Stephen D Waldman, Peng

List of Publications by Year
in descending order

113 papers	3,390 citations	186265 28 h-index	168389 53 g-index
113 all docs	113 docs citations	113 times ranked	3986 citing authors

#	Article	IF	Citations
1	Mesenchymal progenitor self-renewal deficiency leads to age-dependent osteoporosis in Sca-1/Ly-6A null mice. Proceedings of the National Academy of Sciences of the United States of America, 2003, 100, 5840-5845.	7.1	230
2	Repair of osteochondral defects with biphasic cartilage-calcium polyphosphate constructs in a Sheep model. Biomaterials, 2006, 27, 4120-4131.	11.4	179
3	Longâ€term intermittent shear deformation improves the quality of cartilaginous tissue formed in vitro. Journal of Orthopaedic Research, 2003, 21, 590-596.	2.3	158
4	Characterization of cartilagenous tissue formed on calcium polyphosphate substrates <i>in vitro</i>. Journal of Biomedical Materials Research Part B, 2002, 62, 323-330.	3.1	133
5	Long-Term Intermittent Compressive Stimulation Improves the Composition and Mechanical Properties of Tissue-Engineered Cartilage. Tissue Engineering, 2004, 10, 1323-1331.	4.6	132
6	EFFECT OF BIOMECHANICAL CONDITIONING ON CARTILAGINOUS TISSUE FORMATION IN VITRO. Journal of Bone and Joint Surgery - Series A, 2003, 85, 101-105.	3.0	127
7	Advanced cell culture platforms: a growing quest for emulating natural tissues. Materials Horizons, 2019, 6, 45-71.	12.2	114
8	The steroidal aromatase inhibitor exemestane prevents bone loss in ovariectomized rats. Bone, 2004, 34, 384-392.	2.9	113
9	A single application of cyclic loading can accelerate matrix deposition and enhance the properties of tissue-engineered cartilage. Osteoarthritis and Cartilage, 2006, 14, 323-330.	1.3	88
10	The use of specific chondrocyte populations to modulate the properties of tissue-engineered cartilage. Journal of Orthopaedic Research, 2003, 21, 132-138.	2.3	87
11	Tissue Engineered Nucleus Pulposus Tissue Formed on a Porous Calcium Polyphosphate Substrate. Spine, 2004, 29, 1299-1306.	2.0	86
12	Polycyclic aromatic hydrocarbons present in cigarette smoke cause bone loss in an ovariectomized rat model. Bone, 2002, 30, 917-923.	2.9	80
13	Genipin Cross-Linked Fibrin Hydrogels for in vitro Human Articular Cartilage Tissue-Engineered Regeneration. Cells Tissues Organs, 2009, 190, 313-325.	2.3	73
14	From In Vitro to In Situ Tissue Engineering. Annals of Biomedical Engineering, 2014, 42, 1537-1545.	2.5	73
15	Effect of Sodium Bicarbonate on Extracellular pH, Matrix Accumulation, and Morphology of Cultured Articular Chondrocytes. Tissue Engineering, 2004, 10, 1633-1640.	4.6	64
16	Multi-axial mechanical stimulation of tissue engineered cartilage: Review. , 2007, 13, 66-75.		62
17	Biomimetic poly(lactide) based fibrous scaffolds for ligament tissue engineering. Acta Biomaterialia, 2012, 8, 3997-4006.	8.3	57
18	Self-Crimping, Biodegradable, Electrospun Polymer Microfibers. Biomacromolecules, 2010, 11, 3624-3629.	5.4	56

