Tim B F Woodfield

List of Publications by Year
in descending order

125 papers	8,099 citations	66315 42 h-index	51562 86 g-index
129 all docs	129 docs citations	129 times ranked	7597 citing authors

#	Article	IF	Citations
1	Design of porous scaffolds for cartilage tissue engineering using a three-dimensional fiber-deposition technique. Biomaterials, 2004, 25, 4149-4161.	5.7	580
2	Biofabrication: reappraising the definition of an evolving field. Biofabrication, 2016, 8, 013001.	3.7	523
3	A definition of bioinks and their distinction from biomaterial inks. Biofabrication, 2019, 11, 013001.	3.7	480
4	Biofabrication: A Guide to Technology and Terminology. Trends in Biotechnology, 2018, 36, 384-402.	4.9	465
5	New Visible-Light Photoinitiating System for Improved Print Fidelity in Gelatin-Based Bioinks. ACS Biomaterials Science and Engineering, 2016, 2, 1752-1762.	2.6	259
6	Magnesium biomaterials for orthopedic application: A review from a biological perspective. Journal of Biomedical Materials Research - Part B Applied Biomaterials, 2014, 102, 1316-1331.	1.6	256
7	Thiolâ€“Ene Clickable Gelatin: A Platform Bioink for Multiple 3D Biofabrication Technologies. Advanced Materials, 2017, 29, 1703404.	11.1	248
8	Polymer Scaffolds Fabricated with Pore-Size Gradients as a Model for Studying the Zonal Organization within Tissue-Engineered Cartilage Constructs. Tissue Engineering, 2005, 11, 1297-1311.	4.9	246
9	Fundamentals and Applications of Photo-Cross-Linking in Bioprinting. Chemical Reviews, 2020, 120, 10662-10694.	23.0	222
10	The effect of PEGT/PBT scaffold architecture on the composition of tissue engineered cartilage. Biomaterials, 2005, 26, 63-72.	5.7	218
11	Bio-resin for high resolution lithography-based biofabrication of complex cell-laden constructs. Biofabrication, 2018, 10, 034101.	3.7	216
12	Advances in Extrusion 3D Bioprinting: A Focus on Multicomponent Hydrogelâ€Based Bioinks. Advanced Healthcare Materials, 2020, 9, e1901648.	3.9	190
13	<i>Inâ€vitro</i> dissolution of magnesiumâ€“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, 95B, 91-100.	1.6	180
14	Magnesium alloys: Predicting <i>in vivo</i> corrosion with <i>in vitro</i> immersion testing. Journal of Biomedical Materials Research - Part B Applied Biomaterials, 2012, 100B, 1134-1141.	1.6	178
15	The effect of PEGT/PBT scaffold architecture on oxygen gradients in tissue engineered cartilaginous constructs. Biomaterials, 2004, 25, 5773-5780.	5.7	174
16	Effects of scaffold composition and architecture on human nasal chondrocyte redifferentiation and cartilaginous matrix deposition. Biomaterials, 2005, 26, 2479-2489.	5.7	151
17	Osteogenic and angiogenic tissue formation in high fidelity nanocomposite Laponite-gelatin bioinks. Biofabrication, 2019, 11, 035027.	3.7	142
18	Automated 3D bioassembly of micro-tissues for biofabrication of hybrid tissue engineered constructs. Biofabrication, 2018, 10, 024103.	3.7	137

