Maria Ann Woodruff

List of Publications by Year
in descending order

132	8,870	37	91
papers	citations	h-index	g-index
		94381	43868

139	139	139	12509
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	The return of a forgotten polymerâ€"Polycaprolactone in the 21st century. Progress in Polymer Science, 2010, 35, 1217-1256.	11.8	3,051
2	Bone Regeneration Based on Tissue Engineering Conceptions â€" A 21st Century Perspective. Bone Research, 2013, 1, 216-248.	5.4	625
3	Evaluation of polycaprolactone scaffold degradation for 6 months <i>in vitro</i> and <i>in vivo</i>. Journal of Biomedical Materials Research - Part A, 2009, 90A, 906-919.	2.1	455
4	Electrospraying of polymers with therapeutic molecules: State of the art. Progress in Polymer Science, 2012, 37, 1510-1551.	11.8	363
5	A Tissue Engineering Solution for Segmental Defect Regeneration in Load-Bearing Long Bones. Science Translational Medicine, 2012, 4, 141ra93.	5.8	301
6	Electrospraying, a Reproducible Method for Production of Polymeric Microspheres for Biomedical Applications. Polymers, 2011, 3, 131-149.	2.0	262
7	Combined marrow stromal cell-sheet techniques and high-strength biodegradable composite scaffolds for engineered functional bone grafts. Biomaterials, 2007, 28, 814-824.	5.7	193
8	The stimulation of healing within a rat calvarial defect by mPCLâ€"TCP/collagen scaffolds loaded with rhBMP-2. Biomaterials, 2009, 30, 2479-2488.	5.7	190
9	3D printing complex chocolate objects: Platform design, optimization and evaluation. Journal of Food Engineering, 2017, 215, 13-22.	2.7	157
10	Bone tissue engineering: from bench to bedside. Materials Today, 2012, 15, 430-435.	8.3	144
11	In vitro and in vivo bone formation potential of surface calcium phosphate-coated polycaprolactone and polycaprolactone/bioactive glass composite scaffolds. Acta Biomaterialia, 2016, 30, 319-333.	4.1	137
12	The effect of unlocking RGD-motifs in collagen I on pre-osteoblast adhesion and differentiation. Biomaterials, 2010, 31, 2827-2835.	5.7	121
13	Biomedical applications of polyethylene. European Polymer Journal, 2019, 118, 412-428.	2.6	107
14	Autologous vs. allogenic mesenchymal progenitor cells for the reconstruction of critical sized segmental tibial bone defects in aged sheep. Acta Biomaterialia, 2013, 9, 7874-7884.	4.1	90
15	Heparan Sulfate Mediates the Proliferation and Differentiation of Rat Mesenchymal Stem Cells. Stem Cells and Development, 2009, 18, 661-670.	1.1	84
16	Fabrication and <i>in vitro</i> characterization of bioactive glass composite scaffolds for bone regeneration. Biofabrication, 2013, 5, 045005.	3.7	81
17	Meltâ€electrospun polycaprolactone strontiumâ€substituted bioactive glass scaffolds for bone regeneration. Journal of Biomedical Materials Research - Part A, 2014, 102, 3140-3153.	2.1	77
18	A preclinical large-animal model for the assessment of critical-size load-bearing bone defect reconstruction. Nature Protocols, 2020, 15, 877-924.	5.5	75

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19	Biomimetic tubular nanofiber mesh and platelet rich plasma-mediated delivery of BMP-7 for large bone defect regeneration. Cell and Tissue Research, 2012, 347, 603-612.	1.5	74
20	Scaffolds for Growth Factor Delivery as Applied to Bone Tissue Engineering. International Journal of Polymer Science, 2012, 2012, 1-25.	1.2	73
21	Effects of scaffold architecture on cranial bone healing. International Journal of Oral and Maxillofacial Surgery, 2014, 43, 506-513.	0.7	72
22	Improved fabrication of melt electrospun tissue engineering scaffolds using direct writing and advanced electric field control. Biointerphases, 2015, 10, 011006.	0.6	67
