Robert L Mauck

List of Publications by Year in Descending Order

242 papers	14,790 citations	64 h-index	114 g-index
306 ext. papers	16,770 ext. citations	6.7 avg, IF	6.83 L-index

#	Paper	IF	Citations
242	Near Infrared Spectroscopic Assessment of Engineered Cartilage for Implantation in a Pre-Clinical Model. *Journal of Cartilage & Joint Preservation*, **2022**, 100038		
241	Metabolic labeling of secreted matrix to investigate cell-material interactions in tissue engineering and mechanobiology.. *Nature Protocols*, **2022**,	18.8	4
240	Welcome to Volume 5!. *JOR Spine*, **2022**, 5, e1200	3.7	
239	Hypoxic Preconditioning Enhances Bone Marrow-Derived Mesenchymal Stem Cell Survival in a Low Oxygen and Nutrient-Limited 3D Microenvironment. *Cartilage*, **2021**, 12, 512-525	3	20
238	Six-Month Outcomes of Clinically Relevant Meniscal Injury in a Large-Animal Model. *Orthopaedic Journal of Sports Medicine*, **2021**, 9, 23259671211035444	3.5	1
237	Fabrication of MSC-laden composites of hyaluronic acid hydrogels reinforced with MEW scaffolds for cartilage repair. *Biofabrication*, **2021**, 14,	10.5	5
236	The Inner Annulus Fibrosus Encroaches on the Nucleus Pulposus in the Injured Mouse Tail Intervertebral Disc. *American Journal of Physical Medicine and Rehabilitation*, **2021**, 100, 450-457	2.6	2
235	Putting the Pieces in Place: Mobilizing Cellular Players to Improve Annulus Fibrosus Repair. *Tissue Engineering - Part B: Reviews*, **2021**, 27, 295-312	7.9	4
234	Stabilization of Damaged Articular Cartilage with Hydrogel-Mediated Reinforcement and Sealing. *Advanced Healthcare Materials*, **2021**, 10, e2100315	10.1	4
233	Cell morphology and mechanosensing can be decoupled in fibrous microenvironments and identified using artificial neural networks. *Scientific Reports*, **2021**, 11, 5950	4.9	4
232	Nanofibrous hyaluronic acid scaffolds delivering TGF-β and SDF-1α for articular cartilage repair in a large animal model. *Acta Biomaterialia*, **2021**, 126, 170-182	10.8	6
231	Development of a decellularized meniscus matrix-based nanofibrous scaffold for meniscus tissue engineering. *Acta Biomaterialia*, **2021**, 128, 175-185	10.8	2
230	Intrinsic and growth-mediated cell and matrix specialization during murine meniscus tissue assembly. *FASEB Journal*, **2021**, 35, e21779	0.9	0
229	Type V collagen regulates the structure and biomechanics of TMJ condylar cartilage: A fibrous-hyaline hybrid. *Matrix Biology*, **2021**, 102, 1-19	11.4	0
228	Combined Hydrogel and Mesenchymal Stem Cell Therapy for Moderate-Severity Disc Degeneration in Goats. *Tissue Engineering - Part A*, **2021**, 27, 117-128	3.9	13
227	Optimized Media Volumes Enable Homogeneous Growth of Mesenchymal Stem Cell-Based Engineered Cartilage Constructs. *Tissue Engineering - Part A*, **2021**, 27, 214-222	3.9	3
226	Mechano-activated biomolecule release in regenerating load-bearing tissue microenvironments. *Biomaterials*, **2021**, 265, 120255	15.6	6

225	Decorin regulates cartilage pericellular matrix micromechanobiology. *Matrix Biology*, **2021**, 96, 1-17	11.4	20
224	Degeneration alters structure-function relationships at multiple length-scales and across interfaces in human intervertebral discs. *Journal of Anatomy*, **2021**, 238, 986-998	2.9	1
223	Stretch-responsive adhesive microcapsules for strain-regulated antibiotic release from fabric wound dressings. *Biomaterials Science*, **2021**, 9, 5136-5143	7.4	2
222	Fabrication and maturation of integrated biphasic anatomic mesenchymal stromal cell-laden composite scaffolds for osteochondral repair and joint resurfacing. *Journal of Orthopaedic Research* , **2021**, 39, 2323-2332	3.8	2
