Tim B F Woodfield

List of Publications by Citations

116 papers	5,665 citations	38 h-index	74 g-index
129 ext. papers	6,843 ext. citations	7.7 avg, IF	5.87 L-index

#	Paper	IF	Citations
116	Design of porous scaffolds for cartilage tissue engineering using a three-dimensional fiber-deposition technique. *Biomaterials*, **2004**, 25, 4149-61	15.6	532
115	Biofabrication: reappraising the definition of an evolving field. *Biofabrication*, **2016**, 8, 013001	10.5	387
114	Biofabrication: A Guide to Technology and Terminology. *Trends in Biotechnology*, **2018**, 36, 384-402	15.1	309
113	A definition of bioinks and their distinction from biomaterial inks. *Biofabrication*, **2018**, 11, 013001	10.5	273
112	Polymer scaffolds fabricated with pore-size gradients as a model for studying the zonal organization within tissue-engineered cartilage constructs. *Tissue Engineering*, **2005**, 11, 1297-311		229
111	The effect of PEGT/PBT scaffold architecture on the composition of tissue engineered cartilage. *Biomaterials*, **2005**, 26, 63-72	15.6	206
110	Magnesium biomaterials for orthopedic application: a review from a biological perspective. *Journal of Biomedical Materials Research - Part B Applied Biomaterials*, **2014**, 102, 1316-31	3.5	184
109	New Visible-Light Photoinitiating System for Improved Print Fidelity in Gelatin-Based Bioinks. *ACS Biomaterials Science and Engineering*, **2016**, 2, 1752-1762	5.5	182
108	The effect of PEGT/PBT scaffold architecture on oxygen gradients in tissue engineered cartilaginous constructs. *Biomaterials*, **2004**, 25, 5773-80	15.6	168
107	Thiol-Ene Clickable Gelatin: A Platform Bioink for Multiple 3D Biofabrication Technologies. *Advanced Materials*, **2017**, 29, 1703404	24	164
106	In-vitro dissolution of magnesium-calcium binary alloys: clarifying the unique role of calcium additions in bioresorbable magnesium implant alloys. *Journal of Biomedical Materials Research - Part B Applied Biomaterials*, **2010**, 95, 91-100	3.5	155
105	Magnesium alloys: predicting in vivo corrosion with in vitro immersion testing. *Journal of Biomedical Materials Research - Part B Applied Biomaterials*, **2012**, 100, 1134-41	3.5	142
104	Effects of scaffold composition and architecture on human nasal chondrocyte redifferentiation and cartilaginous matrix deposition. *Biomaterials*, **2005**, 26, 2479-89	15.6	137
103	Bio-resin for high resolution lithography-based biofabrication of complex cell-laden constructs. *Biofabrication*, **2018**, 10, 034101	10.5	135
102	Fundamentals and Applications of Photo-Cross-Linking in Bioprinting. *Chemical Reviews*, **2020**, 120, 10662-10694	28.1	105
101	Scaffolds for tissue engineering of cartilage. *Critical Reviews in Eukaryotic Gene Expression*, **2002**, 12, 209-36	1.3	98
100	Automated 3D bioassembly of micro-tissues for biofabrication of hybrid tissue engineered constructs. *Biofabrication*, **2018**, 10, 024103	10.5	98