23	Delayed Minimally Invasive Injection of Allogenic Bone Marrow Stromal Cell Sheets Regenerates Large Bone Defects in an Ovine Preclinical Animal Model. Stem Cells Translational Medicine, 2015, 4, 503-512.	1.6	61
24	Comparison of Different Decalcification Methods Using Rat Mandibles as a Model. Journal of Histochemistry and Cytochemistry, 2017, 65, 705-722.	1.3	61
25	Cell proliferation and migration explain pore bridging dynamics in 3D printed scaffolds of different pore size. Acta Biomaterialia, 2020, 114, 285-295.	4.1	61
26	PLGA-Based Microparticles for the Sustained Release of BMP-2. Polymers, 2011, 3, 571-586.	2.0	59
27	Effects of scaffold architecture on mechanical characteristics and osteoblast response to static and perfusion bioreactor cultures. Biotechnology and Bioengineering, 2014, 111, 1440-1451.	1.7	56
28	Tailoring Hydrogel Viscoelasticity with Physical and Chemical Crosslinking. Polymers, 2015, 7, 2650-2669.	2.0	56
29	Protective effects of reactive functional groups on chondrocytes in photocrosslinkable hydrogel systems. Acta Biomaterialia, 2015, 27, 66-76.	4.1	51
30	Challenges in engineering large customized bone constructs. Biotechnology and Bioengineering, 2017, 114, 1129-1139.	1.7	49
31	Augmented and Virtual Reality in Surgery. Computing in Science and Engineering, 2020, 22, 18-26.	1.2	48
32	Effects of Topical Icing on Inflammation, Angiogenesis, Revascularization, and Myofiber Regeneration in Skeletal Muscle Following Contusion Injury. Frontiers in Physiology, 2017, 8, 93.	1.3	46
33	Cell sourcing for bone tissue engineering: Amniotic fluid stem cells have a delayed, robust differentiation compared to mesenchymal stem cells. Stem Cell Research, 2011, 7, 17-27.	0.3	45
34	Current applications of threeâ€dimensional printing in urology. BJU International, 2020, 125, 17-27.	1.3	44
35	Osteogenic and Adipogenic Induction Potential of Human Periodontal Cells. Journal of Periodontology, 2008, 79, 525-534.	1.7	43
36	Sustained release and osteogenic potential of heparan sulfate-doped fibrin glue scaffolds within a rat cranial model. Journal of Molecular Histology, 2007, 38, 425-433.	1.0	40

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37	Controlling microencapsulation and release of micronized proteins using poly(ethylene glycol) and electrospraying. European Journal of Pharmaceutics and Biopharmaceutics, 2014, 87, 366-377.	2.0	39
38	Scaffold-cell bone engineering in a validated preclinical animal model: precursors vs differentiated cell source. Journal of Tissue Engineering and Regenerative Medicine, 2017, 11, 2081-2089.	1.3	39
39	Design tools for patient specific and highly controlled melt electrowritten scaffolds. Journal of the Mechanical Behavior of Biomedical Materials, 2020, 105, 103695.	1.5	39
40	Ovine bone- and marrow-derived progenitor cells and their potential for scaffold-based bone tissue engineering applications in vitro and in vivo. Journal of Tissue Engineering and Regenerative Medicine, 2010, 4, 565-576.	1.3	38
41	Myocyte Enhancer Factor 2C, an Osteoblast Transcription Factor Identified by Dimethyl Sulfoxide (DMSO)-enhanced Mineralization. Journal of Biological Chemistry, 2011, 286, 30071-30086.	1.6	38
42	Rheological Characterization of Biomaterials Directs Additive Manufacturing of Strontiumâ€Substituted Bioactive Glass/Polycaprolactone Microfibers. Macromolecular Rapid Communications, 2019, 40, e1900019.	2.0	38
43	Auxetic tubular scaffolds via melt electrowriting. Materials and Design, 2020, 193, 108787.	3.3	36
