	Changes in proteoglycan synthesis of chondrocytes in articular cartilage are associated with the time-dependent changes in their mechanical environment. <i>Journal of Biomechanics</i> , 1995 , 28, 1561-9	2.9	115
71	Inferior glenohumeral ligament: geometric and strain-rate dependent properties. <i>Journal of Shoulder and Elbow Surgery</i> , 1996 , 5, 269-79	4.3	115
70	A finite element analysis of the indentation stress-relaxation response of linear biphasic articular cartilage. <i>Journal of Biomechanical Engineering</i> , 1992 , 114, 191-201	2.1	115
69	Computer simulations of patellofemoral joint surgery. Patient-specific models for tuberosity transfer. <i>American Journal of Sports Medicine</i> , 2003 , 31, 87-98	6.8	108
68	Incompressibility of the solid matrix of articular cartilage under high hydrostatic pressures. <i>Journal of Biomechanics</i> , 1998 , 31, 445-51	2.9	97
67	Effects of patellar tendon adhesion to the anterior tibia on knee mechanics. <i>American Journal of Sports Medicine</i> , 1998 , 26, 715-24	6.8	97
66	Mitogen-activated protein kinase signaling in bovine articular chondrocytes in response to fluid flow does not require calcium mobilization. <i>Journal of Biomechanics</i> , 2000 , 33, 73-80	2.9	95
65	Shear mechanical properties of human lumbar annulus fibrosus. <i>Journal of Orthopaedic Research</i> , 1999 , 17, 732-7	3.8	92
64	A hydrogel-mineral composite scaffold for osteochondral interface tissue engineering. <i>Tissue Engineering - Part A</i> , 2012 , 18, 533-45	3.9	90
63	An analysis of the effects of depth-dependent aggregate modulus on articular cartilage stress-relaxation behavior in compression. <i>Journal of Biomechanics</i> , 2001 , 34, 75-84	2.9	90
62	Topography of the osteoarthritic thumb carpometacarpal joint and its variations with regard to gender, age, site, and osteoarthritic stage. <i>Journal of Hand Surgery</i> , 1998 , 23, 454-64	2.6	81
61	Codominance of the individual posterior cruciate ligament bundles. An analysis of bundle lengths and orientation. <i>American Journal of Sports Medicine</i> , 2003 , 31, 221-5	6.8	81
60	Winner of the 1996 Cabaud Award. The effect of lifelong exercise on canine articular cartilage. <i>American Journal of Sports Medicine</i> , 1997 , 25, 282-7	6.8	80

59	Calcium Concentration Effects on the Mechanical and Biochemical Properties of Chondrocyte-Alginate Constructs. <i>Cellular and Molecular Bioengineering</i> , 2008 , 1, 93-102	3.9	79
58	Inhomogeneous mechanical behavior of the human supraspinatus tendon under uniaxial loading. <i>Journal of Orthopaedic Research</i> , 2005 , 23, 924-30	3.8	79
57	Mechanical behavior and biochemical composition of canine knee cartilage following periods of joint disuse and disuse with remobilization. <i>Osteoarthritis and Cartilage</i> , 1997 , 5, 1-16	6.2	78
56	Contact areas in the thumb carpometacarpal joint. <i>Journal of Orthopaedic Research</i> , 1995 , 13, 450-8	3.8	77
55	On the fundamental fluid transport mechanisms through normal and pathological articular cartilage during function - II. The analysis, solution and conclusions. <i>Journal of Biomechanics</i> , 1976 , 9, 587-606	2.9	77
54	The impact of biomechanics in tissue engineering and regenerative medicine. <i>Tissue Engineering - Part B: Reviews</i> , 2009 , 15, 477-84	7.9	75
53	Effects of repetitive subfailure strains on the mechanical behavior of the inferior glenohumeral ligament. <i>Journal of Shoulder and Elbow Surgery</i> , 2000 , 9, 427-35	4.3	72
52	Effects of friction on the unconfined compressive response of articular cartilage: a finite element analysis. <i>Journal of Biomechanical Engineering</i> , 1990 , 112, 138-46	2.1	72
51	Tensile properties of human knee joint cartilage. II. Correlations between weight bearing and tissue pathology and the kinetics of swelling. <i>Journal of Orthopaedic Research</i> , 1987 , 5, 173-86	3.8	71
50	Indentation determined mechano-electrochemical properties and fixed charge density of articular cartilage. <i>Annals of Biomedical Engineering</i> , 2004 , 32, 370-9	4.7	67
49	Radiography and visual pathology of the osteoarthritic scaphotrapezio-trapezoidal joint, and its relationship to trapeziometacarpal osteoarthritis. <i>Journal of Hand Surgery</i> , 2003 , 28, 739-43	2.6	67
48	Sequential wear patterns of the articular cartilage of the thumb carpometacarpal joint in osteoarthritis. <i>Journal of Hand Surgery</i> , 2003 , 28, 597-604	2.6	64
47	Some surface characteristics of articular cartilage. I. A scanning electron microscopy study and a theoretical model for the dynamic interaction of synovial fluid and articular cartilage. <i>Journal of Biomechanics</i> , 1974 , 7, 449-56	2.9	64
46	On the electric potentials inside a charged soft hydrated biological tissue: streaming potential versus diffusion potential. <i>Journal of Biomechanical Engineering</i> , 2000 , 122, 336-46	2.1	63
45	Compressive properties of the cartilaginous end-plate of the baboon lumbar spine. <i>Journal of Orthopaedic Research</i> , 1993 , 11, 228-39	3.8	62
44	Some bioengineering considerations for tissue engineering of articular cartilage. <i>Clinical Orthopaedics and Related Research</i> , 1999 , S204-23	2.2	59
43	On the fundamental fluid transport mechanisms through normal and pathological articular cartilage during function--I. The formulation. <i>Journal of Biomechanics</i> , 1976 , 9, 541-52	2.9	58
42	The nonlinear interaction between cartilage deformation and interstitial fluid flow. <i>Journal of Biomechanics</i> , 1977 , 10, 31-9	2.9	55

