Jerry C. Hu

List of Publications by Citations

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111 papers	4,885 citations	33 h-index	68 g-index
113 ext. papers	5,962 ext. citations	6.9 avg, IF	6.11 L-index

#	Paper	IF	Citations
111	Unlike bone, cartilage regeneration remains elusive. *Science*, **2012**, 338, 917-21	33.3	694
110	Repair and tissue engineering techniques for articular cartilage. *Nature Reviews Rheumatology*, **2015**, 11, 21-34	8.1	663
109	The role of tissue engineering in articular cartilage repair and regeneration. *Critical Reviews in Biomedical Engineering*, **2009**, 37, 1-57	1.1	274
108	Cell-based tissue engineering strategies used in the clinical repair of articular cartilage. *Biomaterials* , **2016**, 98, 1-22	15.6	242
107	A self-assembling process in articular cartilage tissue engineering. *Tissue Engineering*, **2006**, 12, 969-79		221
106	Surgical and tissue engineering strategies for articular cartilage and meniscus repair. *Nature Reviews Rheumatology*, **2019**, 15, 550-570	8.1	178
105	Self-organization and the self-assembling process in tissue engineering. *Annual Review of Biomedical Engineering*, **2013**, 15, 115-36	12	131
104	Advances in tissue engineering through stem cell-based co-culture. *Journal of Tissue Engineering and Regenerative Medicine*, **2015**, 9, 488-503	4.4	111
103	Matrix development in self-assembly of articular cartilage. *PLoS ONE*, **2008**, 3, e2795	3.7	111
102	TGF-β1, GDF-5, and BMP-2 stimulation induces chondrogenesis in expanded human articular chondrocytes and marrow-derived stromal cells. *Stem Cells*, **2015**, 33, 762-73	5.8	107
101	Zonal and topographical differences in articular cartilage gene expression. *Journal of Orthopaedic Research*, **2004**, 22, 1182-7	3.8	98
100	Developing functional musculoskeletal tissues through hypoxia and lysyl oxidase-induced collagen cross-linking. *Proceedings of the National Academy of Sciences of the United States of America*, **2014**, 111, E4832-41	11.5	90
99	The effects of intermittent hydrostatic pressure on self-assembled articular cartilage constructs. *Tissue Engineering*, **2006**, 12, 1337-44		86
98	Emergence of scaffold-free approaches for tissue engineering musculoskeletal cartilages. *Annals of Biomedical Engineering*, **2015**, 43, 543-54	4.7	83
97	A Modified Hydroxyproline Assay Based on Hydrochloric Acid in Ehrlich's Solution Accurately Measures Tissue Collagen Content. *Tissue Engineering - Part C: Methods*, **2017**, 23, 243-250	2.9	79
96	Low-density cultures of bovine chondrocytes: effects of scaffold material and culture system. *Biomaterials*, **2005**, 26, 2001-12	15.6	59
95	Self-assembly of fibrochondrocytes and chondrocytes for tissue engineering of the knee meniscus. *Tissue Engineering*, **2007**, 13, 939-46		58