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19	Visible Light Crossâ€Linking of Gelatin Hydrogels Offers an Enhanced Cell Microenvironment with Improved Light Penetration Depth. Macromolecular Bioscience, 2019, 19, e1900098.	2.1	127
20	Scaffolds for Tissue Engineering of Cartilage. Critical Reviews in Eukaryotic Gene Expression, 2002, 12, 209-236.	0.4	116
21	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.	1.5	97
22	Rapid Photocrosslinking of Silk Hydrogels with High Cell Density and Enhanced Shape Fidelity. Advanced Healthcare Materials, 2020, 9, e1901667.	3.9	96
23	Advances in Hybrid Fabrication toward Hierarchical Tissue Constructs. Advanced Science, 2020, 7, 1902953.	5.6	86
24	Additive Manufacturing of a Photo-Cross-Linkable Polymer via Direct Melt Electrospinning Writing for Producing High Strength Structures. Biomacromolecules, 2016, 17, 208-214.	2.6	85
25	The regulation of expanded human nasal chondrocyte re-differentiation capacity by substrate composition and gas plasma surface modification. Biomaterials, 2006, 27, 1043-1053.	5.7	78
26	Modular Tissue Assembly Strategies for Biofabrication of Engineered Cartilage. Annals of Biomedical Engineering, 2017, 45, 100-114.	1.3	78
27	Buffer-regulated biocorrosion of pure magnesium. Journal of Materials Science: Materials in Medicine, 2012, 23, 283-291.	1.7	70
28	A Versatile Biosynthetic Hydrogel Platform for Engineering of Tissue Analogues. Advanced Healthcare Materials, 2019, 8, e1900979.	3.9	69
29	A Novel Manufacturing Route for Fabrication of Topologicallyâ€Ordered Porous Magnesium Scaffolds. Advanced Engineering Materials, 2011, 13, 872-881.	1.6	68
30	Rapid prototyping of anatomically shaped, tissueâ€engineered implants for restoring congruent articulating surfaces in small joints. Cell Proliferation, 2009, 42, 485-497.	2.4	67
31	Synthesis of topologically-ordered open-cell porous magnesium. Materials Letters, 2010, 64, 2572-2574.	1.3	66
32	Is tranexamic acid toxic to articular cartilage when administered topically?. Bone and Joint Journal, 2018, 100-B, 404-412.	1.9	65
33	Lightâ€Activated Decellularized Extracellular Matrixâ€Based Bioinks for Volumetric Tissue Analogs at the Centimeter Scale. Advanced Functional Materials, 2021, 31, 2011252.	7.8	64
34	Covalent Incorporation of Heparin Improves Chondrogenesis in Photocurable Gelatinâ€Methacryloyl Hydrogels. Macromolecular Bioscience, 2017, 17, 1700158.	2.1	63
35	Synthesis and properties of topologically ordered porous magnesium. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2011, 176, 1666-1672.	1.7	60
36	Design and characterisation of multi-functional strontium-gelatin nanocomposite bioinks with improved print fidelity and osteogenic capacity. Bioprinting, 2020, 18, e00073.	2.9	60