44	The Osteogenic Differentiation of Adipose Tissue-Derived Precursor Cells in a 3D Scaffold/Matrix Environment. Current Drug Discovery Technologies, 2008, 5, 319-327.	0.6	33
45	Past, Present, and Future of Softâ€Tissue Prosthetics: Advanced Polymers and Advanced Manufacturing. Advanced Materials, 2020, 32, e2001122.	11.1	32
46	Multi-colour extrusion fused deposition modelling: a low-cost 3D printing method for anatomical prostate cancer models. Scientific Reports, 2020, 10, 10004.	1.6	30
47	A Hydrogel Model Incorporating 3D-Plotted Hydroxyapatite for Osteochondral Tissue Engineering. Materials, 2016, 9, 285.	1.3	29
48	Characterisation and evaluation of the regenerative capacity of Stro-4+ enriched bone marrow mesenchymal stromal cells using bovine extracellular matrix hydrogel and a novel biocompatible melt electro-written medical-grade polycaprolactone scaffold. Biomaterials, 2020, 247, 119998.	5.7	29
49	Scaffold-guided bone regeneration in large volume tibial segmental defects. Bone, 2021, 153, 116163.	1.4	29
50	Engineering tubular bone constructs. Journal of Biomechanics, 2007, 40, S73-S79.	0.9	27
51	Composites for Delivery of Therapeutics: Combining Melt Electrospun Scaffolds with Loaded Electrosprayed Microparticles. Macromolecular Bioscience, 2014, 14, 202-214.	2.1	27
52	Human osteoblast cell spreading and vinculin expression upon biomaterial surfaces. Journal of Molecular Histology, 2007, 38, 491-499.	1.0	26
53	A collagen network phase improves cell seeding of open-pore structure scaffolds under perfusion. Journal of Tissue Engineering and Regenerative Medicine, 2013, 7, 183-191.	1.3	26
54	Microparticles for Sustained Growth Factor Delivery in the Regeneration of Critically-Sized Segmental Tibial Bone Defects. Materials, 2016, 9, 259.	1.3	25

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55	Comparison of three-dimensional surface scanning techniques for capturing the external ear. Virtual and Physical Prototyping, 2018, 13, 255-265.	5.3	25
56	Biofabrication: The Future of Regenerative Medicine. Techniques in Orthopaedics, 2016, 31, 190-203.	0.1	24
57	Estrogen Deficiency-Associated Bone Loss in the Maxilla: A Methodology to Quantify the Changes in the Maxillary Intra-radicular Alveolar Bone in an Ovariectomized Rat Osteoporosis Model. Tissue Engineering - Part C: Methods, 2015, 21, 458-466.	1.1	23
58	Pre-screening the intrinsic angiogenic capacity of biomaterials in an optimised <i>ex ovo</i> chorioallantoic membrane model. Journal of Tissue Engineering, 2020, 11, 204173142090162.	2.3	23
59	Model-based data analysis of tissue growth in thin 3D printed scaffolds. Journal of Theoretical Biology, 2021, 528, 110852.	0.8	23
60	Aesthetic reconstruction of microtia: a review of current techniques and new 3D printing approaches. Virtual and Physical Prototyping, 2018, 13, 117-130.	5.3	22
61	Numerical prediction of thrombus risk in an anatomically dilated left ventricle: the effect of inflow cannula designs. BioMedical Engineering OnLine, 2016, 15, 136.	1.3	21
62	Critical Sized Mandibular Defect Regeneration in Preclinical In Vivo Models. Current Molecular Biology Reports, 2016, 2, 83-89.	0.8	20
63	Development of Mechanically Enhanced Polycaprolactone Composites by a Functionalized Titanate Nanofiller for Melt Electrowriting in 3D Printing. ACS Applied Materials & Interfaces, 2020, 12, 47993-48006.	4.0	20
64	Bactericidal efficiency of micro- and nanostructured surfaces: a critical perspective. RSC Advances, 2021, 11, 1883-1900.	1.7	19
