Daniel J Kelly

List of Publications by Citations

205	8,501	55	83
papers	citations	h-index	g-index
227	10,272	5.8	6.71
ext. papers	ext. citations	avg, IF	L-index

#	Paper	IF	Citations
205	Biomaterial based modulation of macrophage polarization: a review and suggested design principles. *Materials Today*, **2015**, 18, 313-325	21.8	467
204	Simulation of tissue differentiation in a scaffold as a function of porosity, YoungЋs modulus and dissolution rate: application of mechanobiological models in tissue engineering. *Biomaterials*, **2007**, 28, 5544-54	15.6	266
203	A comparison of different bioinks for 3D bioprinting of fibrocartilage and hyaline cartilage. *Biofabrication*, **2016**, 8, 045002	10.5	231
202	Tuning Alginate Bioink Stiffness and Composition for Controlled Growth Factor Delivery and to Spatially Direct MSC Fate within Bioprinted Tissues. *Scientific Reports*, **2017**, 7, 17042	4.9	174
201	The role of mechanical signals in regulating chondrogenesis and osteogenesis of mesenchymal stem cells. *Birth Defects Research Part C: Embryo Today Reviews*, **2010**, 90, 75-85		168
200	3D Bioprinting of Developmentally Inspired Templates for Whole Bone Organ Engineering. *Advanced Healthcare Materials*, **2016**, 5, 2353-62	10.1	159
199	3D Bioprinting for Cartilage and Osteochondral Tissue Engineering. *Advanced Healthcare Materials*, **2017**, 6, 1700298	10.1	158
198	Mechano-regulation of stem cell differentiation and tissue regeneration in osteochondral defects. *Journal of Biomechanics*, **2005**, 38, 1413-22	2.9	157
197	The response of bone marrow-derived mesenchymal stem cells to dynamic compression following TGF-beta3 induced chondrogenic differentiation. *Annals of Biomedical Engineering*, **2010**, 38, 2896-909	4.7	140
196	A comparison of the functionality and in vivo phenotypic stability of cartilaginous tissues engineered from different stem cell sources. *Tissue Engineering - Part A*, **2012**, 18, 1161-70	3.9	132
195	The influence of plaque composition on underlying arterial wall stress during stent expansion: the case for lesion-specific stents. *Medical Engineering and Physics*, **2009**, 31, 428-33	2.4	127
194	3D printed microchannel networks to direct vascularisation during endochondral bone repair. *Biomaterials*, **2018**, 162, 34-46	15.6	124
193	Prediction of the optimal mechanical properties for a scaffold used in osteochondral defect repair. *Tissue Engineering*, **2006**, 12, 2509-19		124
192	Mechanical regulation of mesenchymal stem cell differentiation. *Journal of Anatomy*, **2015**, 227, 717-31	2.9	120
191	Material stiffness influences the polarization state, function and migration mode of macrophages. *Acta Biomaterialia*, **2019**, 89, 47-59	10.8	120
190	Oxygen tension regulates the osteogenic, chondrogenic and endochondral phenotype of bone marrow derived mesenchymal stem cells. *Biochemical and Biophysical Research Communications*, **2012**, 417, 305-10	3.4	109
189	Effect of controlled axial micromovement on healing of tibial fractures. *Lancet, The*, **1986**, 2, 1185-7	40	109

188	The effect of concentration, thermal history and cell seeding density on the initial mechanical properties of agarose hydrogels. *Journal of the Mechanical Behavior of Biomedical Materials*, **2009**, 2, 512-21	4.1	103
187	Fibrin hydrogels functionalized with cartilage extracellular matrix and incorporating freshly isolated stromal cells as an injectable for cartilage regeneration. *Acta Biomaterialia*, **2016**, 36, 55-62	10.8	100
186	Simulation of a balloon expandable stent in a realistic coronary artery-Determination of the optimum modelling strategy. *Journal of Biomechanics*, **2010**, 43, 2126-32	2.9	99
185	Functional properties of cartilaginous tissues engineered from infrapatellar fat pad-derived mesenchymal stem cells. *Journal of Biomechanics*, **2010**, 43, 920-6	2.9	95
184	Engineering osteochondral constructs through spatial regulation of endochondral ossification. *Acta Biomaterialia*, **2013**, 9, 5484-92	10.8	91
183	Dynamic compression can inhibit chondrogenesis of mesenchymal stem cells. *Biochemical and Biophysical Research Communications*, **2008**, 377, 458-462	3.4	91
182	The shape and size of hydroxyapatite particles dictate inflammatory responses following implantation. *Scientific Reports*, **2017**, 7, 2922	4.9	90
181	Recapitulating endochondral ossification: a promising route to in vivo bone regeneration. *Journal of Tissue Engineering and Regenerative Medicine*, **2015**, 9, 889-902	4.4	87
180	A role for the primary cilium in paracrine signaling between mechanically stimulated osteocytes and mesenchymal stem cells. *Biochemical and Biophysical Research Communications*, **2011**, 412, 182-7	3.4	86
179	Gene Delivery of TGF-ß and BMP2 in an MSC-Laden Alginate Hydrogel for Articular Cartilage and Endochondral Bone Tissue Engineering. *Tissue Engineering - Part A*, **2016**, 22, 776-87	3.9	84
178	Nano-particle mediated M2 macrophage polarization enhances bone formation and MSC osteogenesis in an IL-10 dependent manner. *Biomaterials*, **2020**, 239, 119833	15.6	83
177	Oxygen tension differentially regulates the functional properties of cartilaginous tissues engineered from infrapatellar fat pad derived MSCs and articular chondrocytes. *Osteoarthritis and Cartilage*, **2010**, 18, 1345-54	6.2	83
176	Low oxygen tension is a more potent promoter of chondrogenic differentiation than dynamic compression. *Journal of Biomechanics*, **2010**, 43, 2516-23	2.9	83
175	Controlled release of transforming growth factor-ß from cartilage-extra-cellular-matrix-derived scaffolds to promote chondrogenesis of human-joint-tissue-derived stem cells. *Acta Biomaterialia*, **2014**, 10, 4400-9	10.8	74
174	Deformation simulation of cells seeded on a collagen-GAG scaffold in a flow perfusion bioreactor using a sequential 3D CFD-elastostatics model. *Medical Engineering and Physics*, **2009**, 31, 420-7	2.4	72
173	Tensile and compressive properties of fresh human carotid atherosclerotic plaques. *Journal of Biomechanics*, **2009**, 42, 2760-7	2.9	72
172	Mechanical properties and cellular response of novel electrospun nanofibers for ligament tissue engineering: Effects of orientation and geometry. *Journal of the Mechanical Behavior of Biomedical Materials*, **2016**, 61, 258-270	4.1	72
171	Biofabrication of spatially organised tissues by directing the growth of cellular spheroids within 3D printed polymeric microchambers. *Biomaterials*, **2019**, 197, 194-206	15.6	68