221	A challenging playing field: Identifying the endogenous impediments to annulus fibrosus repair. *JOR Spine*, **2021**, 4, e1133	3.7	1
220	Nuclear envelope wrinkling predicts mesenchymal progenitor cell mechano-response in 2D and 3D microenvironments. *Biomaterials*, **2021**, 270, 120662	15.6	10
219	The porcine accessory carpal bone as a model for biologic joint replacement for trapeziometacarpal osteoarthritis. *Acta Biomaterialia*, **2021**, 129, 159-168	10.8	1
218	Biocompatibility and bioactivity of an FGF-loaded microsphere-based bilayer delivery system. *Acta Biomaterialia*, **2020**, 111, 341-348	10.8	7
217	Sacrificial Fibers Improve Matrix Distribution and Micromechanical Properties in a Tissue-Engineered Intervertebral Disc. *Acta Biomaterialia*, **2020**, 111, 232-241	10.8	5
216	Nuclear softening expedites interstitial cell migration in fibrous networks and dense connective tissues. *Science Advances*, **2020**, 6, eaax5083	14.3	17
215	Fabrication, maturation, and implantation of composite tissue-engineered total discs formed from native and mesenchymal stem cell combinations. *Acta Biomaterialia*, **2020**, 114, 53-62	10.8	6
214	Intervertebral Disc Degeneration Is Associated With Aberrant Endplate Remodeling and Reduced Small Molecule Transport. *Journal of Bone and Mineral Research*, **2020**, 35, 1572-1581	6.3	13
213	Metabolic Labeling to Probe the Spatiotemporal Accumulation of Matrix at the Chondrocyte-Hydrogel Interface. *Advanced Functional Materials*, **2020**, 30, 1909802	15.6	22
212	Mediation of Cartilage Matrix Degeneration and Fibrillation by Decorin in Post-traumatic Osteoarthritis. *Arthritis and Rheumatology*, **2020**, 72, 1266-1277	9.5	17
211	Inflammatory cytokine and catabolic enzyme expression in a goat model of intervertebral disc degeneration. *Journal of Orthopaedic Research*, **2020**, 38, 2521-2531	3.8	11
210	Localized delivery of ibuprofen via a bilayer delivery system (BiLDS) for supraspinatus tendon healing in a rat model. *Journal of Orthopaedic Research*, **2020**, 38, 2339-2349	3.8	2
209	Early changes in cartilage pericellular matrix micromechanobiology portend the onset of post-traumatic osteoarthritis. *Acta Biomaterialia*, **2020**, 111, 267-278	10.8	28
208	Influence of Fiber Stiffness on Meniscal Cell Migration into Dense Fibrous Networks. *Advanced Healthcare Materials*, **2020**, 9, e1901228	10.1	19

207	Magneto-Driven Gradients of Diamagnetic Objects for Engineering Complex Tissues. *Advanced Materials*, **2020**, 32, e2005030	24	5
206	Resorbable Pins to Enhance Scaffold Retention in a Porcine Chondral Defect Model. *Cartilage*, **2020**, 1947603520962568	3	2
205	Restoration of physiologic loading modulates engineered intervertebral disc structure and function in an in vivo model. *JOR Spine*, **2020**, 3, e1086	3.7	0
204	Transection of the medial meniscus anterior horn results in cartilage degeneration and meniscus remodeling in a large animal model. *Journal of Orthopaedic Research*, **2020**, 38, 2696-2708	3.8	6
203	Structure, function, and defect tolerance with maturation of the radial tie fiber network in the knee meniscus. *Journal of Orthopaedic Research*, **2020**, 38, 2709-2720	3.8	4
202	"Looping In" Mechanics: Mechanobiologic Regulation of the Nucleus and the Epigenome. *Advanced Healthcare Materials*, **2020**, 9, e2000030	10.1	5
201	Decorin Regulates the Aggrecan Network Integrity and Biomechanical Functions of Cartilage Extracellular Matrix. *ACS Nano*, **2019**, 13, 11320-11333	16.7	39