99	Osteogenic and angiogenic tissue formation in high fidelity nanocomposite Laponite-gelatin bioinks. *Biofabrication*, **2019**, 11, 035027	10.5	85
98	Advances in Extrusion 3D Bioprinting: A Focus on Multicomponent Hydrogel-Based Bioinks. *Advanced Healthcare Materials*, **2020**, 9, e1901648	10.1	85
97	Additive Manufacturing of a Photo-Cross-Linkable Polymer via Direct Melt Electrospinning Writing for Producing High Strength Structures. *Biomacromolecules*, **2016**, 17, 208-14	6.9	75
96	The regulation of expanded human nasal chondrocyte re-differentiation capacity by substrate composition and gas plasma surface modification. *Biomaterials*, **2006**, 27, 1043-53	15.6	72
95	Visible Light Cross-Linking of Gelatin Hydrogels Offers an Enhanced Cell Microenvironment with Improved Light Penetration Depth. *Macromolecular Bioscience*, **2019**, 19, e1900098	5.5	63
94	Buffer-regulated biocorrosion of pure magnesium. *Journal of Materials Science: Materials in Medicine*, **2012**, 23, 283-91	4.5	61
93	Rapid prototyping of anatomically shaped, tissue-engineered implants for restoring congruent articulating surfaces in small joints. *Cell Proliferation*, **2009**, 42, 485-97	7.9	59
92	A Novel Manufacturing Route for Fabrication of Topologically-Ordered Porous Magnesium Scaffolds. *Advanced Engineering Materials*, **2011**, 13, 872-881	3.5	57
91	Synthesis of topologically-ordered open-cell porous magnesium. *Materials Letters*, **2010**, 64, 2572-2574	3.3	57
90	Rational design, bio-functionalization and biological performance of hybrid additive manufactured titanium implants for orthopaedic applications: A review. *Journal of the Mechanical Behavior of Biomedical Materials*, **2020**, 105, 103671	4.1	56
89	Modular Tissue Assembly Strategies for Biofabrication of Engineered Cartilage. *Annals of Biomedical Engineering*, **2017**, 45, 100-114	4.7	55
88	Advances in Hybrid Fabrication toward Hierarchical Tissue Constructs. *Advanced Science*, **2020**, 7, 1902953	13.6	52
87	Corrosion resistance of biomimetic calcium phosphate coatings on magnesium due to varying pretreatment time. *Materials Science and Engineering B: Solid-State Materials for Advanced Technology*, **2011**, 176, 1756-1760	3.1	50
86	Synthesis and properties of topologically ordered porous magnesium. *Materials Science and Engineering B: Solid-State Materials for Advanced Technology*, **2011**, 176, 1666-1672	3.1	48
85	Validation of a high-throughput microtissue fabrication process for 3D assembly of tissue engineered cartilage constructs. *Cell and Tissue Research*, **2012**, 347, 629-642	4.2	47
84	Rapid Photocrosslinking of Silk Hydrogels with High Cell Density and Enhanced Shape Fidelity. *Advanced Healthcare Materials*, **2020**, 9, e1901667	10.1	45
83	Covalent Incorporation of Heparin Improves Chondrogenesis in Photocurable Gelatin-Methacryloyl Hydrogels. *Macromolecular Bioscience*, **2017**, 17, 1700158	5.5	40
82	Is tranexamic acid toxic to articular cartilage when administered topically? What is the safe dose?. *Bone and Joint Journal*, **2018**, 100-B, 404-412	5.6	39

81	Design and characterisation of multi-functional strontium-gelatin nanocomposite bioinks with improved print fidelity and osteogenic capacity. *Bioprinting*, **2020**, 18, e00073	7	39
80	Microchannels in Development, Survival, and Vascularisation of Tissue Analogues for Regenerative Medicine. *Trends in Biotechnology*, **2019**, 37, 1189-1201	15.1	38
79	Combinatorial approaches to controlling cell behaviour and tissue formation in 3D via rapid-prototyping and smart scaffold design. *Combinatorial Chemistry and High Throughput Screening*, **2009**, 12, 562-79	1.3	38
78	Predictive value of in vitro and in vivo assays in bone and cartilage repair--what do they really tell us about the clinical performance?. *Advances in Experimental Medicine and Biology*, **2006**, 585, 327-60	3.6	37
77	A Versatile Biosynthetic Hydrogel Platform for Engineering of Tissue Analogues. *Advanced Healthcare Materials*, **2019**, 8, e1900979	10.1	34
76	MARS spectral molecular imaging of lamb tissue: data collection and image analysis. *Journal of Instrumentation*, **2014**, 9, P02005-P02005	1	32
75	A 96-well microplate bioreactor platform supporting individual dual perfusion and high-throughput assessment of simple or biofabricated 3D tissue models. *Lab on A Chip*, **2018**, 18, 2757-2775	7.2	31
74	Scaffold design and fabrication **2008**, 403-454		30
73	Monetite and brushite coated magnesium: in vivo and in vitro models for degradation analysis. *Journal of Materials Science: Materials in Medicine*, **2014**, 25, 173-83	4.5	28
72	The in vitro and in vivo evaluation of the biocompatibility of Mg alloys. *Biomedical Materials (Bristol)* , **2014**, 9, 015006	3.5	28
71	Quantitative imaging of excised osteoarthritic cartilage using spectral CT. *European Radiology*, **2017**, 27, 384-392	8	27
70	Engineering of a complex bone tissue model with endothelialised channels and capillary-like networks. *European Cells and Materials*, **2018**, 35, 335-348	4.3	27
69	Tissue-engineered constructs: the effect of scaffold architecture in osteochondral repair. *Journal of Tissue Engineering and Regenerative Medicine*, **2013**, 7, 751-6	4.4	27
68	One-Step Photoactivation of a Dual-Functionalized Bioink as Cell Carrier and Cartilage-Binding Glue for Chondral Regeneration. *Advanced Healthcare Materials*, **2020**, 9, e1901792	10.1	25
67	The early radiological results of the uncemented Oxford medial compartment knee replacement. *Journal of Bone and Joint Surgery: British Volume*, **2012**, 94, 334-8		25
66	The importance of connexin hemichannels during chondroprogenitor cell differentiation in hydrogel versus microtissue culture models. *Tissue Engineering - Part A*, **2015**, 21, 1785-94	3.9	24
65	Stepwise Control of Crosslinking in a One-Pot System for Bioprinting of Low-Density Bioinks. *Advanced Healthcare Materials*, **2020**, 9, e1901544	10.1	24
64	Three-dimensional assembly of tissue-engineered cartilage constructs results in cartilaginous tissue formation without retainment of zonal characteristics. *Journal of Tissue Engineering and Regenerative Medicine*, **2016**, 10, 315-24	4.4	24

