Jerry C. Hu

List of Publications by Year
in descending order

113 papers	6,927 citations	94415 37 h-index	62593 80 g-index
113 all docs	113 docs citations	113 times ranked	6976 citing authors

#	Article	IF	Citations
1	Repair and tissue engineering techniques for articular cartilage. Nature Reviews Rheumatology, 2015, 11, 21-34.	8.0	923
2	Unlike Bone, Cartilage Regeneration Remains Elusive. Science, 2012, 338, 917-921.	12.6	899
3	Surgical and tissue engineering strategies for articular cartilage and meniscus repair. Nature Reviews Rheumatology, 2019, 15, 550-570.	8.0	410
4	The Role of Tissue Engineering in Articular Cartilage Repair and Regeneration. Critical Reviews in Biomedical Engineering, 2009, 37, 1-57.	0.9	355
5	Cell-based tissue engineering strategies used in the clinical repair of articular cartilage. Biomaterials, 2016, 98, 1-22.	11.4	325
6	A Self-Assembling Process in Articular Cartilage Tissue Engineering. Tissue Engineering, 2006, 12, 969-979.	4.6	255
7	Self-Organization and the Self-Assembling Process in Tissue Engineering. Annual Review of Biomedical Engineering, 2013, 15, 115-136.	12.3	182
8	Advances in tissue engineering through stem cell-based co-culture. Journal of Tissue Engineering and Regenerative Medicine, 2015, 9, 488-503.	2.7	164
9	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.	2.1	138
10	Matrix Development in Self-Assembly of Articular Cartilage. PLoS ONE, 2008, 3, e2795.	2.5	134
11	TGF-Î²1, GDF-5, and BMP-2 Stimulation Induces Chondrogenesis in Expanded Human Articular Chondrocytes and Marrow-Derived Stromal Cells. Stem Cells, 2015, 33, 762-773.	3.2	131
12	Collagen: quantification, biomechanics and role of minor subtypes in cartilage. Nature Reviews Materials, 2020, 5, 730-747.	48.7	124
13	Emergence of Scaffold-Free Approaches for Tissue Engineering Musculoskeletal Cartilages. Annals of Biomedical Engineering, 2015, 43, 543-554.	2.5	122
14	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.	7.1	119
15	Zonal and topographical differences in articular cartilage gene expression. Journal of Orthopaedic Research, 2004, 22, 1182-1187.	2.3	111
16	The Effects of Intermittent Hydrostatic Pressure on Self-Assembled Articular Cartilage Constructs. Tissue Engineering, 2006, 12, 1337-1344.	4.6	100
17	A Guide for Using Mechanical Stimulation to Enhance Tissue-Engineered Articular Cartilage Properties. Tissue Engineering - Part B: Reviews, 2018, 24, 345-358.	4.8	89
18	Articular cartilage tissue engineering: the role of signaling molecules. Cellular and Molecular Life Sciences, 2016, 73, 1173-1194.	5.4	79

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19	Tissue engineering toward temporomandibular joint disc regeneration. Science Translational Medicine, 2018, 10, .	12.4	79
20	Combined use of chondroitinase-ABC, TGF-Î²1, and collagen crosslinking agent lysyl oxidase to engineer functional neotissues for fibrocartilage repair. Biomaterials, 2014, 35, 6787-6796.	11.4	73
21	Tension stimulation drives tissue formation in scaffold-free systems. Nature Materials, 2017, 16, 864-873.	27.5	72
22	Hypoxia-induced collagen crosslinking as a mechanism for enhancing mechanical properties of engineered articular cartilage. Osteoarthritis and Cartilage, 2013, 21, 634-641.	1.3	68
23	Self-Assembly of Fibrochondrocytes and Chondrocytes for Tissue Engineering of the Knee Meniscus. Tissue Engineering, 2007, 13, 939-946.	4.6	67
24	A copper sulfate and hydroxylysine treatment regimen for enhancing collagen crossâ€linking and biomechanical properties in engineered neocartilage. FASEB Journal, 2013, 27, 2421-2430.	0.5	66
25	Low-density cultures of bovine chondrocytes: effects of scaffold material and culture system. Biomaterials, 2005, 26, 2001-2012.	11.4	64
26	A chondroitinase-ABC and TGF-Î²1 treatment regimen for enhancing the mechanical properties of tissue-engineered fibrocartilage. Acta Biomaterialia, 2013, 9, 4626-4634.	8.3	61
27	Biomechanicsâ€driven chondrogenesis: from embryo to adult. FASEB Journal, 2012, 26, 3614-3624.	0.5	59
28	Mechanisms underlying the synergistic enhancement of self-assembled neocartilage treated with chondroitinase-ABC and TGF-Î²1. Biomaterials, 2012, 33, 3187-3194.	11.4	54
29	Engineering functional anisotropy in fibrocartilage neotissues. Biomaterials, 2013, 34, 9980-9989.	11.4	54
30	The Self-Assembling Process and Applications in Tissue Engineering. Cold Spring Harbor Perspectives in Medicine, 2017, 7, a025668.	6.2	54
31	Facet Joints of the Spine: Structureâ€"Function Relationships, Problems and Treatments, and the Potential for Regeneration. Annual Review of Biomedical Engineering, 2018, 20, 145-170.	12.3	52
32	Recent Tissue Engineering Advances for the Treatment of Temporomandibular Joint Disorders. Current Osteoporosis Reports, 2016, 14, 269-279.	3.6	48
33	Antigen removal for the production of biomechanically functional, xenogeneic tissue grafts. Journal of Biomechanics, 2014, 47, 1987-1996.	2.1	45
34	Mechanical Characterization of Differentiated Human Embryonic Stem Cells. Journal of Biomechanical Engineering, 2009, 131, 061011.	1.3	44
35	Toward tissue-engineering of nasal cartilages. Acta Biomaterialia, 2019, 88, 42-56.	8.3	43
36	Induced Collagen Cross-Links Enhance Cartilage Integration. PLoS ONE, 2013, 8, e60719.	2.5	41