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19	Boundary conditions during biaxial testing of planar connective tissues. Part 1: dynamic behavior. Journal of Materials Science: Materials in Medicine, 2002, 13, 933-938.	3.6	54
20	Effect of sample geometry on the apparent biaxial mechanical behaviour of planar connective tissues. Biomaterials, 2005, 26, 7504-7513.	11.4	51
21	Microarchitecture for a Threeâ€Dimensional Wrinkled Surface Platform. Advanced Materials, 2015, 27, 1880-1886.	21.0	45
22	A crimp-like microarchitecture improves tissue production in fibrous ligament scaffolds in response to mechanical stimuli. Acta Biomaterialia, 2012, 8, 3704-3713.	8.3	43
23	Wrinkling Non-Spherical Particles and Its Application in Cell Attachment Promotion. Scientific Reports, 2016, 6, 30463.	3.3	42
24	Effect of Zoledronate on Bone Quality in the Treatment of Aseptic Loosening of Hip Arthroplasty in the Dog. Calcified Tissue International, 2005, 77, 367-375.	3.1	36
25	The Effect of Serial Passaging on the Proliferation and Differentiation of Bovine Adipose-Derived Stem Cells. Cells Tissues Organs, 2012, 195, 414-427.	2.3	33
26	A novel tantalum-containing bioglass. Part II. Development of a bioadhesive for sternal fixation and repair. Materials Science and Engineering C, 2017, 71, 401-411.	7.3	33
27	The Effect of Intermittent Static Biaxial Tensile Strains on Tissue Engineered Cartilage. Annals of Biomedical Engineering, 2010, 38, 1672-1682.	2.5	31
28	The Application of Multiple Biophysical Cues to Engineer Functional Neocartilage for Treatment of Osteoarthritis. Part I: Cellular Response. Tissue Engineering - Part B: Reviews, 2015, 21, 1-19.	4.8	31
29	Genetic Hypercalciuric Stone-Forming Rats Have a Primary Decrease in BMD and Strength. Journal of Bone and Mineral Research, 2009, 24, 1420-1426.	2.8	30
30	Nasal Morphology and Shape Parameters as Predictors of Nasal Esthetics in Individuals With Complete Unilateral Cleft Lip and Palate. Cleft Palate-Craniofacial Journal, 2001, 38, 476-485.	0.9	29
31	The effect of continuous culture on the growth and structure of tissueâ€engineered cartilage. Biotechnology Progress, 2009, 25, 508-515.	2.6	28
32	Mechanical vibrations increase the proliferation of articular chondrocytes in high-density culture. Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine, 2008, 222, 695-703.	1.8	27
33	Design and characterization of a biodegradable composite scaffold for ligament tissue engineering. Journal of Biomedical Materials Research - Part A, 2010, 92A, 1407-1420.	4.0	27
34	Growth Factor Stimulation Improves the Structure and Properties of Scaffold-Free Engineered Auricular Cartilage Constructs. PLoS ONE, 2014, 9, e105170.	2.5	26
35	Thyroxine Increases Collagen Type II Expression and Accumulation in Scaffold-Free Tissue-Engineered Articular Cartilage. Tissue Engineering - Part A, 2018, 24, 369-381.	3.1	26
36	Boundary conditions during biaxial testing of planar connective tissues Part II Fiber orientation. Journal of Materials Science Letters, 2002, 21, 1215-1221.	0.5	24