63	On the role of surface roughness in the corrosion of pure magnesium in vitro. *Journal of Biomedical Materials Research - Part B Applied Biomaterials*, **2012**, 100, 1310-8	3.5	23
62	Light-Activated Decellularized Extracellular Matrix-Based Bioinks for Volumetric Tissue Analogs at the Centimeter Scale. *Advanced Functional Materials*, **2021**, 31, 2011252	15.6	23
61	Reducing beam hardening effects and metal artefacts in spectral CT using Medipix3RX. *Journal of Instrumentation*, **2014**, 9, P03015-P03015	1	22
60	5.14 Biofabrication in Tissue Engineering **2017**, 236-266		22
59	Scaffold Design and Fabrication **2014**, 311-346		22
58	PROCESSING-PROPERTY RELATIONSHIPS OF AS-CAST MAGNESIUM FOAMS WITH CONTROLLABLE ARCHITECTURE. *International Journal of Modern Physics B*, **2009**, 23, 1002-1008	1.1	22
57	Positive and negative bioimprinted polymeric substrates: new platforms for cell culture. *Biofabrication*, **2015**, 7, 025002	10.5	21
56	New Frontiers for Biofabrication and Bioreactor Design in Microphysiological System Development. *Trends in Biotechnology*, **2019**, 37, 1327-1343	15.1	20
55	Small but significant: Insights and new perspectives of exosomes in cardiovascular disease. *Journal of Cellular and Molecular Medicine*, **2020**, 24, 8291-8303	5.6	17
54	Intact vitreous humor as a potential extracellular matrix hydrogel for cartilage tissue engineering applications. *Acta Biomaterialia*, **2019**, 85, 117-130	10.8	17
53	MARS-MD: rejection based image domain material decomposition. *Journal of Instrumentation*, **2018**, 13, P05020-P05020	1	17
52	A Smartphone-Enabled Portable Digital Light Processing 3D Printer. *Advanced Materials*, **2021**, 33, e2102153	21	15
51	The rates of wear of X3 highly cross-linked polyethylene at five years when coupled with a 36 mm diameter ceramic femoral head in young patients. *Bone and Joint Journal*, **2015**, 97-B, 1470-4	5.6	14
50	Hydrodynamic control of titania nanotube formation on Ti-6Al-4V alloys enhances osteogenic differentiation of human mesenchymal stromal cells. *Materials Science and Engineering C*, **2020**, 109, 110562	8.3	14
49	Growth Factor Delivery Systems for Tissue Engineering and Regenerative Medicine. *Advances in Experimental Medicine and Biology*, **2018**, 1078, 245-269	3.6	14
48	Stage-specific embryonic antigen-4 is not a marker for chondrogenic and osteogenic potential in cultured chondrocytes and mesenchymal progenitor cells. *Tissue Engineering - Part A*, **2013**, 19, 1316-26	3.9	13
47	Improving in vitro corrosion resistance of biomimetic calcium phosphate coatings for Mg substrates using calcium hydroxide layer. *Corrosion Engineering Science and Technology*, **2012**, 47, 340-345	1.7	13
46	Combined Infection Control and Enhanced Osteogenic Differentiation Capacity on Additive Manufactured Ti-6Al-4V are Mediated via Titania Nanotube Delivery of Novel Biofilm Inhibitors. *Advanced Materials Interfaces*, **2020**, 7, 1901963	4.6	10