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37	Intracellular Na⁺ and Ca²⁺ modulation increases the tensile properties of developing engineered articular cartilage. Arthritis and Rheumatism, 2010, 62, 1097-1107.	6.7	40
38	Isolation and chondroinduction of a dermis-isolated, aggrecan-sensitive subpopulation with high chondrogenic potential. Arthritis and Rheumatism, 2007, 56, 168-176.	6.7	39
39	A proposed model of naturally occurring osteoarthritis in the domestic rabbit. Lab Animal, 2012, 41, 20-25.	0.4	39
40	Articular Cartilage Tissue Engineering. Synthesis Lectures on Tissue Engineering, 2009, 1, 1-182.	0.3	36
41	Harnessing Biomechanics to Develop Cartilage Regeneration Strategies. Journal of Biomechanical Engineering, 2015, 137, 020901.	1.3	36
42	Concise Review: Human Dermis as an Autologous Source of Stem Cells for Tissue Engineering and Regenerative Medicine. Stem Cells Translational Medicine, 2015, 4, 1187-1198.	3.3	33
43	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.	2.7	32
44	Nondestructive Evaluation of Tissue Engineered Articular Cartilage Using Time-Resolved Fluorescence Spectroscopy and Ultrasound Backscatter Microscopy. Tissue Engineering - Part C: Methods, 2012, 18, 215-226.	2.1	30
45	Enhancing Post-Expansion Chondrogenic Potential of Costochondral Cells in Self-Assembled Neocartilage. PLoS ONE, 2013, 8, e56983.	2.5	29
46	Building an Anisotropic Meniscus with Zonal Variations. Tissue Engineering - Part A, 2014, 20, 294-302.	3.1	29
47	The Yucatan Minipig Temporomandibular Joint Disc Structureâ€“Function Relationships Support Its Suitability for Human Comparative Studies. Tissue Engineering - Part C: Methods, 2017, 23, 700-709.	2.1	29
48	Clinical translation of stem cells: insight for cartilage therapies. Critical Reviews in Biotechnology, 2014, 34, 89-100.	9.0	28
49	Tensile Characterization of Porcine Temporomandibular Joint Disc Attachments. Journal of Dental Research, 2013, 92, 753-758.	5.2	27
50	The tribology of cartilage: Mechanisms, experimental techniques, and relevance to translational tissue engineering. Clinical Biomechanics, 2020, 79, 104880.	1.2	27
51	Cartilage Tissue Engineering Using Dermis Isolated Adult Stem Cells: The Use of Hypoxia during Expansion versus Chondrogenic Differentiation. PLoS ONE, 2014, 9, e98570.	2.5	25
52	Articular Cartilage. , 0, , .		25
53	Engineering a Fibrocartilage Spectrum through Modulation of Aggregate Redifferentiation. Cell Transplantation, 2015, 24, 235-245.	2.5	24
54	Shear stress induced by fluid flow produces improvements in tissue-engineered cartilage. Biofabrication, 2020, 12, 045010.	7.1	24