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37	Formation of Hyaline Cartilage Tissue by Passaged Human Osteoarthritic Chondrocytes. Tissue Engineering - Part A, 2017, 23, 156-165.	3.1	24
38	Dynamic Contact Stress and Rolling Resistance Model for Total Knee Arthroplasties. Journal of Biomechanical Engineering, 1997, 119, 254-260.	1.3	23
39	Thermomechanical analysis of collagen crosslinking in the developing lamb pericardium. Biorheology, 1998, 35, 1-16.	0.4	23
40	Titanium addition influences antibacterial activity of bioactive glass coatings on metallic implants. Heliyon, 2017, 3, e00420.	3.2	23
41	Characterization of a novel decellularized bone marrow scaffold as an inductive environment for hematopoietic stem cells. Biomaterials Science, 2019, 7, 1516-1528.	5.4	23
42	Characterization of Mechanical and Dielectric Properties of Silicone Rubber. Polymers, 2021, 13, 1831.	4.5	23
43	Morphology of fibroblasts grown on substrates formed by dielectrophoretically aligned carbon nanotubes. Cytotechnology, 2008, 56, 9-17.	1.6	22
44	Minimizing specimen length in elastic testing of end-constrained cancellous bone. Journal of the Mechanical Behavior of Biomedical Materials, 2010, 3, 22-30.	3.1	22
45	Comparisons of Auricular Cartilage Tissues from Different Species. Annals of Otology, Rhinology and Laryngology, 2017, 126, 819-828.	1.1	22
46	Computer-assisted mosaic arthroplasty using patient-specific instrument guides. Knee Surgery, Sports Traumatology, Arthroscopy, 2012, 20, 857-861.	4.2	21
47	Specimen size effect in the volumetric shrinkage of cancellous bone measured at two levels of dehydration. Journal of Biomechanics, 2007, 40, 1903-1909.	2.1	20
48	Effects of dehydration-induced structural and material changes on the apparent modulus of cancellous bone. Medical Engineering and Physics, 2010, 32, 921-925.	1.7	20
49	Chondrocyte repopulation of the zone of death induced by osteochondral harvest. Osteoarthritis and Cartilage, 2011, 19, 242-248.	1.3	20
50	Harnessing the purinergic receptor pathway to develop functional engineered cartilage constructs. Osteoarthritis and Cartilage, 2010, 18, 864-872.	1.3	19
51	Specimen diameter and â€œside artifactsâ€•in cancellous bone evaluated using end-constrained elastic tension. Bone, 2010, 47, 371-377.	2.9	19
52	Calcium signaling as a novel method to optimize the biosynthetic response of chondrocytes to dynamic mechanical loading. Biomechanics and Modeling in Mechanobiology, 2014, 13, 1387-1397.	2.8	19
53	Clodronate exerts an anabolic effect on articular chondrocytes mediated through the purinergic receptor pathway. Osteoarthritis and Cartilage, 2014, 22, 1327-1336.	1.3	19
54	Photo-cross-linked methacrylated polysaccharide solution blends with high chondrocyte viability, minimal swelling, and moduli similar to load bearing soft tissues. European Polymer Journal, 2015, 72, 687-697.	5.4	19

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55	Implantation of Scaffoldâ€Free Engineered Cartilage Constructs in a Rabbit Model for Chondral Resurfacing. Artificial Organs, 2014, 38, E21-32.	1.9	18
56	Differential Effects of Natriuretic Peptide Stimulation on Tissue-Engineered Cartilage. Tissue Engineering - Part A, 2008, 14, 441-448.	3.1	17
57	Development of large engineered cartilage constructs from a small population of cells. Biotechnology Progress, 2013, 29, 213-221.	2.6	17
58	The Role of Poly(Methyl Methacrylate) in Management of Bone Loss and Infection in Revision Total Knee Arthroplasty: A Review. Journal of Functional Biomaterials, 2020, 11, 25.	4.4	17
59	Sex differences in long bone fatigue using a rat model. Journal of Orthopaedic Research, 2006, 24, 1926-1932.	2.3	16
60	Stochastic resonance is a method to improve the biosynthetic response of chondrocytes to mechanical stimulation. Journal of Orthopaedic Research, 2016, 34, 231-239.	2.3	16
61	Antibacterial and osteo-stimulatory effects of a borate-based glass series doped with strontium ions. Journal of Biomaterials Applications, 2016, 31, 674-683.	2.4	16
62	A review of materials for managing bone loss in revision total knee arthroplasty. Materials Science and Engineering C, 2019, 104, 109941.	7.3	16
63	Compressive stress relaxation behavior of irradiated ultra-high molecular weight polyethylene at 37Â°C. Journal of Applied Biomaterials: an Official Journal of the Society for Biomaterials, 1994, 5, 333-338.	1.2	15
64	Development of Scaffold-Free Elastic Cartilaginous Constructs with Structural Similarities to Auricular Cartilage. Tissue Engineering - Part A, 2014, 20, 1012-1026.	3.1	15
65	A Photocurable Hydrogel/Elastomer Composite Scaffold with Biâ€Continuous Morphology for Cell Encapsulation. Macromolecular Bioscience, 2011, 11, 1672-1683.	4.1	14
66	Can Microcarrier-Expanded Chondrocytes Synthesize Cartilaginous Tissue<i>In Vitro</i>?. Tissue Engineering - Part A, 2011, 17, 1959-1967.	3.1	14
67	Mechanical Stimulation of Chondrocyte-agarose Hydrogels. Journal of Visualized Experiments, 2012, , e4229.	0.3	14
68	Chondrocyte Generation of Cartilageâ€Like Tissue Following Photoencapsulation in Methacrylated Polysaccharide Solution Blends. Macromolecular Bioscience, 2016, 16, 1083-1095.	4.1	14
69	Relationship Among MRTA, DXA, and QUS. Journal of Clinical Densitometry, 2004, 7, 448-456.	1.2	13
70	The Application of Multiple Biophysical Cues to Engineer Functional Neocartilage for Treatment of Osteoarthritis. Part II: Signal Transduction. Tissue Engineering - Part B: Reviews, 2015, 21, 20-33.	4.8	13
71	Direct cell-cell communication with three-dimensional cell morphology on wrinkled microposts. Acta Biomaterialia, 2018, 78, 89-97.	8.3	13
72	Tantalum-containing mesoporous bioactive glass powder for hemostasis. Journal of Biomaterials Applications, 2021, 35, 924-932.	2.4	13