170	Engineering cartilage or endochondral bone: a comparison of different naturally derived hydrogels. *Acta Biomaterialia*, **2015**, 13, 245-53	10.8	67
169	Cell-matrix interactions regulate mesenchymal stem cell response to hydrostatic pressure. *Acta Biomaterialia*, **2012**, 8, 2153-9	10.8	67
168	Substrate stiffness and oxygen as regulators of stem cell differentiation during skeletal tissue regeneration: a mechanobiological model. *PLoS ONE*, **2012**, 7, e40737	3.7	67
167	The pericellular environment regulates cytoskeletal development and the differentiation of mesenchymal stem cells and determines their response to hydrostatic pressure. *European Cells and Materials*, **2013**, 25, 167-78	4.3	67
166	A comparative study of shear stresses in collagen-glycosaminoglycan and calcium phosphate scaffolds in bone tissue-engineering bioreactors. *Tissue Engineering - Part A*, **2009**, 15, 1141-9	3.9	65
165	Recapitulating bone development through engineered mesenchymal condensations and mechanical cues for tissue regeneration. *Science Translational Medicine*, **2019**, 11,	17.5	64
164	Tissue-specific extracellular matrix scaffolds for the regeneration of spatially complex musculoskeletal tissues. *Biomaterials*, **2019**, 188, 63-73	15.6	62
163	Three-Dimensional Bioprinting of Polycaprolactone Reinforced Gene Activated Bioinks for Bone Tissue Engineering. *Tissue Engineering - Part A*, **2017**, 23, 891-900	3.9	61
162	Coupling Freshly Isolated CD44(+) Infrapatellar Fat Pad-Derived Stromal Cells with a TGF-ß Eluting Cartilage ECM-Derived Scaffold as a Single-Stage Strategy for Promoting Chondrogenesis. *Advanced Healthcare Materials*, **2015**, 4, 1043-53	10.1	61
161	Evaluation of bone marrow stem cell response to PLA scaffolds manufactured by 3D printing and coated with polydopamine and type I collagen. *Journal of Biomedical Materials Research - Part B Applied Biomaterials*, **2019**, 107, 37-49	3.5	61
160	Electroconductive Biohybrid Collagen/Pristine Graphene Composite Biomaterials with Enhanced Biological Activity. *Advanced Materials*, **2018**, 30, e1706442	24	60
159	The role of the superficial region in determining the dynamic properties of articular cartilage. *Osteoarthritis and Cartilage*, **2012**, 20, 1417-25	6.2	60
158	3D bioprinting spatiotemporally defined patterns of growth factors to tightly control tissue regeneration. *Science Advances*, **2020**, 6, eabb5093	14.3	59
157	Identification of mechanosensitive genes during skeletal development: alteration of genes associated with cytoskeletal rearrangement and cell signalling pathways. *BMC Genomics*, **2014**, 15, 48	4.5	58
156	Effects of in vitro preculture on in vivo development of human engineered cartilage in an ectopic model. *Tissue Engineering*, **2005**, 11, 1421-8		58
155	Hydrostatic pressure acts to stabilise a chondrogenic phenotype in porcine joint tissue derived stem cells. *European Cells and Materials*, **2012**, 23, 121-32; discussion 133-4	4.3	58
154	Cyclic hydrostatic pressure promotes a stable cartilage phenotype and enhances the functional development of cartilaginous grafts engineered using multipotent stromal cells isolated from bone marrow and infrapatellar fat pad. *Journal of Biomechanics*, **2014**, 47, 2115-21	2.9	57
153	Fiber Reinforced Cartilage ECM Functionalized Bioinks for Functional Cartilage Tissue Engineering. *Advanced Healthcare Materials*, **2019**, 8, e1801501	10.1	57