94	Combined use of chondroitinase-ABC, TGF-β1, and collagen crosslinking agent lysyl oxidase to engineer functional neotissues for fibrocartilage repair. *Biomaterials*, **2014**, 35, 6787-96	15.6	54
93	A Guide for Using Mechanical Stimulation to Enhance Tissue-Engineered Articular Cartilage Properties. *Tissue Engineering - Part B: Reviews*, **2018**, 24, 345-358	7.9	50
92	Hypoxia-induced collagen crosslinking as a mechanism for enhancing mechanical properties of engineered articular cartilage. *Osteoarthritis and Cartilage*, **2013**, 21, 634-41	6.2	50
91	Articular cartilage tissue engineering: the role of signaling molecules. *Cellular and Molecular Life Sciences*, **2016**, 73, 1173-94	10.3	49
90	Biomechanics-driven chondrogenesis: from embryo to adult. *FASEB Journal*, **2012**, 26, 3614-24	0.9	49
89	Tension stimulation drives tissue formation in scaffold-free systems. *Nature Materials*, **2017**, 16, 864-873	27	48
88	Tissue engineering toward temporomandibular joint disc regeneration. *Science Translational Medicine*, **2018**, 10,	17.5	45
87	A chondroitinase-ABC and TGF-β1 treatment regimen for enhancing the mechanical properties of tissue-engineered fibrocartilage. *Acta Biomaterialia*, **2013**, 9, 4626-34	10.8	45
86	Mechanisms underlying the synergistic enhancement of self-assembled neocartilage treated with chondroitinase-ABC and TGF-β1. *Biomaterials*, **2012**, 33, 3187-94	15.6	43
85	A copper sulfate and hydroxylysine treatment regimen for enhancing collagen cross-linking and biomechanical properties in engineered neocartilage. *FASEB Journal*, **2013**, 27, 2421-30	0.9	43
84	Engineering functional anisotropy in fibrocartilage neotissues. *Biomaterials*, **2013**, 34, 9980-9	15.6	41
83	Mechanical characterization of differentiated human embryonic stem cells. *Journal of Biomechanical Engineering*, **2009**, 131, 061011	2.1	41
82	Antigen removal for the production of biomechanically functional, xenogeneic tissue grafts. *Journal of Biomechanics*, **2014**, 47, 1987-96	2.9	39
81	The Self-Assembling Process and Applications in Tissue Engineering. *Cold Spring Harbor Perspectives in Medicine*, **2017**, 7,	5.4	38
80	Articular Cartilage Tissue Engineering **2009**, 1, 1-182		34
79	Intracellular Na(+) and Ca(2+) modulation increases the tensile properties of developing engineered articular cartilage. *Arthritis and Rheumatism*, **2010**, 62, 1097-107		34
78	Recent Tissue Engineering Advances for the Treatment of Temporomandibular Joint Disorders. *Current Osteoporosis Reports*, **2016**, 14, 269-279	5.4	33
77	Induced collagen cross-links enhance cartilage integration. *PLoS ONE*, **2013**, 8, e60719	3.7	31

76	Isolation and chondroinduction of a dermis-isolated, aggrecan-sensitive subpopulation with high chondrogenic potential. *Arthritis and Rheumatism*, **2007**, 56, 168-76		31
75	Collagen: quantification, biomechanics, and role of minor subtypes in cartilage. *Nature Reviews Materials*, **2020**, 5, 730-747	73.3	30
74	A proposed model of naturally occurring osteoarthritis in the domestic rabbit. *Lab Animal*, **2011**, 41, 20-5	0.4	29
73	Harnessing biomechanics to develop cartilage regeneration strategies. *Journal of Biomechanical Engineering*, **2015**, 137, 020901	2.1	28
72	Enhancing post-expansion chondrogenic potential of costochondral cells in self-assembled neocartilage. *PLoS ONE*, **2013**, 8, e56983	3.7	27
71	Facet Joints of the Spine: Structure-Function Relationships, Problems and Treatments, and the Potential for Regeneration. *Annual Review of Biomedical Engineering*, **2018**, 20, 145-170	12	26
70	Concise Review: Human Dermis as an Autologous Source of Stem Cells for Tissue Engineering and Regenerative Medicine. *Stem Cells Translational Medicine*, **2015**, 4, 1187-98	6.9	25
69	Nondestructive evaluation of tissue engineered articular cartilage using time-resolved fluorescence spectroscopy and ultrasound backscatter microscopy. *Tissue Engineering - Part C: Methods*, **2012**, 18, 215-26	2.9	25
68	Toward tissue-engineering of nasal cartilages. *Acta Biomaterialia*, **2019**, 88, 42-56	10.8	23
67	Clinical translation of stem cells: insight for cartilage therapies. *Critical Reviews in Biotechnology*, **2014**, 34, 89-100	9.4	23
66	Engineering a fibrocartilage spectrum through modulation of aggregate redifferentiation. *Cell Transplantation*, **2015**, 24, 235-45	4	22
65	Cartilage tissue engineering using dermis isolated adult stem cells: the use of hypoxia during expansion versus chondrogenic differentiation. *PLoS ONE*, **2014**, 9, e98570	3.7	21
64	Building an anisotropic meniscus with zonal variations. *Tissue Engineering - Part A*, **2014**, 20, 294-302	3.9	21
63	Tensile characterization of porcine temporomandibular joint disc attachments. *Journal of Dental Research*, **2013**, 92, 753-8	8.1	21
62	The Yucatan Minipig Temporomandibular Joint Disc Structure-Function Relationships Support Its Suitability for Human Comparative Studies. *Tissue Engineering - Part C: Methods*, **2017**, 23, 700-709	2.9	19
61	A Comparison of Bone Marrow and Cord Blood Mesenchymal Stem Cells for Cartilage Self-Assembly. *Tissue Engineering - Part A*, **2018**, 24, 1262-1272	3.9	18
60	Characterization of costal cartilage and its suitability as a cell source for articular cartilage tissue engineering. *Journal of Tissue Engineering and Regenerative Medicine*, **2018**, 12, 1163-1176	4.4	18
59	Biomechanical evaluation of suture-holding properties of native and tissue-engineered articular cartilage. *Biomechanics and Modeling in Mechanobiology*, **2015**, 14, 73-81	3.8	17