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37	Validation of a high-throughput microtissue fabrication process for 3D assembly of tissue engineered cartilage constructs. Cell and Tissue Research, 2012, 347, 629-642.	1.5	59
38	Microchannels in Development, Survival, and Vascularisation of Tissue Analogues for Regenerative Medicine. Trends in Biotechnology, 2019, 37, 1189-1201.	4.9	58
39	Oneâ€Step Photoactivation of a Dualâ€Functionalized Bioink as Cell Carrier and Cartilageâ€Binding Glue for Chondral Regeneration. Advanced Healthcare Materials, 2020, 9, e1901792.	3.9	56
40	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.	1.7	55
41	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.	3.1	47
42	A Smartphoneâ€Enabled Portable Digital Light Processing 3D Printer. Advanced Materials, 2021, 33, e2102153.	11.1	45
43	On the role of surface roughness in the corrosion of pure magnesium <i>in vitro</i>. Journal of Biomedical Materials Research - Part B Applied Biomaterials, 2012, 100B, 1310-1318.	1.6	43
44	The advances in nanomedicine for bone and cartilage repair. Journal of Nanobiotechnology, 2022, 20, 141.	4.2	43
45	Quantitative imaging of excised osteoarthritic cartilage using spectral CT. European Radiology, 2017, 27, 384-392.	2.3	42
46	MARS spectral molecular imaging of lamb tissue: data collection and image analysis. Journal of Instrumentation, 2014, 9, P02005-P02005.	0.5	40
47	Engineering of a complex bone tissue model with endothelialised channels and capillary-like networks. , 2018, 35, 335-349.		40
48	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, 562-579.	0.6	39
49	Predictive Value of In Vitro and In Vivo Assays in Bone and Cartilage Repair â€" What do They Really Tell Us about the Clinical Performance?. Advances in Experimental Medicine and Biology, 2006, 585, 327-360.	0.8	39
50	High-resolution lithographic biofabrication of hydrogels with complex microchannels from low-temperature-soluble gelatin bioresins. Materials Today Bio, 2021, 12, 100162.	2.6	38
51	The <i>in vitro</i> and <i>in vivo</i> evaluation of the biocompatibility of Mg alloys. Biomedical Materials (Bristol), 2014, 9, 015006.	1.7	37
52	Stepwise Control of Crosslinking in a Oneâ€Pot System for Bioprinting of Lowâ€Density Bioinks. Advanced Healthcare Materials, 2020, 9, e1901544.	3.9	37
53	Injectionâ€Free Delivery of MSCâ€Derived Extracellular Vesicles for Myocardial Infarction Therapeutics. Advanced Healthcare Materials, 2022, 11, e2100312.	3.9	34
54	Monetite and brushite coated magnesium: in vivo and in vitro models for degradation analysis. Journal of Materials Science: Materials in Medicine, 2014, 25, 173-183.	1.7	33

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55	Reducing beam hardening effects and metal artefacts in spectral CT using Medipix3RX. Journal of Instrumentation, 2014, 9, P03015-P03015.	0.5	33
56	Scaffold design and fabrication. , 2008, , 403-454.		32
57	Scaffold Design and Fabrication. , 2014, , 311-346.		32
58	Tissue-engineered constructs: the effect of scaffold architecture in osteochondral repair. Journal of Tissue Engineering and Regenerative Medicine, 2013, 7, 751-756.	1.3	31
59	New Frontiers for Biofabrication and Bioreactor Design in Microphysiological System Development. Trends in Biotechnology, 2019, 37, 1327-1343.	4.9	30
60	Next Evolution in Organâ€Scale Biofabrication: Bioresin Design for Rapid Highâ€Resolution Vat Polymerization. Advanced Materials, 2022, 34, e2107759.	11.1	30
61	Small but significant: Insights and new perspectives of exosomes in cardiovascular disease. Journal of Cellular and Molecular Medicine, 2020, 24, 8291-8303.	1.6	29
62	Development and Characterization of Gelatinâ€Norbornene Bioink to Understand the Interplay between Physical Architecture and Microâ€Capillary Formation in Biofabricated Vascularized Constructs. Advanced Healthcare Materials, 2022, 11, e2101873.	3.9	28
63	The early radiological results of the uncemented Oxford medial compartment knee replacement. Journal of Bone and Joint Surgery: British Volume, 2012, 94-B, 334-338.	3.4	27
64	Positive and negative bioimprinted polymeric substrates: new platforms for cell culture. Biofabrication, 2015, 7, 025002.	3.7	27
65	Visible light mediated PVA-tyramine hydrogels for covalent incorporation and tailorable release of functional growth factors. Biomaterials Science, 2020, 8, 5005-5019.	2.6	27
66	PROCESSING-PROPERTY RELATIONSHIPS OF AS-CAST MAGNESIUM FOAMS WITH CONTROLLABLE ARCHITECTURE. International Journal of Modern Physics B, 2009, 23, 1002-1008.	1.0	26
67	The Importance of Connexin Hemichannels During Chondroprogenitor Cell Differentiation in Hydrogel Versus Microtissue Culture Models. Tissue Engineering - Part A, 2015, 21, 1785-1794.	1.6	26
68	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, 315-324.	1.3	26
69	5.14 Biofabrication in Tissue Engineering â˜†. , 2017, , 236-266.		26
70	Hybrid biofabrication of 3D osteoconductive constructs comprising Mg-based nanocomposites and cell-laden bioinks for bone repair. Bone, 2022, 154, 116198.	1.4	25
71	MARS-MD: rejection based image domain material decomposition. Journal of Instrumentation, 2018, 13, P05020-P05020.	0.5	24
72	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.	3.8	24