200	Emerging therapies for cartilage regeneration in currently excluded Red kneeRpopulations. *Npj Regenerative Medicine*, **2019**, 4, 12	15.8	47
199	Elevated BMP and Mechanical Signaling Through YAP1/RhoA Poises FOP Mesenchymal Progenitors for Osteogenesis. *Journal of Bone and Mineral Research*, **2019**, 34, 1894-1909	6.3	19
198	Local nascent protein deposition and remodelling guide mesenchymal stromal cell mechanosensing and fate in three-dimensional hydrogels. *Nature Materials*, **2019**, 18, 883-891	27	171
197	Mechanically-Activated Microcapsules for ROn-DemandRDrug Delivery in Dynamically Loaded Musculoskeletal Tissues. *Advanced Functional Materials*, **2019**, 29, 1807909	15.6	33
196	A common language for evaluating disc degeneration and regeneration: A /ORS Spine Section initiative. *JOR Spine*, **2019**, 2, e1056	3.7	3
195	A Systematic Review and Guide to Mechanical Testing for Articular Cartilage Tissue Engineering. *Tissue Engineering - Part C: Methods*, **2019**, 25, 593-608	2.9	39
194	Aberrant mechanosensing in injured intervertebral discs as a result of boundary-constraint disruption and residual-strain loss. *Nature Biomedical Engineering*, **2019**, 3, 998-1008	19	24
193	Bioactive factors for cartilage repair and regeneration: Improving delivery, retention, and activity. *Acta Biomaterialia*, **2019**, 93, 222-238	10.8	64
192	Spatial distribution of type II collagen gene expression in the mouse intervertebral disc. *JOR Spine*, **2019**, 2, e1070	3.7	5
191	Extracellular vesicles mediate improved functional outcomes in engineered cartilage produced from MSC/chondrocyte cocultures. *Proceedings of the National Academy of Sciences of the United States of America*, **2019**, 116, 1569-1578	11.5	34
190	Cell migration: implications for repair and regeneration in joint disease. *Nature Reviews Rheumatology*, **2019**, 15, 167-179	8.1	45

189	ACVR1 FOP mutation alters mechanosensing and tissue stiffness during heterotopic ossification. *Molecular Biology of the Cell*, **2019**, 30, 17-29	3.5	20
188	Expansion of mesenchymal stem cells on electrospun scaffolds maintains stemness, mechano-responsivity, and differentiation potential. *Journal of Orthopaedic Research*, **2018**, 36, 808-815	3.8	19
187	Fatigue loading of tendon results in collagen kinking and denaturation but does not change local tissue mechanics. *Journal of Biomechanics*, **2018**, 71, 251-256	2.9	17
186	Maturation State and Matrix Microstructure Regulate Interstitial Cell Migration in Dense Connective Tissues. *Scientific Reports*, **2018**, 8, 3295	4.9	20
185	Matching material and cellular timescales maximizes cell spreading on viscoelastic substrates. *Proceedings of the National Academy of Sciences of the United States of America*, **2018**, 115, E2686-E2695	11.5	113
184	Welcome to !. *JOR Spine*, **2018**, 1, e1009	3.7	
183	Physiology and Engineering of the Graded Interfaces of Musculoskeletal Junctions. *Annual Review of Biomedical Engineering*, **2018**, 20, 403-429	12	24
182	Combinatorial hydrogels with biochemical gradients for screening 3D cellular microenvironments. *Nature Communications*, **2018**, 9, 614	17.4	121
181	Towards the scale up of tissue engineered intervertebral discs for clinical application. *Acta Biomaterialia*, **2018**, 70, 154-164	10.8	15
180	Dose and Timing of N-Cadherin Mimetic Peptides Regulate MSC Chondrogenesis within Hydrogels. *Advanced Healthcare Materials*, **2018**, 7, e1701199	10.1	38
179	Impacts of maturation on the micromechanics of the meniscus extracellular matrix. *Journal of Biomechanics*, **2018**, 72, 252-257	2.9	7