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73	Are micropatterned substrates for directed cell organization an effective method to create ordered 3D tissue constructs?. Journal of Tissue Engineering and Regenerative Medicine, 2008, 2, 450-453.	2.7	12
74	Scaffoldâ€free cartilage tissue engineering with a small population of human nasoseptal chondrocytes. Laryngoscope, 2017, 127, E91-E99.	2.0	12
75	Injectable, High Modulus, And Fatigue Resistant Composite Scaffold for Load-Bearing Soft Tissue Regeneration. Biomacromolecules, 2013, 14, 4236-4247.	5.4	11
76	Development of a novel bioactive glass suitable for osteosarcomaâ€related bone grafts. Journal of Biomedical Materials Research - Part B Applied Biomaterials, 2018, 106, 1186-1193.	3.4	11
77	Effect of TiO2 doping on degradation rate, microstructure and strength of borate bioactive glass scaffolds. Materials Science and Engineering C, 2020, 107, 110351.	7.3	11
78	In vitro evaluation of novel titaniaâ€containing borate bioactive glass scaffolds. Journal of Biomedical Materials Research - Part A, 2021, 109, 146-158.	4.0	11
79	Human-engineered auricular reconstruction (hEAR) by 3D-printed molding with human-derived auricular and costal chondrocytes and adipose-derived mesenchymal stem cells. Biofabrication, 2022, 14, 015010.	7.1	11
80	Video-Imaging Assessment of Nasal Morphology in Individuals With Complete Unilateral Cleft Lip and Palate. Cleft Palate-Craniofacial Journal, 2000, 37, 542-550.	0.9	9
81	The Effect of Moving Point of Contact Stimulation on Chondrocyte Gene Expression and Localization in Tissue Engineered Constructs. Annals of Biomedical Engineering, 2013, 41, 1106-1119.	2.5	8
82	Engineering of scaffoldâ€free triâ€layered auricular tissues for external ear reconstruction. Laryngoscope, 2019, 129, E272-E283.	2.0	8
83	Stochastic Resonance with Dynamic Compression Improves the Growth of Adult Chondrocytes in Agarose Gel Constructs. Annals of Biomedical Engineering, 2019, 47, 243-256.	2.5	8
84	The Therapeutic Potential of Exogenous Adenosine Triphosphate (ATP) for Cartilage Tissue Engineering. Cartilage, 2012, 3, 364-373.	2.7	7
85	Multilineage co-culture of adipose-derived stem cells for tissue engineering. Journal of Tissue Engineering and Regenerative Medicine, 2015, 9, 826-837.	2.7	7
86	Mechanobioreactors for Cartilage Tissue Engineering. Methods in Molecular Biology, 2015, 1340, 203-219.	0.9	7
87	Failure behaviour of rat vertebrae determined through simultaneous compression testing and micro-CT imaging. Journal of the Mechanical Behavior of Biomedical Materials, 2018, 79, 73-82.	3.1	7
88	Glycogen storage in tissue-engineered cartilage. Journal of Tissue Engineering and Regenerative Medicine, 2008, 2, 340-346.	2.7	6
89	Effect of circumferential constraint on nucleus pulposus tissue in vitro. Spine Journal, 2010, 10, 174-183.	1.3	6
90	Image-Guided Techniques Improve the Short-Term Outcome of Autologous Osteochondral Cartilage Repair Surgeries. Cartilage, 2013, 4, 153-164.	2.7	6

