Pen-Hsiu Grace Chao

List of Publications by Year
in descending order

44 papers	3,436 citations	218677 26 h-index	330143 37 g-index
45 all docs	45 docs citations	45 times ranked	4485 citing authors

#	Article	IF	Citations
1	Functional Tissue Engineering of Articular Cartilage Through Dynamic Loading of Chondrocyte-Seeded Agarose Gels. Journal of Biomechanical Engineering, 2000, 122, 252-260.	1.3	836
2	Electrical stimulation systems for cardiac tissue engineering. Nature Protocols, 2009, 4, 155-173.	12.0	463
3	Silk microfiber-reinforced silk hydrogel composites for functional cartilage tissue repair. Acta Biomaterialia, 2015, 11, 27-36.	8.3	220
4	Effects of Initial Seeding Density and Fluid Perfusion Rate on Formation of Tissue-Engineered Bone. Tissue Engineering - Part A, 2008, 14, 1809-1820.	3.1	213
5	Silk hydrogel for cartilage tissue engineering. Journal of Biomedical Materials Research - Part B Applied Biomaterials, 2010, 95B, 84-90.	3.4	167
6	Engineering custom-designed osteochondral tissue grafts. Trends in Biotechnology, 2008, 26, 181-189.	9.3	133
7	Chondrocyte intracellular calcium, cytoskeletal organization, and gene expression responses to dynamic osmotic loading. American Journal of Physiology - Cell Physiology, 2006, 291, C718-C725.	4.6	109
8	Mitogen-activated protein kinase signaling in bovine articular chondrocytes in response to fluid flow does not require calcium mobilization. Journal of Biomechanics, 2000, 33, 73-80.	2.1	107
9	Spatial regulation of human mesenchymal stem cell differentiation in engineered osteochondral constructs: effects of pre-differentiation, soluble factors and medium perfusion. Osteoarthritis and Cartilage, 2010, 18, 714-723.	1.3	99
10	Electrical stimulation enhances cell migration and integrative repair in the meniscus. Scientific Reports, 2014, 4, 3674.	3.3	82
11	Stem cell delivery in tissue-specific hydrogel enabled meniscal repair in an orthotopic rat model. Biomaterials, 2017, 132, 59-71.	11.4	79
12	Roles of microtubules, cell polarity and adhesion in electric-field-mediated motility of 3T3 fibroblasts. Journal of Cell Science, 2004, 117, 1533-1545.	2.0	77
13	Effects of Applied DC Electric Field on Ligament Fibroblast Migration and Wound Healing. Connective Tissue Research, 2007, 48, 188-197.	2.3	75
14	Chondrocyte Translocation Response to Direct Current Electric Fields. Journal of Biomechanical Engineering, 2000, 122, 261-267.	1.3	71
15	Lipid rafts sense and direct electric field-induced migration. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 8568-8573.	7.1	71
16	Aberrant mechanosensing in injured intervertebral discs as a result of boundary-constraint disruption and residual-strain loss. Nature Biomedical Engineering, 2019, 3, 998-1008.	22.5	58
17	Engineering cartilage and bone using human mesenchymal stem cells. Journal of Orthopaedic Science, 2007, 12, 398-404.	1.1	50
18	Electric fieldâ€induced polarization of charged cell surface proteins does not determine the direction of galvanotaxis. Cytoskeleton, 2007, 64, 833-846.	4.4	45

#	Article	IF	Citations
19	Alignment and elongation of human adipose-derived stem cells in response to direct-current electrical stimulation. , 2009, 2009, 6517-21.		44
20	Crimped Nanofibrous Biomaterials Mimic Microstructure and Mechanics of Native Tissue and Alter Strain Transfer to Cells. ACS Biomaterials Science and Engineering, 2017, 3, 2869-2876.	5.2	41
21	Time-dependent aggrecan gene expression of articular chondrocytes in response to hyperosmotic loading. Osteoarthritis and Cartilage, 2001, 9, 761-770.	1.3	39
22	Dependence of Zonal Chondrocyte Water Transport Properties on Osmotic Environment. Cellular and Molecular Bioengineering, 2008, 1, 339-348.	2.1	39
23	Dynamic osmotic loading of chondrocytes using a novel microfluidic device. Journal of Biomechanics, 2005, 38, 1273-1281.	2.1	38
24	The effect of devitalized trabecular bone on the formation of osteochondral tissue-engineered constructs. Biomaterials, 2008, 29, 4292-4299.	11.4	37
25	The influence and interactions of substrate thickness, organization and dimensionality on cell morphology and migration. Acta Biomaterialia, 2013, 9, 5502-5510.	8.3	34
26	Electrospun microcrimped fibers with nonlinear mechanical properties enhance ligament fibroblast phenotype. Biofabrication, 2014, 6, 035008.	7.1	33
27	Modulation of cell attachment and collagen production of anterior cruciate ligament cells via submicron grooves/ridges structures with different cell affinity. Biotechnology and Bioengineering, 2013, 110, 327-337.	3.3	30
28	Î±2Î²1 integrin and RhoA mediates electric fieldâ€induced ligament fibroblast migration directionality. Journal of Orthopaedic Research, 2013, 31, 322-327.	2.3	24
29	Micro-composite substrates for the study of cell-matrix mechanical interactions. Journal of the Mechanical Behavior of Biomedical Materials, 2014, 38, 232-241.	3.1	22
30	Spinal Traction Promotes Molecular Transportation in a Simulated Degenerative Intervertebral Disc Model. Spine, 2014, 39, E550-E556.	2.0	18
31	Transient hypoxia improves matrix properties in tissue engineered cartilage. Journal of Orthopaedic Research, 2013, 31, 544-553.	2.3	16
32	Endothelial Cells Enhance the Migration of Bovine Meniscus Cells. Arthritis and Rheumatology, 2015, 67, 182-192.	5.6	15
33	3D-Printed Collagen-Based Waveform Microfibrous Scaffold for Periodontal Ligament Reconstruction. International Journal of Molecular Sciences, 2021, 22, 7725.	4.1	12
34	Deformation of the nucleus by TGFÎ²1 via the remodeling of nuclear envelope and histone isoforms. Epigenetics and Chromatin, 2022, 15, 1.	3.9	11
35	Chemical Optimization for Functional Ligament Tissue Engineering. Tissue Engineering - Part A, 2020, 26, 102-110.	3.1	9
36	Decrimping: The first stage of collagen thermal denaturation unraveled by in situ second-harmonic-generation imaging. Applied Physics Letters, 2011, 98, 153703.	3.3	7

#	Article	IF	Citations
37	Crimped Electrospun Fibers for Tissue Engineering. Methods in Molecular Biology, 2018, 1758, 151-159.	0.9	4
38	Defined cell adhesion for silicon-based implant materials by using vapor-deposited functional coatings. Colloids and Surfaces B: Biointerfaces, 2019, 175, 545-553.	5.0	2
39	Micro and Nanotechnologies for Tissue Engineering. , 2011, , 139-178.		1
40	Effect of Solvent on Electrospun PLLA Fiber Mechanical Characteristics and Ligament Fibroblast Responses. , 2010, , .		0
41	Effects of Wavy Microgroove Structure on Ligament Fibroblast Cell and Nuclear Morphology. , 2013, , .		0
42	The Role of Microtubule Organization in Chondrocyte Response to Osmotic Loading. , 2007, , .		0
43	Temporal Cell Morphology Responses to Mechanical Stimulation. , 2012, , .		0
44	Spatial Actin Structure Does Not Correlate With Nuclear Organization. , 2013, , .		0