178	Near-Infrared Spectroscopy Predicts Compositional and Mechanical Properties of Hyaluronic Acid-Based Engineered Cartilage Constructs. *Tissue Engineering - Part A*, **2018**, 24, 106-116	3.9	9
177	Comparison of Fixation Techniques of 3D-Woven Poly(?-Caprolactone) Scaffolds for Cartilage Repair in a Weightbearing Porcine Large Animal Model. *Cartilage*, **2018**, 9, 428-437	3	14
176	Intervertebral Disc Degeneration in a Percutaneous Mouse Tail Injury Model. *American Journal of Physical Medicine and Rehabilitation*, **2018**, 97, 170-177	2.6	20
175	Dynamic Loading and Tendon Healing Affect Multiscale Tendon Properties and ECM Stress Transmission. *Scientific Reports*, **2018**, 8, 10854	4.9	32
174	A Wearable Magnet-Based System to Assess Activity and Joint Flexion in Humans and Large Animals. *Annals of Biomedical Engineering*, **2018**, 46, 2069-2078	4.7	5
173	Role of dexamethasone in the long-term functional maturation of MSC-laden hyaluronic acid hydrogels for cartilage tissue engineering. *Journal of Orthopaedic Research*, **2018**, 36, 1717-1727	3.8	5
172	Mechano-adaptation of the stem cell nucleus. *Nucleus*, **2018**, 9, 9-19	3.9	21

171	: A (first) year in review. *JOR Spine*, **2018**, 1, e1041	3.7	
170	Future of spine research: "The Asian perspectives". *JOR Spine*, **2018**, 1, e1019	3.7	
169	Long-term mechanical function and integration of an implanted tissue-engineered intervertebral disc. *Science Translational Medicine*, **2018**, 10,	17.5	41
168	Advancing cell therapies for intervertebral disc regeneration from the lab to the clinic: Recommendations of the ORS spine section. *JOR Spine*, **2018**, 1, e1036	3.7	45
167	Donor Variation and Optimization of Human Mesenchymal Stem Cell Chondrogenesis in Hyaluronic Acid. *Tissue Engineering - Part A*, **2018**, 24, 1693-1703	3.9	20
166	Chondrocyte and mesenchymal stem cell derived engineered cartilage exhibits differential sensitivity to pro-inflammatory cytokines. *Journal of Orthopaedic Research*, **2018**, 36, 2901-2910	3.8	15
165	Promise, progress, and problems in whole disc tissue engineering. *JOR Spine*, **2018**, 1, e1015	3.7	9
164	Sprifermin treatment enhances cartilage integration in an in vitro repair model. *Journal of Orthopaedic Research*, **2018**, 36, 2648-2656	3.8	21
163	In vivo performance of an acellular disc-like angle ply structure (DAPS) for total disc replacement in a small animal model. *Journal of Orthopaedic Research*, **2017**, 35, 23-31	3.8	19
162	Cross-Linking Chemistry of Tyramine-Modified Hyaluronan Hydrogels Alters Mesenchymal Stem Cell Early Attachment and Behavior. *Biomacromolecules*, **2017**, 18, 855-864	6.9	32
161	The Nuclear Option: Evidence Implicating the Cell Nucleus in Mechanotransduction. *Journal of Biomechanical Engineering*, **2017**, 139,	2.1	38
160	Biphasic Finite Element Modeling Reconciles Mechanical Properties of Tissue-Engineered Cartilage Constructs Across Testing Platforms. *Tissue Engineering - Part A*, **2017**, 23, 663-674	3.9	26
159	Optimization of Preculture Conditions to Maximize the In Vivo Performance of Cell-Seeded Engineered Intervertebral Discs. *Tissue Engineering - Part A*, **2017**, 23, 923-934	3.9	11
158	Thermosensitive Poly(N-vinylcaprolactam) Injectable Hydrogels for Cartilage Tissue Engineering. *Tissue Engineering - Part A*, **2017**, 23, 935-945	3.9	38
157	Mechanical function near defects in an aligned nanofiber composite is preserved by inclusion of disorganized layers: Insight into meniscus structure and function. *Acta Biomaterialia*, **2017**, 56, 102-109	10.8	19