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55	Characterization of facet joint cartilage properties in the human and interspecies comparisons. Acta Biomaterialia, 2017, 54, 367-376.	8.3	23
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.	3.1	23
57	Engineering self-assembled neomenisci through combination of matrix augmentation and directional remodeling. Acta Biomaterialia, 2020, 109, 73-81.	8.3	23
58	Remaining Hurdles for Tissue-Engineering the Temporomandibular Joint Disc. Trends in Molecular Medicine, 2019, 25, 241-256.	6.7	22
59	Nondestructive assessment of collagen hydrogel cross-linking using time-resolved autofluorescence imaging. Journal of Biomedical Optics, 2018, 23, 1.	2.6	22
60	Biomechanical evaluation of suture-holding properties of native and tissue-engineered articular cartilage. Biomechanics and Modeling in Mechanobiology, 2015, 14, 73-81.	2.8	20
61	Ammoniumâ€“Chlorideâ€“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.	2.1	20
62	Overcoming Challenges in Engineering Large, Scaffold-Free Neocartilage with Functional Properties. Tissue Engineering - Part A, 2018, 24, 1652-1662.	3.1	20
63	Detection of glycosaminoglycan loss in articular cartilage by fluorescence lifetime imaging. Journal of Biomedical Optics, 2018, 23, 1.	2.6	20
64	Chondrogenically Tuned Expansion Enhances the Cartilaginous Matrix-Forming Capabilities of Primary, Adult, Leporine Chondrocytes. Cell Transplantation, 2013, 22, 331-340.	2.5	19
65	A Comparison of Bone Marrow and Cord Blood Mesenchymal Stem Cells for Cartilage Self-Assembly. Tissue Engineering - Part A, 2018, 24, 1262-1272.	3.1	19
66	Chondrocytes from Different Zones Exhibit Characteristic Differences in High Density Culture. Connective Tissue Research, 2006, 47, 133-140.	2.3	18
67	Initiation of Chondrocyte Self-Assembly Requires an Intact Cytoskeletal Network. Tissue Engineering - Part A, 2016, 22, 318-325.	3.1	18
68	Translating the application of transforming growth factor-Î²1, 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.	2.7	18
69	Inducing articular cartilage phenotype in costochondral cells. Arthritis Research and Therapy, 2013, 15, R214.	3.5	17
70	Effects of passage number and post-expansion aggregate culture on tissue engineered, self-assembled neocartilage. Acta Biomaterialia, 2016, 43, 150-159.	8.3	16
71	Methodology to Quantify Collagen Subtypes and Crosslinks: Application in Minipig Cartilages. Cartilage, 2021, 13, 1742S-1754S.	2.7	16
72	Unique biomechanical interactions between myeloma cells and bone marrow stroma cells. Progress in Biophysics and Molecular Biology, 2010, 103, 148-156.	2.9	15

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73	Nondestructive fluorescence lifetime imaging and time-resolved fluorescence spectroscopy detect cartilage matrix depletion and correlate with mechanical properties. , 2018, 36, 30-43.		15
74	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.	2.7	14
75	Cartilage Assessment Requires a Surface Characterization Protocol: Roughness, Friction, and Function. Tissue Engineering - Part C: Methods, 2021, 27, 276-286.	2.1	14
76	Neocartilage integration in temporomandibular joint discs: physical and enzymatic methods. Journal of the Royal Society Interface, 2015, 12, 20141075.	3.4	13
77	Functional self-assembled neocartilage as part of a biphasic osteochondral construct. PLoS ONE, 2018, 13, e0195261.	2.5	13
78	Exogenous Lysyl Oxidase-Like 2 and Perfusion Culture Induce Collagen Crosslink Formation in Osteogenic Grafts. Biotechnology Journal, 2019, 14, 1700763.	3.5	12
79	Passive Strain-Induced Matrix Synthesis and Organization in Shape-Specific, Cartilaginous Neotissues. Tissue Engineering - Part A, 2014, 20, 3290-3302.	3.1	11
80	Functional properties of native and tissueâ€engineered cartilage toward understanding the pathogenesis of chondral lesions at the knee: A bovine cadaveric study. Journal of Orthopaedic Research, 2017, 35, 2452-2464.	2.3	11
81	Nonâ€destructive detection of matrix stabilization correlates with enhanced mechanical properties of selfâ€assembled articular cartilage. Journal of Tissue Engineering and Regenerative Medicine, 2019, 13, 637-648.	2.7	11
82	Considerations for Translation of Tissue Engineered Fibrocartilage From Bench to Bedside. Journal of Biomechanical Engineering, 2019, 141, .	1.3	11
83	Chondroitinase ABC Enhances Integration of Self-Assembled Articular Cartilage, but Its Dosage Needs to Be Moderated Based on Neocartilage Maturity. Cartilage, 2021, 13, 672S-683S.	2.7	11
84	Thyroid hormones enhance the biomechanical functionality of scaffold-free neocartilage. Arthritis Research and Therapy, 2015, 17, 28.	3.5	10
85	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.	8.3	10
86	Structure-function relationships of fetal ovine articular cartilage. Acta Biomaterialia, 2019, 87, 235-244.	8.3	10
87	Knee orthopedics as a template for the temporomandibular joint. Cell Reports Medicine, 2021, 2, 100241.	6.5	10
88	Topographic Variations in Biomechanical and Biochemical Properties in the Ankle Joint: An InÂVitro Bovine Study Evaluating Native and Engineered Cartilage. Arthroscopy - Journal of Arthroscopic and Related Surgery, 2014, 30, 1317-1326.	2.7	9
89	Promoting increased mechanical properties of tissue engineered neocartilage via the application of hyperosmolarity and 4Î±-phorbol 12,13-didecanoate (4Î±PDD). Journal of Biomechanics, 2014, 47, 3712-3718.	2.1	9
90	Tendon and ligament as novel cell sources for engineering the knee meniscus. Osteoarthritis and Cartilage, 2016, 24, 2126-2134.	1.3	9