41	Determination of collagen-proteoglycan interactions in vitro. <i>Journal of Biomechanics</i> , 1996 , 29, 773-83	2.9	47
40	Compressive stress-relaxation behavior of bovine growth plate may be described by the nonlinear biphasic theory. <i>Journal of Orthopaedic Research</i> , 1994 , 12, 804-13	3.8	44
39	Centrifugal and biochemical comparison of proteoglycan aggregates from articular cartilage in experimental joint disuse and joint instability. <i>Journal of Orthopaedic Research</i> , 1994 , 12, 498-508	3.8	42
38	The functional environment of chondrocytes within cartilage subjected to compressive loading: a theoretical and experimental approach. <i>Biorheology</i> , 2002 , 39, 11-25	1.7	42
37	Anatomy of the human patellofemoral joint articular cartilage: surface curvature analysis. <i>Journal of Orthopaedic Research</i> , 1997 , 15, 468-72	3.8	36
36	Some surface characteristics of articular cartilage. II. On the stability of articular surface and a possible biomechanical factor in etiology of chondrodegeneration. <i>Journal of Biomechanics</i> , 1974 , 7, 457-68	2.9	34
35	Simulated extension osteotomy of the thumb metacarpal reduces carpometacarpal joint laxity in lateral pinch. <i>Journal of Hand Surgery</i> , 2003 , 28, 733-8	2.6	31
34	The influence of link protein stabilization on the viscometric properties of proteoglycan aggregate solutions. <i>Biochimica Et Biophysica Acta - General Subjects</i> , 1989 , 992, 201-8	4	31
33	On the Natural Lubrication of Synovial Joints: Normal and Degenerate. <i>Journal of Lubrication Technology</i> , 1977 , 99, 163-172		31
32	The generalized triphasic correspondence principle for simultaneous determination of the mechanical properties and proteoglycan content of articular cartilage by indentation. <i>Journal of Biomechanics</i> , 2007 , 40, 2434-41	2.9	30
31	Matrix deposition modulates the viscoelastic shear properties of hydrogel-based cartilage grafts. <i>Tissue Engineering - Part A</i> , 2011 , 17, 1111-22	3.9	29
30	Temperature-dependent viscoelastic properties of the human supraspinatus tendon. <i>Journal of Biomechanics</i> , 2009 , 42, 546-9	2.9	27
29	A linearized formulation of triphasic mixture theory for articular cartilage, and its application to indentation analysis. <i>Journal of Biomechanics</i> , 2010 , 43, 673-9	2.9	27
28	The density and strength of proteoglycan-proteoglycan interaction sites in concentrated solutions. <i>Journal of Biomechanics</i> , 1991 , 24, 1007-18	2.9	27
27	An in vitro analysis of ligament reconstruction or extension osteotomy on trapeziometacarpal joint stability and contact area. <i>Journal of Hand Surgery</i> , 2006 , 31, 429-39	2.6	25
26	Constitutive modeling of articular cartilage and biomacromolecular solutions. <i>Journal of Biomechanical Engineering</i> , 1993 , 115, 474-80	2.1	23
25	The inferior glenohumeral ligament: a correlative investigation. <i>Journal of Shoulder and Elbow Surgery</i> , 2006 , 15, 665-74	4.3	19
24	Thenar insertion of abductor pollicis longus accessory tendons and thumb carpometacarpal osteoarthritis. <i>Journal of Hand Surgery</i> , 2000 , 25, 458-63	2.6	19