58	Chondrogenically tuned expansion enhances the cartilaginous matrix-forming capabilities of primary, adult, leporine chondrocytes. *Cell Transplantation*, **2013**, 22, 331-40	4	17
57	Nondestructive assessment of collagen hydrogel cross-linking using time-resolved autofluorescence imaging. *Journal of Biomedical Optics*, **2018**, 23, 1-9	3.5	17
56	Using Costal Chondrocytes to Engineer Articular Cartilage with Applications of Passive Axial Compression and Bioactive Stimuli. *Tissue Engineering - Part A*, **2018**, 24, 516-526	3.9	15
55	Inducing articular cartilage phenotype in costochondral cells. *Arthritis Research and Therapy*, **2013**, 15, R214	5.7	15
54	Articular Cartilage		15
53	Chondrocytes from different zones exhibit characteristic differences in high density culture. *Connective Tissue Research*, **2006**, 47, 133-40	3.3	14
52	Ammonium-Chloride-Potassium Lysing Buffer Treatment of Fully Differentiated Cells Increases Cell Purity and Resulting Neotissue Functional Properties. *Tissue Engineering - Part C: Methods*, **2016**, 22, 895-903	2.9	13
51	Engineering biomechanically functional neocartilage derived from expanded articular chondrocytes through the manipulation of cell-seeding density and dexamethasone concentration. *Journal of Tissue Engineering and Regenerative Medicine*, **2017**, 11, 2323-2332	4.4	12
50	Neocartilage integration in temporomandibular joint discs: physical and enzymatic methods. *Journal of the Royal Society Interface*, **2015**, 12,	4.1	12
49	Initiation of Chondrocyte Self-Assembly Requires an Intact Cytoskeletal Network. *Tissue Engineering - Part A*, **2016**, 22, 318-25	3.9	12
48	Unique biomechanical interactions between myeloma cells and bone marrow stroma cells. *Progress in Biophysics and Molecular Biology*, **2010**, 103, 148-56	4.7	12
47	The tribology of cartilage: Mechanisms, experimental techniques, and relevance to translational tissue engineering. *Clinical Biomechanics*, **2020**, 79, 104880	2.2	12
46	Translating the application of transforming growth factor-▯1, chondroitinase-ABC, and lysyl oxidase-like 2 for mechanically robust tissue-engineered human neocartilage. *Journal of Tissue Engineering and Regenerative Medicine*, **2019**, 13, 283-294	4.4	12
45	Functional self-assembled neocartilage as part of a biphasic osteochondral construct. *PLoS ONE*, **2018**, 13, e0195261	3.7	12
44	Characterization of facet joint cartilage properties in the human and interspecies comparisons. *Acta Biomaterialia*, **2017**, 54, 367-376	10.8	11
43	Remaining Hurdles for Tissue-Engineering the Temporomandibular Joint Disc. *Trends in Molecular Medicine*, **2019**, 25, 241-256	11.5	11
42	Passive strain-induced matrix synthesis and organization in shape-specific, cartilaginous neotissues. *Tissue Engineering - Part A*, **2014**, 20, 3290-302	3.9	11
41	Effects of passage number and post-expansion aggregate culture on tissue engineered, self-assembled neocartilage. *Acta Biomaterialia*, **2016**, 43, 150-159	10.8	11