152	Modulating gradients in regulatory signals within mesenchymal stem cell seeded hydrogels: a novel strategy to engineer zonal articular cartilage. *PLoS ONE*, **2013**, 8, e60764	3.7	56
151	Expansion in the presence of FGF-2 enhances the functional development of cartilaginous tissues engineered using infrapatellar fat pad derived MSCs. *Journal of the Mechanical Behavior of Biomedical Materials*, **2012**, 11, 102-11	4.1	55
150	Tissue differentiation and bone regeneration in an osteotomized mandible: a computational analysis of the latency period. *Medical and Biological Engineering and Computing*, **2008**, 46, 283-98	3.1	55
149	The effect of cyclic hydrostatic pressure on the functional development of cartilaginous tissues engineered using bone marrow derived mesenchymal stem cells. *Journal of the Mechanical Behavior of Biomedical Materials*, **2011**, 4, 1257-65	4.1	54
148	The effect of prosthesis design on vibration of the reconstructed ossicular chain: a comparative finite element analysis of four prostheses. *Otology and Neurotology*, **2003**, 24, 11-9	2.6	54
147	An Endochondral Ossification-Based Approach to Bone Repair: Chondrogenically Primed Mesenchymal Stem Cell-Laden Scaffolds Support Greater Repair of Critical-Sized Cranial Defects Than Osteogenically Stimulated Constructs In Vivo. *Tissue Engineering - Part A*, **2016**, 22, 556-67	3.9	53
146	Chondrogenesis and integration of mesenchymal stem cells within an in vitro cartilage defect repair model. *Annals of Biomedical Engineering*, **2009**, 37, 2556-65	4.7	53
145	An anisotropic inelastic constitutive model to describe stress softening and permanent deformation in arterial tissue. *Journal of the Mechanical Behavior of Biomedical Materials*, **2012**, 12, 9-19	4.1	52
144	Stresses in peripheral arteries following stent placement: a finite element analysis. *Computer Methods in Biomechanics and Biomedical Engineering*, **2009**, 12, 25-33	2.1	52
143	Mesenchymal stem cell fate following non-viral gene transfection strongly depends on the choice of delivery vector. *Acta Biomaterialia*, **2017**, 55, 226-238	10.8	50
142	Pore-forming bioinks to enable spatio-temporally defined gene delivery in bioprinted tissues. *Journal of Controlled Release*, **2019**, 301, 13-27	11.7	50
141	A comparison of fibrin, agarose and gellan gum hydrogels as carriers of stem cells and growth factor delivery microspheres for cartilage regeneration. *Biomedical Materials (Bristol)*, **2013**, 8, 035004	3.5	49
140	Porous decellularized tissue engineered hypertrophic cartilage as a scaffold for large bone defect healing. *Acta Biomaterialia*, **2015**, 23, 82-90	10.8	47
139	Decellularization of porcine articular cartilage explants and their subsequent repopulation with human chondroprogenitor cells. *Journal of the Mechanical Behavior of Biomedical Materials*, **2015**, 55, 21-31	4.1	46
138	Postnatal changes to the mechanical properties of articular cartilage are driven by the evolution of its collagen network. *European Cells and Materials*, **2015**, 29, 105-21; discussion 121-3	4.3	46
137	Anisotropic Shape-Memory Alginate Scaffolds Functionalized with Either Type I or Type II Collagen for Cartilage Tissue Engineering. *Tissue Engineering - Part A*, **2017**, 23, 55-68	3.9	45
136	Infrapatellar fat pad-derived stem cells maintain their chondrogenic capacity in disease and can be used to engineer cartilaginous grafts of clinically relevant dimensions. *Tissue Engineering - Part A*, **2014**, 20, 3050-62	3.9	43
135	European Society of Biomechanics S.M. Perren Award 2012: the external mechanical environment can override the influence of local substrate in determining stem cell fate. *Journal of Biomechanics*, **2012**, 45, 2483-92	2.9	41