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73	Growth Factor Delivery Systems for Tissue Engineering and Regenerative Medicine. Advances in Experimental Medicine and Biology, 2018, 1078, 245-269.	0.8	22
74	Effect of Photoinitiator on Precursory Stability and Curing Depth of Thiol-Ene Clickable Gelatin. Polymers, 2021, 13, 1877.	2.0	21
75	Converging functionality: Strategies for 3D hybrid-construct biofabrication and the role of composite biomaterials for skeletal regeneration. Acta Biomaterialia, 2021, 132, 188-216.	4.1	21
76	Probing Multicellular Tissue Fusion of Cocultured Spheroidsâ€"A 3Dâ€Bioassembly Model. Advanced Science, 2021, 8, e2103320.	5.6	21
77	Intact vitreous humor as a potential extracellular matrix hydrogel for cartilage tissue engineering applications. Acta Biomaterialia, 2019, 85, 117-130.	4.1	20
78	Combined Infection Control and Enhanced Osteogenic Differentiation Capacity on Additive Manufactured Tiâ€6Alâ€4V are Mediated via Titania Nanotube Delivery of Novel Biofilm Inhibitors. Advanced Materials Interfaces, 2020, 7, 1901963.	1.9	19
79	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, 1470-1474.	1.9	18
80	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.	1.6	17
81	3D bioassembly of cell-instructive chondrogenic and osteogenic hydrogel microspheres containing allogeneic stem cells for hybrid biofabrication of osteochondral constructs. Biofabrication, 2022, 14, 034101.	3.7	16
82	Improving<i>in vitro</i>corrosion resistance of biomimetic calcium phosphate coatings for Mg substrates using calcium hydroxide layer. Corrosion Engineering Science and Technology, 2012, 47, 340-345.	0.7	14
83	Overcoming functional challenges in autologous and engineered fat grafting trends. Trends in Biotechnology, 2022, 40, 77-92.	4.9	14
84	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, 1316-1326.	1.6	13
85	Measuring Identification and Quantification Errors in Spectral CT Material Decomposition. Applied Sciences (Switzerland), 2018, 8, 467.	1.3	13
86	Silk fibroin photo-lyogels containing microchannels as a biomaterial platform for <i>in situ</i> tissue engineering. Biomaterials Science, 2020, 8, 7093-7105.	2.6	13
87	Biological function following radical photo-polymerization of biomedical polymers and surrounding tissues: Design considerations and cellular risk factors. Applied Physics Reviews, 2021, 8, 011301.	5.5	13
88	MI192 induced epigenetic reprogramming enhances the therapeutic efficacy of human bone marrows stromal cells for bone regeneration. Bone, 2021, 153, 116138.	1.4	12
89	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.	3.5	11
90	Acoustic Emission Monitoring of Total Hip Arthroplasty Implants. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2014, 47, 4796-4800.	0.4	9