45	Development and validation of an acoustic emission device to measure wear in total hip replacements in-vitro and in-vivo. *Biomedical Signal Processing and Control*, **2017**, 33, 281-288	4.9	9
44	High-resolution lithographic biofabrication of hydrogels with complex microchannels from low-temperature-soluble gelatin bioresins. *Materials Today Bio*, **2021**, 12, 100162	9.9	9
43	Measuring Identification and Quantification Errors in Spectral CT Material Decomposition. *Applied Sciences (Switzerland)*, **2018**, 8, 467	2.6	9
42	Orientation imaging microscopy of polycrystalline sodium chloride. *Materials Characterization*, **2010**, 61, 413-419	3.9	8
41	Visible light mediated PVA-tyramine hydrogels for covalent incorporation and tailorable release of functional growth factors. *Biomaterials Science*, **2020**, 8, 5005-5019	7.4	8
40	Effect of Photoinitiator on Precursory Stability and Curing Depth of Thiol-Ene Clickable Gelatin. *Polymers*, **2021**, 13,	4.5	8
39	Acoustic Emission Monitoring of Total Hip Arthroplasty Implants. *IFAC Postprint Volumes IPPV / International Federation of Automatic Control*, **2014**, 47, 4796-4800		7
38	Signal processing and event detection of hip implant acoustic emissions. *Control Engineering Practice*, **2017**, 58, 287-297	3.9	7
37	Integrated system for 3D assembly of bio-scaffolds and cells **2010**,		7
36	Biological function following radical photo-polymerization of biomedical polymers and surrounding tissues: Design considerations and cellular risk factors. *Applied Physics Reviews*, **2021**, 8, 011301	17.3	7
35	First human imaging with MARS photon-counting CT **2018**,		7
34	Injection-Free Delivery of MSC-Derived Extracellular Vesicles for Myocardial Infarction Therapeutics. *Advanced Healthcare Materials*, **2021**, e2100312	10.1	7
33	Converging functionality: Strategies for 3D hybrid-construct biofabrication and the role of composite biomaterials for skeletal regeneration. *Acta Biomaterialia*, **2021**, 132, 188-216	10.8	7
32	Topology Optimization of Porous Lattice Structures for Orthopaedic Implants. *IFAC Postprint Volumes IPPV / International Federation of Automatic Control*, **2014**, 47, 9907-9912		6
31	Participation and quality of life outcomes among individuals with earthquake-related physical disability: A systematic review. *Journal of Rehabilitation Medicine*, **2015**, 47, 385-93	3.4	6
30	Probing Multicellular Tissue Fusion of Cocultured Spheroids-A 3D-Bioassembly Model. *Advanced Science*, **2021**, 8, e2103320	13.6	6
29	Silk fibroin photo-lyogels containing microchannels as a biomaterial platform for tissue engineering. *Biomaterials Science*, **2020**, 8, 7093-7105	7.4	6
28	MI192 induced epigenetic reprogramming enhances the therapeutic efficacy of human bone marrows stromal cells for bone regeneration. *Bone*, **2021**, 153, 116138	4.7	6