134	Temporal and spatial changes in cartilage-matrix-specific gene expression in mesenchymal stem cells in response to dynamic compression. *Tissue Engineering - Part A*, **2011**, 17, 3085-93	3.9	40
133	The influence of expansion rates on mandibular distraction osteogenesis: a computational analysis. *Annals of Biomedical Engineering*, **2007**, 35, 1940-60	4.7	40
132	Macrophage Polarization in Response to Collagen Scaffold Stiffness Is Dependent on Cross-Linking Agent Used To Modulate the Stiffness. *ACS Biomaterials Science and Engineering*, **2019**, 5, 544-552	5.5	40
131	3D printing of fibre-reinforced cartilaginous templates for the regeneration of osteochondral defects. *Acta Biomaterialia*, **2020**, 113, 130-143	10.8	39
130	Inelasticity of human carotid atherosclerotic plaque. *Annals of Biomedical Engineering*, **2011**, 39, 2445-55	4.7	39
129	Chondrocytes and bone marrow-derived mesenchymal stem cells undergoing chondrogenesis in agarose hydrogels of solid and channelled architectures respond differentially to dynamic culture conditions. *Journal of Tissue Engineering and Regenerative Medicine*, **2011**, 5, 747-58	4.4	37
128	A growth factor delivery system for chondrogenic induction of infrapatellar fat pad-derived stem cells in fibrin hydrogels. *Biotechnology and Applied Biochemistry*, **2011**, 58, 345-52	2.8	37
127	Reinforcing interpenetrating network hydrogels with 3D printed polymer networks to engineer cartilage mimetic composites. *Biofabrication*, **2020**, 12, 035011	10.5	35
126	Mechano-regulation of mesenchymal stem cell differentiation and collagen organisation during skeletal tissue repair. *Biomechanics and Modeling in Mechanobiology*, **2010**, 9, 359-72	3.8	35
125	Biochemical markers of the mechanical quality of engineered hyaline cartilage. *Journal of Materials Science: Materials in Medicine*, **2007**, 18, 273-81	4.5	35
124	Engineering large cartilage tissues using dynamic bioreactor culture at defined oxygen conditions. *Journal of Tissue Engineering*, **2018**, 9, 2041731417753718	7.5	34
123	Modulating microfibrillar alignment and growth factor stimulation to regulate mesenchymal stem cell differentiation. *Acta Biomaterialia*, **2017**, 64, 148-160	10.8	33
122	Effect of a degraded core on the mechanical behaviour of tissue-engineered cartilage constructs: a poro-elastic finite element analysis. *Medical and Biological Engineering and Computing*, **2004**, 42, 9-13	3.1	33
121	Biomaterial-based endochondral bone regeneration: a shift from traditional tissue engineering paradigms to developmentally inspired strategies. *Materials Today Bio*, **2019**, 3, 100009	9.9	32
120	Tissue Engineering Whole Bones Through Endochondral Ossification: Regenerating the Distal Phalanx. *BioResearch Open Access*, **2015**, 4, 229-41	2.4	32
119	Dual non-viral gene delivery from microparticles within 3D high-density stem cell constructs for enhanced bone tissue engineering. *Biomaterials*, **2018**, 161, 240-255	15.6	32
118	The influence of construct scale on the composition and functional properties of cartilaginous tissues engineered using bone marrow-derived mesenchymal stem cells. *Tissue Engineering - Part A*, **2012**, 18, 382-96	3.9	32
117	Engineering of large cartilaginous tissues through the use of microchanneled hydrogels and rotational culture. *Tissue Engineering - Part A*, **2009**, 15, 3213-20	3.9	32

116	Meniscus ECM-functionalised hydrogels containing infrapatellar fat pad-derived stem cells for bioprinting of regionally defined meniscal tissue. *Journal of Tissue Engineering and Regenerative Medicine*, **2018**, 12, e1826-e1835	4.4	32
115	Tissue engineering scaled-up, anatomically shaped osteochondral constructs for joint resurfacing. *European Cells and Materials*, **2015**, 30, 163-85; discussion 185-6	4.3	30
114	Site specific inelasticity of arterial tissue. *Journal of Biomechanics*, **2012**, 45, 1393-9	2.9	29
113	The role of environmental factors in regulating the development of cartilaginous grafts engineered using osteoarthritic human infrapatellar fat pad-derived stem cells. *Tissue Engineering - Part A*, **2012** , 18, 1531-41	3.9	28
112	Remodelling of collagen fibre transition stretch and angular distribution in soft biological tissues and cell-seeded hydrogels. *Biomechanics and Modeling in Mechanobiology*, **2012**, 11, 325-39	3.8	28
111	The role of oxygen as a regulator of stem cell fate during fracture repair in TSP2-null mice. *Journal of Orthopaedic Research*, **2013**, 31, 1585-96	3.8	28
110	Finite element modelling of diseased carotid bifurcations generated from in vivo computerised tomographic angiography. *Computers in Biology and Medicine*, **2010**, 40, 419-29	7	28
109	Hierarchically Structured Electrospun Scaffolds with Chemically Conjugated Growth Factor for Ligament Tissue Engineering. *Tissue Engineering - Part A*, **2017**, 23, 823-836	3.9	26
108	Chondrogenically primed mesenchymal stem cell-seeded alginate hydrogels promote early bone formation in critically-sized defects. *European Polymer Journal*, **2015**, 72, 464-472	5.2	26
107	Infrapatellar Fat Pad Stem Cells: From Developmental Biology to Cell Therapy. *Stem Cells International*, **2017**, 2017, 6843727	5	26
106	Altering the architecture of tissue engineered hypertrophic cartilaginous grafts facilitates vascularisation and accelerates mineralisation. *PLoS ONE*, **2014**, 9, e90716	3.7	26
105	The effects of dynamic compression on the development of cartilage grafts engineered using bone marrow and infrapatellar fat pad derived stem cells. *Biomedical Materials (Bristol)*, **2015**, 10, 055011	3.5	25
104	A comparison of self-assembly and hydrogel encapsulation as a means to engineer functional cartilaginous grafts using culture expanded chondrocytes. *Tissue Engineering - Part C: Methods*, **2014**, 20, 52-63	2.9	25
103	The consequences of the mechanical environment of peripheral arteries for nitinol stenting. *Medical and Biological Engineering and Computing*, **2011**, 49, 1279-88	3.1	25
102	The changing role of the superficial region in determining the dynamic compressive properties of articular cartilage during postnatal development. *Osteoarthritis and Cartilage*, **2015**, 23, 975-84	6.2	24
101	The composition of engineered cartilage at the time of implantation determines the likelihood of regenerating tissue with a normal collagen architecture. *Tissue Engineering - Part A*, **2013**, 19, 824-33	3.9	24
100	A mechano-regulation model of fracture repair in vertebral bodies. *Journal of Orthopaedic Research* , **2011**, 29, 433-43	3.8	24
99	Electrospinning of highly porous yet mechanically functional microfibrillar scaffolds at the human scale for ligament and tendon tissue engineering. *Biomedical Materials (Bristol)*, **2019**, 14, 035016	3.5	23