65	In vitro and in vivo investigation of a zonal microstructured scaffold for osteochondral defect repair. Biomaterials, 2022, 286, 121548.	5.7	19
66	A Method for Economical Smartphoneâ€Based Clinical 3D Facial Scanning. Journal of Prosthodontics, 2020, 29, 818-825.	1.7	18
67	Nanoâ€•to Macroscale Remodeling of Functional Tissueâ€Engineered Bone. Advanced Healthcare Materials, 2013, 2, 546-551.	3.9	17
68	Differentiation potential of mesenchymal progenitor cells following transplantation into calvarial defects. Journal of the Mechanical Behavior of Biomedical Materials, 2012, 11, 132-142.	1.5	16
69	Investigation of Sustained BMP Delivery in the Prevention of Medicationâ€Related Osteonecrosis of the Jaw (MRONJ) in a Rat Model. Macromolecular Bioscience, 2019, 19, e1900226.	2.1	16
70	Tissue Morphology and Antigenicity in Mouse and Rat Tibia: Comparing 12 Different Decalcification Conditions. Journal of Histochemistry and Cytochemistry, 2019, 67, 545-561.	1.3	16
71	Variability in accuracy of prostate cancer segmentation among radiologists, urologists, and scientists. Cancer Medicine, 2020, 9, 7172-7182.	1.3	16
72	Advancements in Soft-Tissue Prosthetics Part A: The Art of Imitating Life. Frontiers in Bioengineering and Biotechnology, 2020, 8, 121.	2.0	16

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73	3D Printing Chocolate. , 2019, , 151-173.		15
74	Porcine bone marrow stromal cell differentiation on heparin-adsorbed poly(e-caprolactone)â€“tricalcium phosphateâ€“collagen scaffolds. Acta Biomaterialia, 2009, 5, 3305-3315.	4.1	14
75	Electrofluidodynamic technologies for biomaterials and medical devices. , 2018, , 37-69.		14
76	Systematic design of an advanced open-source 3D bioprinter for extrusion and electrohydrodynamic-based processes. International Journal of Advanced Manufacturing Technology, 2021, 113, 2539-2554.	1.5	13
77	An advanced prosthetic manufacturing framework for economic personalised ear prostheses. Scientific Reports, 2020, 10, 11453.	1.6	12
78	Advancements in Soft-Tissue Prosthetics Part B: The Chemistry of Imitating Life. Frontiers in Bioengineering and Biotechnology, 2020, 8, 147.	2.0	12
79	Highly substituted calcium silicates 3D printed with complex architectures to produce stiff, strong and bioactive scaffolds for bone regeneration. Applied Materials Today, 2021, 25, 101230.	2.3	12
80	Characterization of Normal Murine Carpal Bone Development Prompts Re-Evaluation of Pathologic Osteolysis as the Cause of Human Carpal-Tarsal Osteolysis Disorders. American Journal of Pathology, 2017, 187, 1923-1934.	1.9	11
81	Spectral changes associated with transmission of OLED emission through human skin. Scientific Reports, 2019, 9, 9875.	1.6	11
82	Guidelines for establishing a 3-D printing biofabrication laboratory. Biotechnology Advances, 2020, 45, 107652.	6.0	11
83	Enzymeâ€Degradable 3D Multiâ€Material Microstructures. Advanced Functional Materials, 2021, 31, 2006998.	7.8	11
84	Dissolvable 3D printed PVA moulds for melt electrowriting tubular scaffolds with patient-specific geometry. Materials and Design, 2022, 215, 110466.	3.3	11
85	Exploiting Nonlinear Fiber Patterning to Control Tubular Scaffold Mechanical Behavior. Advanced Materials Technologies, 2022, 7, .	3.0	11
86	Additive manufacturing enables personalised porous high-density polyethylene surgical implant manufacturing with improved tissue and vascular ingrowth. Applied Materials Today, 2021, 22, 100965.	2.3	10
87	Capturing patient anatomy for designing and manufacturing personalized prostheses. Current Opinion in Biotechnology, 2022, 73, 282-289.	3.3	10