156	Micromechanical anisotropy and heterogeneity of the meniscus extracellular matrix. *Acta Biomaterialia*, **2017**, 54, 356-366	10.8	50
155	Enhanced nutrient transport improves the depth-dependent properties of tri-layered engineered cartilage constructs with zonal co-culture of chondrocytes and MSCs. *Acta Biomaterialia*, **2017**, 58, 1-11	10.8	20
154	Large Animal Models of Meniscus Repair and Regeneration: A Systematic Review of the State of the Field. *Tissue Engineering - Part C: Methods*, **2017**, 23, 661-672	2.9	16

153	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	5.5	28
152	Cell therapy for the degenerating intervertebral disc. *Translational Research*, **2017**, 181, 49-58	11	43
151	Hypoxia and Tension Maintain Human Tenocyte Tissue Constructs in the 3D Microenvironment. *Journal of Hand Surgery*, **2017**, 42, S47	2.6	
150	Translation of an injectable triple-interpenetrating-network hydrogel for intervertebral disc regeneration in a goat model. *Acta Biomaterialia*, **2017**, 60, 201-209	10.8	48
149	Age-Dependent Subchondral Bone Remodeling and Cartilage Repair in a Minipig Defect Model. *Tissue Engineering - Part C: Methods*, **2017**, 23, 745-753	2.9	24
148	Programmed biomolecule delivery to enable and direct cell migration for connective tissue repair. *Nature Communications*, **2017**, 8, 1780	17.4	69
147	Electrospun PLGA Nanofiber Scaffolds Release Ibuprofen Faster and Degrade Slower After In Vivo Implantation. *Annals of Biomedical Engineering*, **2017**, 45, 2348-2359	4.7	23
146	A retinaculum-sparing surgical approach preserves porcine stifle joint cartilage in an experimental animal model of cartilage repair. *Journal of Experimental Orthopaedics*, **2017**, 4, 11	2.3	8
145	Autologous tendon-derived cell-seeded nanofibrous scaffolds improve rotator cuff repair in an age-dependent fashion. *Journal of Orthopaedic Research*, **2017**, 35, 1250-1257	3.8	18
144	Mechanically Induced Chromatin Condensation Requires Cellular Contractility in Mesenchymal Stem Cells. *Biophysical Journal*, **2016**, 111, 864-874	2.9	40
143	N-cadherin adhesive interactions modulate matrix mechanosensing and fate commitment of mesenchymal stem cells. *Nature Materials*, **2016**, 15, 1297-1306	27	193
142	Intervertebral disc development and disease-related genetic polymorphisms. *Genes and Diseases*, **2016**, 3, 171-177	6.6	16
141	Correlations between quantitative T2 and T1ρ MRI, mechanical properties and biochemical composition in a rabbit lumbar intervertebral disc degeneration model. *Journal of Orthopaedic Research*, **2016**, 34, 1382-8	3.8	25
140	Anatomic Mesenchymal Stem Cell-Based Engineered Cartilage Constructs for Biologic Total Joint Replacement. *Tissue Engineering - Part A*, **2016**, 22, 386-95	3.9	21
139	Effects of Mesenchymal Stem Cell and Growth Factor Delivery on Cartilage Repair in a Mini-Pig Model. *Cartilage*, **2016**, 7, 174-84	3	32
138	Microstructural heterogeneity directs micromechanics and mechanobiology in native and engineered fibrocartilage. *Nature Materials*, **2016**, 15, 477-84	27	61
137	To Serve and Protect: Hydrogels to Improve Stem Cell-Based Therapies. *Cell Stem Cell*, **2016**, 18, 13-5	18	119
136	Differentiation alters stem cell nuclear architecture, mechanics, and mechano-sensitivity. *ELife*, **2016**, 5,	8.9	86

135	Pediatric laryngotracheal reconstruction with tissue-engineered cartilage in a rabbit model. *Laryngoscope*, **2016**, 126 Suppl 1, S5-21	3.6	12