98	Orthopaedic implant materials drive M1 macrophage polarization in a spleen tyrosine kinase- and mitogen-activated protein kinase-dependent manner. *Acta Biomaterialia*, **2018**, 65, 426-435	10.8	23
97	Biofabrication of multiscale bone extracellular matrix scaffolds for bone tissue engineering. *European Cells and Materials*, **2019**, 38, 168-187	4.3	23
96	Simple Radical Polymerization of Poly(Alginate-Graft-N-Isopropylacrylamide) Injectable Thermoresponsive Hydrogel with the Potential for Localized and Sustained Delivery of Stem Cells and Bioactive Molecules. *Macromolecular Bioscience*, **2017**, 17, 1700118	5.5	23
95	Osteoarthritis-associated basic calcium phosphate crystals alter immune cell metabolism and promote M1 macrophage polarization. *Osteoarthritis and Cartilage*, **2020**, 28, 603-612	6.2	23
94	Stimulation of osteoblasts using rest periods during bioreactor culture on collagen-glycosaminoglycan scaffolds. *Journal of Materials Science: Materials in Medicine*, **2010**, 21, 2325-30	4.5	22
93	Combining freshly isolated chondroprogenitor cells from the infrapatellar fat pad with a growth factor delivery hydrogel as a putative single stage therapy for articular cartilage repair. *Tissue Engineering - Part A*, **2014**, 20, 930-9	3.9	21
92	Cyclic Tensile Strain Can Play a Role in Directing both Intramembranous and Endochondral Ossification of Mesenchymal Stem Cells. *Frontiers in Bioengineering and Biotechnology*, **2017**, 5, 73	5.8	21
91	Growth plate extracellular matrix-derived scaffolds for large bone defect healing. *European Cells and Materials*, **2017**, 33, 130-142	4.3	21
90	Integrating finite element modelling and 3D printing to engineer biomimetic polymeric scaffolds for tissue engineering. *Connective Tissue Research*, **2020**, 61, 174-189	3.3	21
89	Bioinks for bioprinting functional meniscus and articular cartilage. *Journal of 3D Printing in Medicine*, **2017**, 1, 269-290	1.5	20
88	Exploring the roles of integrin binding and cytoskeletal reorganization during mesenchymal stem cell mechanotransduction in soft and stiff hydrogels subjected to dynamic compression. *Journal of the Mechanical Behavior of Biomedical Materials*, **2014**, 38, 174-82	4.1	20
87	The role of calcium signalling in the chondrogenic response of mesenchymal stem cells to hydrostatic pressure. *European Cells and Materials*, **2014**, 28, 358-71	4.3	20
86	3D bioprinting of prevascularised implants for the repair of critically-sized bone defects. *Acta Biomaterialia*, **2021**, 126, 154-169	10.8	20
85	Comparison of the vulnerability risk for positive versus negative atheroma plaque morphology. *Journal of Biomechanics*, **2013**, 46, 1248-54	2.9	19
84	Prediction of fibre architecture and adaptation in diseased carotid bifurcations. *Biomechanics and Modeling in Mechanobiology*, **2011**, 10, 831-43	3.8	19
83	Engineering Tissues That Mimic the Zonal Nature of Articular Cartilage Using Decellularized Cartilage Explants Seeded with Adult Stem Cells. *ACS Biomaterials Science and Engineering*, **2017**, 3, 1933-1943	5.5	18
82	Glyoxal cross-linking of solubilized extracellular matrix to produce highly porous, elastic, and chondro-permissive scaffolds for orthopedic tissue engineering. *Journal of Biomedical Materials Research - Part A*, **2019**, 107, 2222-2234	5.4	17
81	The influence of fiber orientation on the equilibrium properties of neutral and charged biphasic tissues. *Journal of Biomechanical Engineering*, **2010**, 132, 114506	2.1	17