40	Overcoming Challenges in Engineering Large, Scaffold-Free Neocartilage with Functional Properties. *Tissue Engineering - Part A*, **2018**, 24, 1652-1662	3.9	11
39	Engineering self-assembled neomenisci through combination of matrix augmentation and directional remodeling. *Acta Biomaterialia*, **2020**, 109, 73-81	10.8	10
38	Detection of glycosaminoglycan loss in articular cartilage by fluorescence lifetime imaging. *Journal of Biomedical Optics*, **2018**, 23, 1-8	3.5	10
37	Nondestructive fluorescence lifetime imaging and time-resolved fluorescence spectroscopy detect cartilage matrix depletion and correlate with mechanical properties. *European Cells and Materials*, **2018**, 36, 30-43	4.3	10
36	Functional properties of native and tissue-engineered cartilage toward understanding the pathogenesis of chondral lesions at the knee: A bovine cadaveric study. *Journal of Orthopaedic Research*, **2017**, 35, 2452-2464	3.8	8
35	Thyroid hormones enhance the biomechanical functionality of scaffold-free neocartilage. *Arthritis Research and Therapy*, **2015**, 17, 28	5.7	8
34	Digoxin and adenosine triphosphate enhance the functional properties of tissue-engineered cartilage. *Tissue Engineering - Part A*, **2015**, 21, 884-94	3.9	8
33	Topographic variations in biomechanical and biochemical properties in the ankle joint: an in vitro bovine study evaluating native and engineered cartilage. *Arthroscopy - Journal of Arthroscopic and Related Surgery*, **2014**, 30, 1317-26	5.4	8
32	Promoting increased mechanical properties of tissue engineered neocartilage via the application of hyperosmolarity and 4□phorbol 12,13-didecanoate (4□PDD). *Journal of Biomechanics*, **2014**, 47, 3712-8	2.9	8
31	Critical seeding density improves the properties and translatability of self-assembling anatomically shaped knee menisci. *Acta Biomaterialia*, **2015**, 11, 173-82	10.8	7
30	Biomaterial effects in articular cartilage tissue engineering using polyglycolic acid, a novel marine origin biomaterial, IGF-I, and TGF-beta 1. *Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine*, **2009**, 223, 63-73	1.7	7
29	Chondroitinase ABC Enhances Integration of Self-Assembled Articular Cartilage, but Its Dosage Needs to Be Moderated Based on Neocartilage Maturity. *Cartilage*, **2020**, 1947603520918653	3	7
28	Tissue engineering potential of human dermis-isolated adult stem cells from multiple anatomical locations. *PLoS ONE*, **2017**, 12, e0182531	3.7	7
27	Tendon and ligament as novel cell sources for engineering the knee meniscus. *Osteoarthritis and Cartilage*, **2016**, 24, 2126-2134	6.2	6
26	Non-destructive detection of matrix stabilization correlates with enhanced mechanical properties of self-assembled articular cartilage. *Journal of Tissue Engineering and Regenerative Medicine*, **2019**, 13, 637-648	4.4	6
25	Considerations for translation of tissue engineered fibrocartilage from bench to bedside. *Journal of Biomechanical Engineering*, **2018**,	2.1	6
24	Temporal development of near-native functional properties and correlations with qMRI in self-assembling fibrocartilage treated with exogenous lysyl oxidase homolog 2. *Acta Biomaterialia*, **2017**, 64, 29-40	10.8	5
23	Rejuvenation of extensively passaged human chondrocytes to engineer functional articular cartilage. *Biofabrication*, **2021**,	10.5	5