134	Cationic gadolinium chelate for magnetic resonance imaging of cartilaginous defects. *Contrast Media and Molecular Imaging*, **2016**, 11, 229-35	3.2	
133	Single-cell differences in matrix gene expression do not predict matrix deposition. *Nature Communications*, **2016**, 7, 10865	17.4	32
132	Stiffening hydrogels for investigating the dynamics of hepatic stellate cell mechanotransduction during myofibroblast activation. *Scientific Reports*, **2016**, 6, 21387	4.9	125
131	High fidelity visualization of cell-to-cell variation and temporal dynamics in nascent extracellular matrix formation. *Scientific Reports*, **2016**, 6, 38852	4.9	24
130	Single Cell Imaging to Probe Mesenchymal Stem Cell N-Cadherin Mediated Signaling within Hydrogels. *Annals of Biomedical Engineering*, **2016**, 44, 1921-30	4.7	18
129	Effect of overuse-induced tendinopathy on tendon healing in a rat supraspinatus repair model. *Journal of Orthopaedic Research*, **2016**, 34, 161-6	3.8	15
128	From repair to regeneration: biomaterials to reprogram the meniscus wound microenvironment. *Annals of Biomedical Engineering*, **2015**, 43, 529-42	4.7	38
127	A radiopaque electrospun scaffold for engineering fibrous musculoskeletal tissues: Scaffold characterization and in vivo applications. *Acta Biomaterialia*, **2015**, 26, 97-104	10.8	40
126	Cytoskeletal to Nuclear Strain Transfer Regulates YAP Signaling in Mesenchymal Stem Cells. *Biophysical Journal*, **2015**, 108, 2783-93	2.9	180
125	Hypoxic regulation of functional extracellular matrix elaboration by nucleus pulposus cells in long-term agarose culture. *Journal of Orthopaedic Research*, **2015**, 33, 747-54	3.8	10
124	Impact of guidance documents on translational large animal studies of cartilage repair. *Science Translational Medicine*, **2015**, 7, 310re9	17.5	14
123	Fibrous Scaffolds with Varied Fiber Chemistry and Growth Factor Delivery Promote Repair in a Porcine Cartilage Defect Model. *Tissue Engineering - Part A*, **2015**, 21, 2680-90	3.9	41
122	Development of a Large Animal Model of Osteochondritis Dissecans of the Knee: A Pilot Study. *Orthopaedic Journal of Sports Medicine*, **2015**, 3, 2325967115570019	3.5	7
121	A Chemomechanical Model of Matrix and Nuclear Rigidity Regulation of Focal Adhesion Size. *Biophysical Journal*, **2015**, 109, 1807-17	2.9	32
120	Phenotypic stability, matrix elaboration and functional maturation of nucleus pulposus cells encapsulated in photocrosslinkable hyaluronic acid hydrogels. *Acta Biomaterialia*, **2015**, 12, 21-29	10.8	42
119	Population average T2 MRI maps reveal quantitative regional transformations in the degenerating rabbit intervertebral disc that vary by lumbar level. *Journal of Orthopaedic Research*, **2015**, 33, 140-8	3.8	21
118	Repair of dense connective tissues via biomaterial-mediated matrix reprogramming of the wound interface. *Biomaterials*, **2015**, 39, 85-94	15.6	53

117	Functional consequences of glucose and oxygen deprivation on engineered mesenchymal stem cell-based cartilage constructs. *Osteoarthritis and Cartilage*, **2015**, 23, 134-42	6.2	37
116	Biophysical Regulation of Chromatin Architecture Instills a Mechanical Memory in Mesenchymal Stem Cells. *Scientific Reports*, **2015**, 5, 16895	4.9	107
115	Cartilage repair and subchondral bone remodeling in response to focal lesions in a mini-pig model: implications for tissue engineering. *Tissue Engineering - Part A*, **2015**, 21, 850-60	3.9	64
114	Engineering meniscus structure and function via multi-layered mesenchymal stem cell-seeded nanofibrous scaffolds. *Journal of Biomechanics*, **2015**, 48, 1412-9	2.9	42