80	Stresses in peripheral arteries following stent placement: a finite element analysis. *Computer Methods in Biomechanics and Biomedical Engineering*, **2009**, 12, 25-33	2.1	17
79	3D extrusion bioprinting. *Nature Reviews Methods Primers*, **2021**, 1,		17
78	RALA complexed □TCP nanoparticle delivery to mesenchymal stem cells induces bone formation in tissue engineered constructs in vitro and in vivo. *Journal of Materials Chemistry B*, **2017**, 5, 1753-1764	7.3	16
77	Hypoxia mimicking hydrogels to regulate the fate of transplanted stem cells. *Acta Biomaterialia*, **2019**, 88, 314-324	10.8	16
76	Engineering cartilaginous grafts using chondrocyte-laden hydrogels supported by a superficial layer of stem cells. *Journal of Tissue Engineering and Regenerative Medicine*, **2017**, 11, 1343-1353	4.4	15
75	A computational model to explore the role of angiogenic impairment on endochondral ossification during fracture healing. *Biomechanics and Modeling in Mechanobiology*, **2016**, 15, 1279-94	3.8	15
74	The application of plastic compression to modulate fibrin hydrogel mechanical properties. *Journal of the Mechanical Behavior of Biomedical Materials*, **2012**, 16, 66-72	4.1	15
73	Mechanically induced structural changes during dynamic compression of engineered cartilaginous constructs can potentially explain increases in bulk mechanical properties. *Journal of the Royal Society Interface*, **2012**, 9, 777-89	4.1	15
72	Influence of oxygen levels on chondrogenesis of porcine mesenchymal stem cells cultured in polycaprolactone scaffolds. *Journal of Biomedical Materials Research - Part A*, **2017**, 105, 1684-1691	5.4	14
71	An endochondral ossification approach to early stage bone repair: Use of tissue-engineered hypertrophic cartilage constructs as primordial templates for weight-bearing bone repair. *Journal of Tissue Engineering and Regenerative Medicine*, **2018**, 12, e2147-e2150	4.4	14
70	Direct UV-Triggered Thiol-ene Cross-Linking of Electrospun Polyester Fibers from Unsaturated Poly(macrolactone)s and Their Drug Loading by Solvent Swelling. *Biomacromolecules*, **2017**, 18, 4292-4298	6.9	14
69	Chondrogenesis of embryonic limb bud cells in micromass culture progresses rapidly to hypertrophy and is modulated by hydrostatic pressure. *Cell and Tissue Research*, **2017**, 368, 47-59	4.2	14
68	Stem cells display a donor dependent response to escalating levels of growth factor release from extracellular matrix-derived scaffolds. *Journal of Tissue Engineering and Regenerative Medicine*, **2017**, 11, 2979-2987	4.4	14
67	A remodelling metric for angular fibre distributions and its application to diseased carotid bifurcations. *Biomechanics and Modeling in Mechanobiology*, **2012**, 11, 869-82	3.8	14
66	Scaffold architecture determines chondrocyte response to externally applied dynamic compression. *Biomechanics and Modeling in Mechanobiology*, **2013**, 12, 889-99	3.8	13
65	Recapitulating aspects of the oxygen and substrate environment of the damaged joint milieu for stem cell-based cartilage tissue engineering. *Tissue Engineering - Part C: Methods*, **2013**, 19, 117-27	2.9	13
64	Biofabrication and bioprinting using cellular aggregates, microtissues and organoids for the engineering of musculoskeletal tissues. *Acta Biomaterialia*, **2021**, 126, 1-14	10.8	12
63	Affinity-bound growth factor within sulfated interpenetrating network bioinks for bioprinting cartilaginous tissues. *Acta Biomaterialia*, **2021**, 128, 130-142	10.8	12