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91	Rejuvenation of extensively passaged human chondrocytes to engineer functional articular cartilage. Biofabrication, 2021, 13, 035002.	7.1	9
92	Nondestructive testing of native and tissue-engineered medical products: adding numbers to pictures. Trends in Biotechnology, 2022, 40, 194-209.	9.3	9
93	Tissue engineering potential of human dermis-isolated adult stem cells from multiple anatomical locations. PLoS ONE, 2017, 12, e0182531.	2.5	9
94	Proteomic, mechanical, and biochemical characterization of cartilage development. Acta Biomaterialia, 2022, 143, 52-62.	8.3	9
95	Biomaterial effects in articular cartilage tissue engineering using polyglycolic acid, a novel marine origin biomaterial, IGF-I, and TGF-Î²1. Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine, 2009, 223, 63-73.	1.8	8
96	Digoxin and Adenosine Triphosphate Enhance the Functional Properties of Tissue-Engineered Cartilage. Tissue Engineering - Part A, 2015, 21, 884-894.	3.1	8
97	Critical seeding density improves the properties and translatability of self-assembling anatomically shaped knee menisci. Acta Biomaterialia, 2015, 11, 173-182.	8.3	8
98	Engineering large, anatomically shaped osteochondral constructs with robust interfacial shear properties. Npj Regenerative Medicine, 2021, 6, 42.	5.2	8
99	The Effect of Neonatal, Juvenile, and Adult Donors on Rejuvenated Neocartilage Functional Properties. Tissue Engineering - Part A, 2022, 28, 383-393.	3.1	6
100	Biochemical and biomechanical characterisation of equine cervical facet joint cartilage. Equine Veterinary Journal, 2018, 50, 800-808.	1.7	5
101	Adult Dermal Stem Cells for Scaffold-Free Cartilage Tissue Engineering: Exploration of Strategies. Tissue Engineering - Part C: Methods, 2020, 26, 598-607.	2.1	5
102	A Tribological Comparison of Facet Joint, Sacroiliac Joint, and Knee Cartilage in the Yucatan Minipig. Cartilage, 2021, 13, 346S-355S.	2.7	5
103	Vibrometry as a noncontact alternative to dynamic and viscoelastic mechanical testing in cartilage. Journal of the Royal Society Interface, 2021, 18, 20210765.	3.4	5
104	Multimodal Label-Free Imaging for Detecting Maturation of Engineered Osteogenic Grafts. ACS Biomaterials Science and Engineering, 2019, 5, 1956-1966.	5.2	4
105	Characterization of Adult and Neonatal Articular Cartilage From the Equine Stifle. Journal of Equine Veterinary Science, 2021, 96, 103294.	0.9	4
106	Isolation and characterization of porcine macrophages and their inflammatory and fusion responses in different stiffness environments. Biomaterials Science, 2021, 9, 7851-7861.	5.4	3
107	The Effects of Intermittent Hydrostatic Pressure on Self-Assembled Articular Cartilage Constructs. Tissue Engineering, 2006, .	4.6	3
108	Stiffness- and Bioactive Factor-Mediated Protection of Self-Assembled Cartilage against Macrophage Challenge in a Novel Co-Culture System. Cartilage, 2022, 13, 194760352210814.	2.7	3

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109	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.	4.1	3
110	The functionality and translatability of neocartilage constructs are improved with the combination of fluidâ€induced shear stress and bioactive factors. FASEB Journal, 2022, 36, e22225.	0.5	2
111	Intracellular Calcium and Sodium Modulation of Self-Assembled Neocartilage Using Costal Chondrocytes. Tissue Engineering - Part A, 2022, 28, 595-605.	3.1	2
112	Diagnostic Arthroscopy of the Minipig Stifle (Knee) for Translational Large Animal Research. Arthroscopy Techniques, 2021, 10, e297-e301.	1.3	1
113	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.	1.4	0