113	T1rho Magnetic Resonance Imaging at 3T Detects Knee Cartilage Changes After Viscosupplementation. *Orthopedics*, **2015**, 38, e604-10	1.5	5
112	In vitro characterization of a stem-cell-seeded triple-interpenetrating-network hydrogel for functional regeneration of the nucleus pulposus. *Tissue Engineering - Part A*, **2014**, 20, 1841-9	3.9	36
111	Functional properties of bone marrow-derived MSC-based engineered cartilage are unstable with very long-term in vitro culture. *Journal of Biomechanics*, **2014**, 47, 2173-82	2.9	50
110	The detrimental effects of systemic Ibuprofen delivery on tendon healing are time-dependent. *Clinical Orthopaedics and Related Research*, **2014**, 472, 2433-9	2.2	58
109	Time-dependent functional maturation of scaffold-free cartilage tissue analogs. *Journal of Biomechanics*, **2014**, 47, 2137-42	2.9	19
108	A high throughput mechanical screening device for cartilage tissue engineering. *Journal of Biomechanics*, **2014**, 47, 2130-6	2.9	15
107	Pathogenesis and prevention of posttraumatic osteoarthritis after intra-articular fracture. *Journal of the American Academy of Orthopaedic Surgeons, The*, **2014**, 22, 20-8	4.5	81
106	Maximizing cartilage formation and integration via a trajectory-based tissue engineering approach. *Biomaterials*, **2014**, 35, 2140-8	15.6	34
105	In vivo retention and bioactivity of IL-1ra microspheres in the rat intervertebral disc: a preliminary investigation. *Journal of Experimental Orthopaedics*, **2014**, 1, 15	2.3	10
104	Translation of an engineered nanofibrous disc-like angle-ply structure for intervertebral disc replacement in a small animal model. *Acta Biomaterialia*, **2014**, 10, 2473-81	10.8	81
103	Basic Science of Meniscus Repair: Limitations and Emerging Strategies **2014**, 89-103		
102	Meniscal Scaffolds: Options Post Meniscectomy **2014**, 45-58		
101	Meniscal Anatomy **2014**, 1-7		1
100	Hydrogels that mimic developmentally relevant matrix and N-cadherin interactions enhance MSC chondrogenesis. *Proceedings of the National Academy of Sciences of the United States of America*, **2013**, 110, 10117-22	11.5	282

99	Porosity and cell preseeding influence electrospun scaffold maturation and meniscus integration in vitro. *Tissue Engineering - Part A*, **2013**, 19, 538-47	3.9	47
98	Tissue engineering and regenerative medicine: recent innovations and the transition to translation. *Tissue Engineering - Part B: Reviews*, **2013**, 19, 1-13	7.9	181
97	Organized nanofibrous scaffolds that mimic the macroscopic and microscopic architecture of the knee meniscus. *Acta Biomaterialia*, **2013**, 9, 4496-504	10.8	67
96	Biomaterial-mediated delivery of degradative enzymes to improve meniscus integration and repair. *Acta Biomaterialia*, **2013**, 9, 6393-402	10.8	50
95	Macro- to microscale strain transfer in fibrous tissues is heterogeneous and tissue-specific. *Biophysical Journal*, **2013**, 105, 807-17	2.9	52
94	The influence of hyaluronic acid hydrogel crosslinking density and macromolecular diffusivity on human MSC chondrogenesis and hypertrophy. *Biomaterials*, **2013**, 34, 413-21	15.6	210
93	Acellular biomaterials: an evolving alternative to cell-based therapies. *Science Translational Medicine*, **2013**, 5, 176ps4	17.5	99
92	Biaxial mechanics and inter-lamellar shearing of stem-cell seeded electrospun angle-ply laminates for annulus fibrosus tissue engineering. *Journal of Orthopaedic Research*, **2013**, 31, 864-70	3.8	34
91	Tissue engineering for articular cartilage repair--the state of the art. *European Cells and Materials*, **2013**, 25, 248-67	4.3	258