62	A Developmental Engineering-Based Approach to Bone Repair: Endochondral Priming Enhances Vascularization and New Bone Formation in a Critical Size Defect. *Frontiers in Bioengineering and Biotechnology*, **2020**, 8, 230	5.8	12
61	Engineering zonal cartilaginous tissue by modulating oxygen levels and mechanical cues through the depth of infrapatellar fat pad stem cell laden hydrogels. *Journal of Tissue Engineering and Regenerative Medicine*, **2017**, 11, 2613-2628	4.4	11
60	Scaffolds Derived from ECM Produced by Chondrogenically Induced Human MSC Condensates Support Human MSC Chondrogenesis. *ACS Biomaterials Science and Engineering*, **2017**, 3, 1426-1436	5.5	11
59	Biofabrication of soft tissue templates for engineering the bone-ligament interface. *Biotechnology and Bioengineering*, **2017**, 114, 2400-2411	4.9	11
58	Controlled Non-Viral Gene Delivery in Cartilage and Bone Repair: Current Strategies and Future Directions. *Advanced Therapeutics*, **2018**, 1, 1800038	4.9	11
57	Engineering articular cartilage-like grafts by self-assembly of infrapatellar fat pad-derived stem cells. *Biotechnology and Bioengineering*, **2014**, 111, 1686-98	4.9	11
56	Combining BMP-6, TGF-β and hydrostatic pressure stimulation enhances the functional development of cartilage tissues engineered using human infrapatellar fat pad derived stem cells. *Biomaterials Science*, **2013**, 1, 745-752	7.4	11
55	The influence of ventilation tube design on the magnitude of stress imposed at the implant/tympanic membrane interface. *Medical Engineering and Physics*, **2008**, 30, 154-63	2.4	11
54	Bone biomaterials for overcoming antimicrobial resistance: Advances in non-antibiotic antimicrobial approaches for regeneration of infected osseous tissue. *Materials Today*, **2021**, 46, 136-154	21.8	11
53	Solid-State Phase Transformation and Self-Assembly of Amorphous Nanoparticles into Higher-Order Mineral Structures. *Journal of the American Chemical Society*, **2020**, 142, 12811-12825	16.4	10
52	Regeneration of Osteochondral Defects Using Developmentally Inspired Cartilaginous Templates. *Tissue Engineering - Part A*, **2019**, 25, 159-171	3.9	10
51	Harnessing the innate and adaptive immune system for tissue repair and regeneration: Considering more than macrophages. *Acta Biomaterialia*, **2021**, 133, 208-221	10.8	10
50	Unravelling the Role of Mechanical Stimuli in Regulating Cell Fate During Osteochondral Defect Repair. *Annals of Biomedical Engineering*, **2016**, 44, 3446-3459	4.7	9
49	A Computational Model of Osteochondral Defect Repair Following Implantation of Stem Cell-Laden Multiphase Scaffolds. *Tissue Engineering - Part A*, **2017**, 23, 30-42	3.9	9
48	Development of a Platform for Studying 3D Astrocyte Mechanobiology: Compression of Astrocytes in Collagen Gels. *Annals of Biomedical Engineering*, **2018**, 46, 365-374	4.7	9
47	Altering the swelling pressures within in vitro engineered cartilage is predicted to modulate the configuration of the collagen network and hence improve tissue mechanical properties. *Journal of the Mechanical Behavior of Biomedical Materials*, **2013**, 22, 22-9	4.1	8
46	Spatial Presentation of Tissue-Specific Extracellular Matrix Components along Electrospun Scaffolds for Tissue Engineering the Bone-Ligament Interface. *ACS Biomaterials Science and Engineering*, **2020**, 6, 5145-5161	5.5	8
45	Development of a New Bone-Mimetic Surface Treatment Platform: Nanoneedle Hydroxyapatite (nnHA) Coating. *Advanced Healthcare Materials*, **2020**, 9, e2001102	10.1	8

44	Purinergic Signaling Regulates the Transforming Growth Factor-β-Induced Chondrogenic Response of Mesenchymal Stem Cells to Hydrostatic Pressure. *Tissue Engineering - Part A*, **2016**, 22, 831-9	3.9	8
43	Development and characterization of carbohydrate-based thermosensitive hydrogels for cartilage tissue engineering. *European Polymer Journal*, **2020**, 129, 109637	5.2	7
42	An argument for the use of multiple segment stents in curved arteries. *Journal of Biomechanical Engineering*, **2011**, 133, 084501	2.1	7
41	Role of oxygen as a regulator of stem cell fate during the spontaneous repair of osteochondral defects. *Journal of Orthopaedic Research*, **2016**, 34, 1026-36	3.8	7
40	Mechanical properties of a hierarchical electrospun scaffold for ovine anterior cruciate ligament replacement. *Journal of Orthopaedic Research*, **2019**, 37, 421-430	3.8	7
39	Porous Scaffolds Derived from Devitalized Tissue Engineered Cartilaginous Matrix Support Chondrogenesis of Adult Stem Cells. *ACS Biomaterials Science and Engineering*, **2017**, 3, 1075-1082	5.5	6
38	Apparent behaviour of charged and neutral materials with ellipsoidal fibre distributions and cross-validation of finite element implementations. *Journal of the Mechanical Behavior of Biomedical Materials*, **2012**, 9, 122-9	4.1	6
37	Low-oxygen conditions promote synergistic increases in chondrogenesis during co-culture of human osteoarthritic stem cells and chondrocytes. *Journal of Tissue Engineering and Regenerative Medicine*, **2018**, 12, 1074-1084	4.4	6
36	Stents **2006**,		5
35	Substrate Stiffness Modulates the Crosstalk Between Mesenchymal Stem Cells and Macrophages. *Journal of Biomechanical Engineering*, **2021**, 143,	2.1	5
34	Biofabrication of vasculature in microphysiological models of bone. *Biofabrication*, **2021**, 13,	10.5	5
33	Printing New Bones: From Print-and-Implant Devices to Bioprinted Bone Organ Precursors. *Trends in Molecular Medicine*, **2021**, 27, 700-711	11.5	5
32	Development of collagen-poly(caprolactone)-based core-shell scaffolds supplemented with proteoglycans and glycosaminoglycans for ligament repair. *Materials Science and Engineering C*, **2021**, 120, 111657	8.3	5
31	Hydrostatic Pressure Regulates the Volume, Aggregation and Chondrogenic Differentiation of Bone Marrow Derived Stromal Cells. *Frontiers in Bioengineering and Biotechnology*, **2020**, 8, 619914	5.8	5
30	A mechanobiological model of endothelial cell migration and proliferation. *Computer Methods in Biomechanics and Biomedical Engineering*, **2016**, 19, 74-83	2.1	4
29	Chondrocyte-based intraoperative processing strategies for the biological augmentation of a polyurethane meniscus replacement. *Connective Tissue Research*, **2018**, 59, 381-392	3.3	4
28	Bioinks and Their Applications in Tissue Engineering **2019**, 187-218		4
27	The development of natural polymer scaffold-based therapeutics for osteochondral repair. *Biochemical Society Transactions*, **2020**, 48, 1433-1445	5.1	4