22	Structure-function relationships of fetal ovine articular cartilage. *Acta Biomaterialia*, **2019**, 87, 235-244	10.8	4
21	Biochemical and biomechanical characterisation of equine cervical facet joint cartilage. *Equine Veterinary Journal*, **2018**, 50, 800-808	2.4	4
20	Exogenous Lysyl Oxidase-Like 2 and Perfusion Culture Induce Collagen Crosslink Formation in Osteogenic Grafts. *Biotechnology Journal*, **2019**, 14, e1700763	5.6	4
19	Shear stress induced by fluid flow produces improvements in tissue-engineered cartilage. *Biofabrication*, **2020**, 12, 045010	10.5	4
18	Cartilage Assessment Requires a Surface Characterization Protocol: Roughness, Friction, and Function. *Tissue Engineering - Part C: Methods*, **2021**, 27, 276-286	2.9	4
17	Multimodal Label-Free Imaging for Detecting Maturation of Engineered Osteogenic Grafts. *ACS Biomaterials Science and Engineering*, **2019**, 5, 1956-1966	5.5	2
16	Adult Dermal Stem Cells for Scaffold-Free Cartilage Tissue Engineering: Exploration of Strategies. *Tissue Engineering - Part C: Methods*, **2020**, 26, 598-607	2.9	2
15	Methodology to Quantify Collagen Subtypes and Crosslinks: Application in Minipig Cartilages. *Cartilage*, **2021**, 19476035211060508	3	2
14	The Effects of Intermittent Hydrostatic Pressure on Self-Assembled Articular Cartilage Constructs. *Tissue Engineering*, **2006**, 060510114812001		2
13	Vibrometry as a noncontact alternative to dynamic and viscoelastic mechanical testing in cartilage.. *Journal of the Royal Society Interface*, **2021**, 18, 20210765	4.1	2
12	The effect of neonatal, juvenile, and adult donors on rejuvenated neocartilage functional properties. *Tissue Engineering - Part A*, **2021**,	3.9	1
11	Knee orthopedics as a template for the temporomandibular joint. *Cell Reports Medicine*, **2021**, 2, 100241	18	1
10	A Tribological Comparison of Facet Joint, Sacroiliac Joint, and Knee Cartilage in the Yucatan Minipig. *Cartilage*, **2021**, 19476035211021906	3	1
9	Nondestructive testing of native and tissue-engineered medical products: adding numbers to pictures. *Trends in Biotechnology*, **2021**,	15.1	1
8	Isolation and characterization of porcine macrophages and their inflammatory and fusion responses in different stiffness environments. *Biomaterials Science*, **2021**, 9, 7851-7861	7.4	1
7	Engineering large, anatomically shaped osteochondral constructs with robust interfacial shear properties. *Npj Regenerative Medicine*, **2021**, 6, 42	15.8	1
6	Stiffness- and Bioactive Factor-Mediated Protection of Self-Assembled Cartilage against Macrophage Challenge in a Novel Co-Culture System.. *Cartilage*, **2022**, 13, 19476035221081466	3	1
5	Diagnostic Arthroscopy of the Minipig Stifle (Knee) for Translational Large Animal Research. *Arthroscopy Techniques*, **2021**, 10, e297-e301	1.7	0

4	Yucatan Minipig Knee Meniscus Regional Biomechanics and Biochemical Structure Support its Suitability as a Large Animal Model for Translational Research.. *Frontiers in Bioengineering and Biotechnology*, **2022**, 10, 844416	5.8	0
3	Bioengineering in the oral cavity: insights from articular cartilage tissue engineering. *International Journal of Oral and Maxillofacial Implants*, **2011**, 26 Suppl, 11-9; discussion 20-4	2.8	
2	Characterization of Adult and Neonatal Articular Cartilage From the Equine Stifle. *Journal of Equine Veterinary Science*, **2021**, 96, 103294	1.2	
1	The functionality and translatability of neocartilage constructs are improved with the combination of fluid-induced shear stress and bioactive factors.. *FASEB Journal*, **2022**, 36, e22225	0.9	