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91	Long-Term Intermittent Compressive Stimulation Improves the Composition and Mechanical Properties of Tissue-Engineered Cartilage. Tissue Engineering, 2004, 10, 1323-1331.	4.6	6
92	Tunable Multiplanar Nanowrinkled Surface Platform. Advanced Materials Interfaces, 2018, 5, 1800663.	3.7	5
93	Effect of nutrient metabolism on cartilaginous tissue formation. Biotechnology and Bioengineering, 2021, 118, 4119-4128.	3.3	5
94	Lithium chloride-induced primary cilia recovery enhances biosynthetic response of chondrocytes to mechanical stimulation. Biomechanics and Modeling in Mechanobiology, 2022, 21, 605-614.	2.8	5
95	Seeing tissue as a â€˜phase of matterâ€™: exploring statistical mechanics for the cell. Physical Biology, 2008, 5, 016007.	1.8	3
96	Generating Mechanically Stable, Pediatric, and Scaffold-Free Nasal Cartilage Constructs<i>In Vitro</i>. Tissue Engineering - Part C: Methods, 2016, 22, 1077-1084.	2.1	3
97	Cell Cycle Synchronization of Primary Articular Chondrocytes Enhances Chondrogenesis. Cartilage, 2021, 12, 526-535.	2.7	3
98	Automated Planning of Computer Assisted Mosaic Arthroplasty. Lecture Notes in Computer Science, 2011, 14, 267-274.	1.3	3
99	Direct and indirect co-culture of bone marrow stem cells and adipose-derived stem cells with chondrocytes in 3D scaffold-free culture. Journal of Regenerative Medicine & Tissue Engineering, 2016, 5, 1.	1.5	3
100	Bioengineering pediatric scaffoldâ€free auricular cartilaginous constructs. Laryngoscope, 2017, 127, E153-E158.	2.0	2
101	Mechanical Stimulation Methods for Cartilage Tissue Engineering. , 2018, , 123-147.		2
102	Calcium sulfateâ€containing glass polyalkenoate cement for revision total knee arthroplasty fixation. Journal of Biomedical Materials Research - Part B Applied Biomaterials, 2020, 108, 3356-3369.	3.4	2
103	Prediction of the Repair Surface over Cartilage Defects: A Comparison of Three Methods in a Sheep Model. Lecture Notes in Computer Science, 2009, 12, 75-82.	1.3	2
104	Mechanical characterization of a novel cell stimulating system (CSS) to apply dynamic, uniform and isotropic biaxial strains to cells in vitro. Biomedical Sciences Instrumentation, 2002, 38, 215-20.	0.2	2
105	In Situ and ExÂVivo Biomechanical Testing of Articular Cartilage. , 2017, , 331-347.		1
106	Comparative Evaluation of Two Glass Polyalkenoate Cements: An In Vivo Pilot Study Using a Sheep Model. Journal of Functional Biomaterials, 2021, 12, 44.	4.4	1
107	Natural Scaffold, from Bovine Bone Marrow, Reproduces Native Microenvironment and Supports CD34+ and Stromal Cells. Blood, 2015, 126, 2400-2400.	1.4	1
108	Optimization of culture media to enhance the growth of tissue engineered cartilage. Biotechnology Progress, 2020, 36, e3017.	2.6	1

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109	Vibration Monitoring in Wear Testing of Orthopaedic Biomaterials. , 0, , 46-46-16.		1
110	TRPV4 activation enhances compressive properties and glycosaminoglycan deposition of equine neocartilage sheets. Osteoarthritis and Cartilage Open, 2022, 4, 100263.	2.0	1
111	Development of a Multi-axial Mechanical Cell Stimulator. Journal of Intelligent Material Systems and Structures, 2010, 21, 213-220.	2.5	0
112	Differential Effects of Natriuretic Peptide Stimulation on Tissue-Engineered Cartilage. Tissue Engineering, 0, , 110306233438005.	4.6	0
113	Generation of double-layered equine mesenchymal stromal cell-derived osteochondral constructs. Journal of Cartilage & Joint Preservation, 2022, , 100036.	0.5	0