26	Hydroxyapatite Particle Shape and Size Influence MSC Osteogenesis by Directing the Macrophage Phenotype in Collagen-Hydroxyapatite Scaffolds.. *ACS Applied Bio Materials*, **2020**, 3, 7562-7574	4.1	4
25	Biofabrication of Prevascularised Hypertrophic Cartilage Microtissues for Bone Tissue Engineering. *Frontiers in Bioengineering and Biotechnology*, **2021**, 9, 661989	5.8	4
24	3D Bioprinting: 3D Bioprinting of Developmentally Inspired Templates for Whole Bone Organ Engineering (Adv. Healthcare Mater. 18/2016). *Advanced Healthcare Materials*, **2016**, 5, 2352-2352	10.1	3
23	Optimizing stem cell engineering for orthopaedic applications. *Journal of the American Academy of Orthopaedic Surgeons, The*, **2014**, 22, 63-5	4.5	3
22	Cell mechanics: The role of simulation. *Computational Methods in Applied Sciences (Springer)*, **2011**, 1-14	0.4	3
21	Improving the Intercellular Uptake and Osteogenic Potency of Calcium Phosphate via Nanocomplexation with the RALA Peptide. *Nanomaterials*, **2020**, 10,	5.4	2
20	The identification of articular cartilage and growth plate extracellular matrix-specific proteins supportive of either osteogenesis or stable chondrogenesis of stem cells. *Biochemical and Biophysical Research Communications*, **2020**, 528, 285-291	3.4	2
19	Computational Mechanobiology in Cartilage and Bone Tissue Engineering: From Cell Phenotype to Tissue Structure. *Studies in Mechanobiology, Tissue Engineering and Biomaterials*, **2012**, 341-377	0.5	2
18	Layer-specific stem cell differentiation in tri-layered tissue engineering biomaterials: Towards development of a single-stage cell-based approach for osteochondral defect repair.. *Materials Today Bio*, **2021**, 12, 100173	9.9	2
17	Patient Specific Computational Modeling in Cardiovascular Mechanics. *Lecture Notes in Computational Vision and Biomechanics*, **2012**, 61-79	0.3	2
16	Measuring and Modeling Oxygen Transport and Consumption in 3D Hydrogels Containing Chondrocytes and Stem Cells of Different Tissue Origins. *Frontiers in Bioengineering and Biotechnology*, **2021**, 9, 591126	5.8	2
15	Effects of chondrogenic priming duration on mechanoregulation of engineered cartilage. *Journal of Biomechanics*, **2021**, 125, 110580	2.9	2
14	Integrating melt electrowriting and inkjet bioprinting for engineering structurally organized articular cartilage.. *Biomaterials*, **2022**, 283, 121405	15.6	2
13	A Spheroid Model of Early and Late-Stage Osteosarcoma Mimicking the Divergent Relationship between Tumor Elimination and Bone Regeneration. *Advanced Healthcare Materials*, **2021**, e2101296	10.1	1
12	3D Bioprinting Hardware **2019**, 161-186		1
11	Development of a 3D Bioprinted Scaffold with Spatio-temporally Defined Patterns of BMP-2 and VEGF for the Regeneration of Large Bone Defects. *Bio-protocol*, **2021**, 11, e4219	0.9	1
10	Recapitulating bone development for tissue regeneration through engineered mesenchymal condensations and mechanical cues		1
9	Extracellular matrix scaffolds derived from different musculoskeletal tissues drive distinct macrophage phenotypes and direct tissue-specific cellular differentiation. *Journal of Immunology and Regenerative Medicine*, **2021**, 12, 100041	2.8	1

List of Publications

8	Soft Hydrogel Environments that Facilitate Cell Spreading and Aggregation Preferentially Support Chondrogenesis of Adult Stem Cells.. *Macromolecular Bioscience*, **2022**, e2100365	5.5	1
7	3D bioprinting for meniscus tissue engineering: a review of key components, recent developments and future opportunities. *Journal of 3D Printing in Medicine*, **2021**, 5, 213-233	1.5	0
6	Obtaining the sGAG distribution profile in articular cartilage color images. *Biomedizinische Technik*, **2019**, 64, 591-600	1.3	
5	Can the theory of critical distances predict the failure of shape memory alloys?. *Computer Methods in Biomechanics and Biomedical Engineering*, **2011**, 14, 491-6	2.1	
4	The Effect of Anterior Cruciate Ligament Reconstruction with an Electropsun Scaffold on Tibiofemoral Contact Mechanics. *Annals of Biomedical Engineering*, **2021**, 1	4.7	
3	Prediction of the Optimal Mechanical Properties for a Scaffold Used in Osteochondral Defect Repair. *Tissue Engineering*, **2006**, 060913044658011		
2	Extrusion-Based Additive Manufacturing Techniques for Biomedical Applications **2021**, 1101-1111		
1	Fused filament fabrication of polycaprolactone bioscaffolds: Influence of fabrication parameters and thermal environment on geometric fidelity and mechanical properties. *Bioprinting*, **2022**, 27, e00206	7	