90	Biological Assays. *Handbook Series for Mechanical Engineering*, **2013**, 293-338		
89	Transient exposure to TGF-β improves the functional chondrogenesis of MSC-laden hyaluronic acid hydrogels. *Journal of the Mechanical Behavior of Biomedical Materials*, **2012**, 11, 92-101	4.1	66
88	Growth factor supplementation improves native and engineered meniscus repair in vitro. *Acta Biomaterialia*, **2012**, 8, 3687-94	10.8	62
87	Sacrificial nanofibrous composites provide instruction without impediment and enable functional tissue formation. *Proceedings of the National Academy of Sciences of the United States of America*, **2012**, 109, 14176-81	11.5	132
86	High mesenchymal stem cell seeding densities in hyaluronic acid hydrogels produce engineered cartilage with native tissue properties. *Acta Biomaterialia*, **2012**, 8, 3027-34	10.8	149
85	Fiber-aligned polymer scaffolds for rotator cuff repair in a rat model. *Journal of Shoulder and Elbow Surgery*, **2012**, 21, 245-50	4.3	63
84	Biomaterials in the repair of sports injuries. *Nature Materials*, **2012**, 11, 652-4	27	49
83	IL-1ra delivered from poly(lactic-co-glycolic acid) microspheres attenuates IL-1β-mediated degradation of nucleus pulposus in vitro. *Arthritis Research and Therapy*, **2012**, 14, R179	5.7	53
82	Fabrication and evaluation of biomimetic-synthetic nanofibrous composites for soft tissue regeneration. *Cell and Tissue Research*, **2012**, 347, 803-13	4.2	21

81	Multi-scale structural and tensile mechanical response of annulus fibrosus to osmotic loading. *Annals of Biomedical Engineering*, **2012**, 40, 1610-21	4.7	42
80	Improved cartilage repair via in vitro pre-maturation of MSC-seeded hyaluronic acid hydrogels. *Biomedical Materials (Bristol)*, **2012**, 7, 024110	3.5	48
79	Dynamic compressive loading enhances cartilage matrix synthesis and distribution and suppresses hypertrophy in hMSC-laden hyaluronic acid hydrogels. *Tissue Engineering - Part A*, **2012**, 18, 715-24	3.9	104
78	Influence of Chondrocyte Zone on Co-Cultures With Mesenchymal Stem Cells in HA Hydrogels for Cartilage Tissue Engineering **2012**,		2
77	Sliding contact loading enhances the tensile properties of mesenchymal stem cell-seeded hydrogels. *European Cells and Materials*, **2012**, 24, 29-45	4.3	32
76	Functional Cartilage Tissue Engineering with Adult Stem Cells: Current Status and Future Directions **2012**, 40-64		
75	Fiber angle and aspect ratio influence the shear mechanics of oriented electrospun nanofibrous scaffolds. *Journal of the Mechanical Behavior of Biomedical Materials*, **2011**, 4, 1627-36	4.1	53
74	Hydrogel design for cartilage tissue engineering: a case study with hyaluronic acid. *Biomaterials*, **2011**, 32, 8771-82	15.6	376
73	Modeling interlamellar interactions in angle-ply biologic laminates for annulus fibrosus tissue engineering. *Biomechanics and Modeling in Mechanobiology*, **2011**, 10, 973-84	3.8	36
72	Fiber stretch and reorientation modulates mesenchymal stem cell morphology and fibrous gene expression on oriented nanofibrous microenvironments. *Annals of Biomedical Engineering*, **2011**, 39, 2780-90	4.7	40
71	Dynamic culture enhances stem cell infiltration and modulates extracellular matrix production on aligned electrospun nanofibrous scaffolds. *Acta Biomaterialia*, **2011**, 7, 485-91	10.8	90
70	Cartilage matrix formation by bovine mesenchymal stem cells in three-dimensional culture is age-dependent. *Clinical Orthopaedics and Related Research*, **2011**, 469, 2744-53	2.2	41
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