27	Biaxial mechanics of 3D fiber deposited ply-laminate scaffolds for soft tissue engineering part I: Experimental evaluation. *Journal of the Mechanical Behavior of Biomedical Materials*, **2019**, 98, 317-326	4.1	5
26	Tissue Attenuation Characteristics of Acoustic Emission Signals for Wear and Degradation of Total Hip Arthroplasty Implants. *IFAC Postprint Volumes IPPV / International Federation of Automatic Control*, **2012**, 45, 355-360		5
25	Cell nutrition **2008**, 327-362		5
24	Biofilm Inhibition via Delivery of Novel Methylthioadenosine Nucleosidase Inhibitors from PVA-Tyramine Hydrogels while Supporting Mesenchymal Stromal Cell Viability. *ACS Biomaterials Science and Engineering*, **2019**, 5, 748-758	5.5	5
23	Controlling in vitro corrosion rate of pure Mg with rough surface texture via biomimetic coating systems. *Corrosion Engineering Science and Technology*, **2012**, 47, 358-364	1.7	4
22	Fabrication of polymeric substrates with micro- and nanoscale topography bioimprinted at progressive cell morphologies. *Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics*, **2012**, 30, 06F902	1.3	4
21	Next Evolution in organ-scale Biofabrication: Bioresin Design for Rapid high-resolution Vat Polymerization.. *Advanced Materials*, **2022**, e2107759	24	4
20	Development and Characterization of Gelatin-Norbornene Bioink to Understand the Interplay between Physical Architecture and Micro-Capillary Formation in Biofabricated Vascularized Constructs. *Advanced Healthcare Materials*, **2021**, e2101873	10.1	4
19	Hybrid biofabrication of 3D osteoconductive constructs comprising Mg-based nanocomposites and cell-laden bioinks for bone repair. *Bone*, **2022**, 154, 116198	4.7	4
18	Return to work for severely injured survivors of the Christchurch earthquake: influences in the first 2 years. *Disability and Rehabilitation*, **2016**, 38, 987-93	2.4	3
17	Allogeneic mesenchymal stromal cells for cartilage regeneration: A review of in vitro evaluation, clinical experience, and translational opportunities. *Stem Cells Translational Medicine*, **2021**, 10, 1500-1515	6.9	3
16	The advances in nanomedicine for bone and cartilage repair.. *Journal of Nanobiotechnology*, **2022**, 20, 141	9.4	3
15	Squeaking in ceramic-on-ceramic hips: No evidence of contribution from the trunnion morse taper. *Journal of Orthopaedic Research*, **2017**, 35, 1793-1798	3.8	2
14	Injection system for cellular assembly of 3D bio-tissue engineered constructs **2012**,		2
13	Measurement of early wear rates with X3 polyethylene and 36-mm femoral heads in young patients a prospective study. *Current Orthopaedic Practice*, **2013**, 24, 641-646	0.4	2
12	Overcoming functional challenges in autologous and engineered fat grafting trends. *Trends in Biotechnology*, **2021**,	15.1	2
11	Spectral CT imaging of human osteoarthritic cartilage via quantitative assessment of glycosaminoglycan content using multiple contrast agents. *APL Bioengineering*, **2021**, 5, 026101	6.6	2
10	Surface finishing of additively manufactured stainless steel surgical instruments. *Rapid Prototyping Journal*, **2021**, 27, 59-70	3.8	2

9	Impact of COVID-19 on health research in New Zealand: a case study of a research-intensive campus. *Journal of the Royal Society of New Zealand*, **2021**, 51, S75-S85	2	2
8	**2018**,		2
7	Strategies for inclusion of growth factors into 3D printed bone grafts. *Essays in Biochemistry*, **2021**, 65, 569-585	7.6	2
6	Establishing a method to measure bone structure using spectral CT **2017**,		1
5	How do 3D-printed primary uncemented acetabular components compare with established uncemented acetabular cups? The experience of the New Zealand National Joint Registry. *HIP International*, **2020**, 1120700020918233	1.7	1
4	Cepstrum Analysis for Determining the Fundamental Frequency of Total Hip Replacement Acoustic Emissions. *IFAC-PapersOnLine*, **2017**, 50, 9932-9937	0.7	1
3	A Smartphone-Enabled Portable Digital Light Processing 3D Printer (Adv. Mater. 35/2021). *Advanced Materials*, **2021**, 33, 2170271	24	1
2	Novel Growth Factor Combination for Improving Rotator Cuff Repair: A Rat In Vivo Study.. *American Journal of Sports Medicine*, **2022**, 3635465211072557	6.8	0
1	Optimizing porous lattice structures for orthopaedic implants. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2015**, 2015, 2450-3	0.9	