88	Poly-Îµ-Caprolactone/Fibrin-Alginate Scaffold: A New Pro-Angiogenic Composite Biomaterial for the Treatment of Bone Defects. Polymers, 2021, 13, 3399.	2.0	10
89	Development of 3D Printed Biodegradable Mesh with Antimicrobial Properties for Pelvic Organ Prolapse. Polymers, 2022, 14, 763.	2.0	10
90	Growth Factor-Loaded Microparticles for Tissue Engineering: The Discrepancies of In Vitro Characterization Assays. Tissue Engineering - Part C: Methods, 2016, 22, 142-154.	1.1	8

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91	Smartphones for frugal three-dimensional scanning of the external ear with application to microtiaâ‹†. Journal of Plastic, Reconstructive and Aesthetic Surgery, 2018, 71, 1362-1380.	0.5	8
92	A highly porous and conductive composite gate electrode for OTFT sensors. RSC Advances, 2019, 9, 7278-7284.	1.7	8
93	Histomorphometric Evaluation of Critical-Sized Bone Defects Using Osteomeasure and Aperio Image Analysis Systems. Tissue Engineering - Part C: Methods, 2019, 25, 732-741.	1.1	8
94	Effect of Gate Conductance on Hygroscopic Insulator Organic Fieldâ€Effect Transistors. Advanced Electronic Materials, 2020, 6, 1901079.	2.6	8
95	Frugal 3D scanning using smartphones provides an accessible framework for capturing the external ear. Journal of Plastic, Reconstructive and Aesthetic Surgery, 2021, 74, 3066-3072.	0.5	8
96	A quantitative analysis of cell bridging kinetics on a scaffold using computer vision algorithms. Acta Biomaterialia, 2021, 136, 429-440.	4.1	8
97	Mechanical behaviour of flexible 3D printed gyroid structures as a tuneable replacement for soft padding foam. Additive Manufacturing, 2022, 50, 102555.	1.7	8
98	Melt electro-written scaffolds with box-architecture support orthogonally oriented collagen. Biofabrication, 2022, 14, 015015.	3.7	8
99	3D Plotting of Calcium Phosphate Cement and Melt Electrowriting of Polycaprolactone Microfibers in One Scaffold: A Hybrid Additive Manufacturing Process. Journal of Functional Biomaterials, 2022, 13, 75.	1.8	8
100	Characterization of the Microarchitecture of Direct Writing Melt Electrospun Tissue Engineering Scaffolds Using Diffusion Tensor and Computed Tomography Microimaging. 3D Printing and Additive Manufacturing, 2014, 1, 95-103.	1.4	7
101	An Assessment of Cell Culture Plate Surface Chemistry for in Vitro Studies of Tissue Engineering Scaffolds. Journal of Functional Biomaterials, 2015, 6, 1054-1063.	1.8	7
102	Data for accelerated degradation of calcium phosphate surface-coated polycaprolactone and polycaprolactone/bioactive glass composite scaffolds. Data in Brief, 2016, 7, 923-926.	0.5	7
103	Melt Electrospun Bilayered Scaffolds for Tissue Integration of a Sutureâ€Less Inflow Cannula for Rotary Blood Pumps. Artificial Organs, 2018, 42, E43-E54.	1.0	7
104	Three-dimensional printing versus conventional machining in the creation of a meatal urethral dilator: development and mechanical testing. BioMedical Engineering OnLine, 2020, 19, 55.	1.3	7
105	Using melt-electrowritten microfibres for tailoring scaffold mechanics of 3D bioprinted chondrocyte-laden constructs. Bioprinting, 2021, 23, e00158.	2.9	7
106	Degradation of Melt Electrowritten PCL Scaffolds Following Melt Processing and Plasma Surface Treatment. Macromolecular Rapid Communications, 2021, 42, e2100433.	2.0	7
107	Image analyses for engineering advanced tissue biomanufacturing processes. Biomaterials, 2022, 284, 121514.	5.7	7
108	Laser Sintering Approaches for Bone Tissue Engineering. Polymers, 2022, 14, 2336.	2.0	7