23	Centrifugal characterization of proteoglycans from various depth layers and weight-bearing areas of normal and abnormal human articular cartilage. <i>Journal of Orthopaedic Research</i> , 1989 , 7, 326-34	3.8	19
22	In vivo effects of naproxen on composition, proteoglycan metabolism, and matrix metalloproteinase activities in canine articular cartilage. <i>Journal of Orthopaedic Research</i> , 1993 , 11, 163-71	3.8	17
21	Mathematical analysis of stress relaxation in articular cartilage during compression. <i>Mathematical Biosciences</i> , 1978 , 39, 97-112	3.9	15
20	A triphasic orthotropic laminate model for cartilage curling behavior: fixed charge density versus mechanical properties inhomogeneity. <i>Journal of Biomechanical Engineering</i> , 2010 , 132, 024504	2.1	11
19	Determination of kinetic changes of aggrecan-hyaluronan interactions in solution from its rheological properties. <i>Journal of Biomechanics</i> , 1994 , 27, 571-9	2.9	11
18	Fixed electrical charges and mobile ions affect the measurable mechano-electrochemical properties of charged-hydrated biological tissues: the articular cartilage paradigm. <i>Mcb Mechanics and Chemistry of Biosystems</i> , 2004 , 1, 81-99		8
17	COMPARISON OF GLENOHUMERAL MECHANICS FOLLOWING A CAPSULAR SHIFT AND ANTERIOR TIGHTENING. <i>Journal of Bone and Joint Surgery - Series A</i> , 2005 , 87, 1312-1322	5.6	7
16	Computer-aided planning of patellofemoral joint OA surgery: Developing physical models from patient MRI. <i>Lecture Notes in Computer Science</i> , 1998 , 9-20	0.9	5
15	Structure-Function of Knee Articular Cartilage. <i>Sports Medicine and Arthroscopy Review</i> , 1994 , 2, 189-202	2.5	5
14	Computation of stress relaxation function and apparent viscosity from dynamic data of synovial fluids. <i>Biorheology</i> , 1977 , 14, 229-36	1.7	5
13	Discussion: "On the Thermodynamical Admissibility of the Triphasic Theory of Charged Hydrated Tissues" (Huyghe, J. M., Wilson, W., and Malakpoor, K., ASME J. Biomech. Eng., 2009, 131, p. 044504). <i>Journal of Biomechanical Engineering</i> , 2009 , 131, 095501	2.1	4
12	Cartilage and Meniscus, Properties of 2006 ,		4
11	Biophysical and Electromechanical Properties of Articular Cartilage 1979 , 301-341		4
10	Ultrafiltration of Synovial Fluid by Cartilage. <i>Journal of the Engineering Mechanics Division</i> , 1978 , 104, 79-96		4
9	Mechanical and structural criteria for orthopaedic implants. <i>Biomaterials, Medical Devices, and Artificial Organs</i> , 1973 , 1, 575-634		3
8	The Role of Biomechanics in Functional Tissue Engineering for Articular Cartilage 2003 , 37-60		3
7	Fixed negative charges modulate mechanical behaviours and electrical signals in articular cartilage under unconfined compression in triphasic paradigm 2002 , 227-247		2
6	Cellular and Molecular Bioengineering: A Tipping Point. <i>Cellular and Molecular Bioengineering</i> , 2012 , 5, 239-253	3.9	1

5 Compression Effects on Cartilage Permeability **1986**, 73-100

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4 RIGOROUS MECHANICS AND ELEGANT MATHEMATICS ON THE FORMULATION OF CONSTITUTIVE LAWS FOR COMPLEX MATERIALS: AN EXAMPLE FROM BIOMECHANICS **2011**, 285-306

3 Asymptotic properties of a nonlinear diffusion process arising in articular cartilage. *Applied Mathematics and Computation*, **1979**, 5, 187-198

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2 THE ORIGIN OF PRE-STRESS IN BIOLOGICAL TISSUES [A MECHANO-ELECTROCHEMICAL MODEL: A TRIBUTE TO PROFESSOR Y.C. FUNG **2009**, 21-29

1 Closure to Discussions of On the Natural Lubrication of Synovial Joints: Normal and Degenerate (1977, ASME J. Lubr. Technol., 99, pp. 172-173). *Journal of Lubrication Technology*, **1977**, 99, 173-173