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91	Signal processing and event detection of hip implant acoustic emissions. Control Engineering Practice, 2017, 58, 287-297.	3.2	9
92	First human imaging with MARS photon-counting CT. , 2018, , .		9
93	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.	1.5	9
94	Strategies for inclusion of growth factors into 3D printed bone grafts. Essays in Biochemistry, 2021, 65, 569-585.	2.1	9
95	Hybrid fabrication of photo-clickable vascular hydrogels with additive manufactured titanium implants for enhanced osseointegration and vascularized bone formation. Biofabrication, 2022, 14, 034103.	3.7	9
96	Orientation imaging microscopy of polycrystalline sodium chloride. Materials Characterization, 2010, 61, 413-419.	1.9	8
97	Spectral CT imaging of human osteoarthritic cartilage via quantitative assessment of glycosaminoglycan content using multiple contrast agents. APL Bioengineering, 2021, 5, 026101.	3.3	8
98	Enhanced bone formation in locally-optimised, low-stiffness additive manufactured titanium implants: An in silico and in vivo tibial advancement study. Acta Biomaterialia, 2023, 156, 202-213.	4.1	8
99	Integrated system for 3D assembly of bio-scaffolds and cells. , 2010, , .		7
100	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.	0.4	7
101	Topology Optimization of Porous Lattice Structures for Orthopaedic Implants. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2014, 47, 9907-9912.	0.4	7
102	Participation and quality of life outcomes among individuals with earthquake-related physical disability: A systematic review. Journal of Rehabilitation Medicine, 2015, 47, 385-393.	0.8	7
103	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.	2.6	7
104	Surface finishing of additively manufactured stainless steel surgical instruments. Rapid Prototyping Journal, 2021, 27, 59-70.	1.6	7
105	Cell nutrition. , 2008, , 327-362.		6
106	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.	0.6	5
107	Controlling<i>in vitro</i>corrosion rate of pure Mg with rough surface texture via biomimetic coating systems. Corrosion Engineering Science and Technology, 2012, 47, 358-364.	0.7	5
108	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.	1.0	5

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109	Novel Growth Factor Combination for Improving Rotator Cuff Repair: A Rat In Vivo Study. American Journal of Sports Medicine, 2022, 50, 1044-1053.	1.9	5
110	GelMA Hydrogel Reinforced with 3D Printed PEGT/PBT Scaffolds for Supporting Epigenetically-Activated Human Bone Marrow Stromal Cells for Bone Repair. Journal of Functional Biomaterials, 2022, 13, 41.	1.8	5
111	Return to work for severely injured survivors of the Christchurch earthquake: influences in the first 2 years. Disability and Rehabilitation, 2016, 38, 987-993.	0.9	4
112	Squeaking in ceramic-on-ceramic hips: No evidence of contribution from the trunnion morse taper. Journal of Orthopaedic Research, 2017, 35, 1793-1798.	1.2	3
113	Cepstrum Analysis for Determining the Fundamental Frequency of Total Hip Replacement Acoustic Emissions. IFAC-PapersOnLine, 2017, 50, 9932-9937.	0.5	3
114	Distinguishing Iron and Calcium using MARS Spectral CT. , 2018, , .		3
115	Injection system for cellular assembly of 3D bio-tissue engineered constructs. , 2012, , .		2
116	Measurement of early wear rates with X3 polyethylene and 36-mm femoral heads in young patients â€“ a prospective study. Current Orthopaedic Practice, 2013, 24, 641-646.	0.1	2
117	Establishing a method to measure bone structure using spectral CT. Proceedings of SPIE, 2017, , .	0.8	2
118	Cancer Imaging with Nanoparticles Using MARS Spectral Scanner. , 2018, , .		2
119	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, 2022, 32, 73-79.	0.9	2
120	Assessment of metal implant induced artefacts using photon counting spectral CT. , 2019, , .		2
121	Biophysics of biofabrication. APL Bioengineering, 2021, 5, 030402.	3.3	1
122	A Smartphoneâ€Enabled Portable Digital Light Processing 3D Printer (Adv. Mater. 35/2021). Advanced Materials, 2021, 33, 2170271.	11.1	1
123	Optimizing porous lattice structures for orthopaedic implants. , 2015, 2015, 2450-3.		0
124	Medipix3RX neutron camera for ambient radiation measurements in the CMS cavern. , 2018, , .		0
125	MARS pulmonary spectral molecular imaging: potential for locating tuberculosis involvement. , 2018, , .		0