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109	Detection of clustered anomalies in single-voxel morphometry as a rapid automated method for identifying intracranial aneurysms. Computerized Medical Imaging and Graphics, 2021, 89, 101888.	3.5	6
110	Personalized Volumetric Tissue Generation by Enhancing Multiscale Mass Transport through 3D Printed Scaffolds in Perfused Bioreactors. Advanced Healthcare Materials, 2022, 11, .	3.9	5
111	Using bespoke 3D-printed models to improve patient understanding of an encrusted ureteric stent. Journal of Clinical Urology, 2021, 14, 137-139.	0.1	4
112	Direct Fabrication as a Patient-Targeted Therapeutic in a Clinical Environment. Methods in Molecular Biology, 2012, 868, 327-340.	0.4	4
113	Personalized Offloading Treatments for Healing Plantar Diabetic Foot Ulcers. Journal of Diabetes Science and Technology, 2023, 17, 99-106.	1.3	4
114	Facile and Dynamic Color-Tuning Approach for Organic Light-Emitting Diodes Using Anisotropic Filters. ACS Photonics, 2018, 5, 2760-2766.	3.2	3
115	Biofabrication of personalised anatomical models and tools for the clinic. Journal of Cystic Fibrosis, 2019, 18, 161-162.	0.3	3
116	Effect of humidity on melt electrospun polycaprolactone scaffolds. BioNanoMaterials, 2016, 17, .	1.4	2
117	Design of an Open-Source, Low-Cost Bioink and Food Melt Extrusion 3D Printer. Journal of Visualized Experiments, 2020, , .	0.2	2
118	Rapid Segmentation of Renal Tumours to Calculate Volume Using 3D Interpolation. Journal of Digital Imaging, 2021, 34, 351-356.	1.6	2
119	3D Printing Improved Testicular Prostheses: Using Lattice Infill Structure to Modify Mechanical Properties. Frontiers in Surgery, 2021, 8, 626143.	0.6	2
120	Transform the uniform: designing fashion for the hospital of the future. International Journal of Fashion Design, Technology and Education, 2021, 14, 232-242.	0.9	2
121	Evaluating the safety and effectiveness of novel personal protective equipment during the COVIDâ€19 pandemic. Medical Journal of Australia, 2021, 214, 496.	0.8	2
122	Novel resin tissue array system reduces sample preparation time, labour and reagent costs in bone tissue histology. Bone, 2021, 153, 116155.	1.4	2
123	Melt-electrospun polycaprolactone-strontium substituted bioactive glass scaffolds for bone regeneration. Journal of Biomedical Materials Research - Part A, 2013, 102, n/a-n/a.	2.1	2
124	Bone morphogenetic proteinâ€"assisted bone regeneration and applications in biofabrication. , 2020, , 363-391.		2
125	Polymer-based composites for musculoskeletal regenerative medicine. , 2020, , 33-82.		2
126	Ultrasound Imaging Offers Promising Alternative to Create 3-D Models for Personalised Auricular Implants. Ultrasound in Medicine and Biology, 2022, 48, 450-459.	0.7	2

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127	Expanding material printability for electrowriting. Journal of 3D Printing in Medicine, 2021, 5, 61-64.	1.0	1
128	A Protocol for Clinically Accessible Three-Dimensional Ear Scanning Using Smartphones. Plastic and Reconstructive Surgery, 2021, 148, 863e-865e.	0.7	1
129	Design, Fabrication, and Characterization of Scaffolds via Solid Free-Form Fabrication Techniques. , 2008, , 45-67.		1
130	A Quantitative Analysis of Cell Bridging Kinetics on a Scaffold Using Computer Vision Algorithms. SSRN Electronic Journal, 0, , .	0.4	0
131	Everyday Creative Uses of Smartphone Images in Biomedical Engineering Laboratories. Lecture Notes in Computer Science, 2017, , 335-343.	1.0	0
132	Inexpensive 3D Printed Trainer for Combined Retrograde Intrarenal Surgery and Percutaneous Nephrolithotomy. Videourology (New Rochelle, N Y), 2022, 36, .	0.1	0