Scott J Hollister

List of Publications by Citations

183 papers	16,444 citations	68 h-index	127 g-index
193 ext. papers	17,960 ext. citations	5.8 avg, IF	7.07 L-index

#	Paper	IF	Citations
183	Porous scaffold design for tissue engineering. *Nature Materials*, **2005**, 4, 518-24	27	2916
182	Bone tissue engineering using polycaprolactone scaffolds fabricated via selective laser sintering. *Biomaterials*, **2005**, 26, 4817-27	15.6	1205
181	Indirect solid free form fabrication of local and global porous, biomimetic and composite 3D polymer-ceramic scaffolds. *Biomaterials*, **2003**, 24, 181-94	15.6	567
180	Optimal design and fabrication of scaffolds to mimic tissue properties and satisfy biological constraints. *Biomaterials*, **2002**, 23, 4095-103	15.6	548
179	Mechanical and in vivo performance of hydroxyapatite implants with controlled architectures. *Biomaterials*, **2002**, 23, 1283-93	15.6	443
178	Bioresorbable airway splint created with a three-dimensional printer. *New England Journal of Medicine*, **2013**, 368, 2043-5	59.2	432
177	A comparison of homogenization and standard mechanics analyses for periodic porous composites. *Computational Mechanics*, **1992**, 10, 73-95	4	325
176	Scaffold design and manufacturing: from concept to clinic. *Advanced Materials*, **2009**, 21, 3330-42	24	287
175	Mitigation of tracheobronchomalacia with 3D-printed personalized medical devices in pediatric patients. *Science Translational Medicine*, **2015**, 7, 285ra64	17.5	286
174	A novel method for biomaterial scaffold internal architecture design to match bone elastic properties with desired porosity. *Journal of Biomechanics*, **2004**, 37, 623-36	2.9	281
173	Craniofacial tissue engineering by stem cells. *Journal of Dental Research*, **2006**, 85, 966-79	8.1	279
172	A homogenization sampling procedure for calculating trabecular bone effective stiffness and tissue level stress. *Journal of Biomechanics*, **1994**, 27, 433-44	2.9	276
171	Framework for optimal design of porous scaffold microstructure by computational simulation of bone regeneration. *Biomaterials*, **2006**, 27, 3964-72	15.6	236
170	Engineering craniofacial scaffolds. *Orthodontics and Craniofacial Research*, **2005**, 8, 162-73	3	231
169	Hydroxyapatite implants with designed internal architecture. *Journal of Materials Science: Materials in Medicine*, **2001**, 12, 471-8	4.5	185
168	Engineered osteochondral grafts using biphasic composite solid free-form fabricated scaffolds. *Tissue Engineering*, **2004**, 10, 1376-85		178
167	Homogenization theory and digital imaging: A basis for studying the mechanics and design principles of bone tissue. *Biotechnology and Bioengineering*, **1994**, 43, 586-96	4.9	175

166	An image-based approach for designing and manufacturing craniofacial scaffolds. *International Journal of Oral and Maxillofacial Surgery*, **2000**, 29, 67-71	2.9	174
165	The pore size of polycaprolactone scaffolds has limited influence on bone regeneration in an in vivo model. *Journal of Biomedical Materials Research - Part A*, **2010**, 92, 359-68	5.4	171
164	Tissue engineering bone-ligament complexes using fiber-guiding scaffolds. *Biomaterials*, **2012**, 33, 137-45	15.6	165
163	Nondestructive micro-computed tomography for biological imaging and quantification of scaffold-bone interaction in vivo. *Biomaterials*, **2007**, 28, 2479-90	15.6	164
162	Trabecular bone remodeling: an experimental model. *Journal of Biomechanics*, **1991**, 24 Suppl 1, 135-50	2.9	161
161	3D-printed Bioresorbable Scaffold for Periodontal Repair. *Journal of Dental Research*, **2015**, 94, 153S-7S	8.1	159
160	Biomimetic hybrid scaffolds for engineering human tooth-ligament interfaces. *Biomaterials*, **2010**, 31, 5945-52	15.6	150
159	The interaction between bone marrow stromal cells and RGD-modified three-dimensional porous polycaprolactone scaffolds. *Biomaterials*, **2009**, 30, 4063-9	15.6	147
158	Structural and mechanical evaluations of a topology optimized titanium interbody fusion cage fabricated by selective laser melting process. *Journal of Biomedical Materials Research - Part A*, **2007**, 83, 272-9	5.4	142
157	Tailoring the mechanical properties of 3D-designed poly(glycerol sebacate) scaffolds for cartilage applications. *Journal of Biomedical Materials Research - Part A*, **2010**, 94, 9-18	5.4	139
156	Scaffold translation: barriers between concept and clinic. *Tissue Engineering - Part B: Reviews*, **2011**, 17, 459-74	7.9	137
155	The accuracy of digital image-based finite element models. *Journal of Biomechanical Engineering*, **1998**, 120, 289-95	2.1	136
154	Regulatory Considerations in the Design and Manufacturing of Implantable 3D-Printed Medical Devices. *Clinical and Translational Science*, **2015**, 8, 594-600	4.9	133
153	Trabecular surface remodeling simulation for cancellous bone using microstructural voxel finite element models. *Journal of Biomechanical Engineering*, **2001**, 123, 403-9	2.1	128
152	Application of homogenization theory to the study of trabecular bone mechanics. *Journal of Biomechanics*, **1991**, 24, 825-39	2.9	123
151	Additive manufacturing of polymer melts for implantable medical devices and scaffolds. *Biofabrication*, **2017**, 9, 012002	10.5	119
150	Permeability analysis of scaffolds for bone tissue engineering. *Journal of Biomechanics*, **2012**, 45, 938-44	2.9	116
149	Effect of polycaprolactone scaffold permeability on bone regeneration in vivo. *Tissue Engineering - Part A*, **2011**, 17, 1831-9	3.9	115

148	Inclusion of organ deformation in dose calculations. *Medical Physics*, **2003**, 30, 290-5	4.4	113
147	Osteocyte lacuna size and shape in women with and without osteoporotic fracture. *Journal of Biomechanics*, **2004**, 37, 563-72	2.9	106
146	Non-invasive monitoring of tissue scaffold degradation using ultrasound elasticity imaging. *Acta Biomaterialia*, **2008**, 4, 783-90	10.8	103
145	Tissue-engineered cartilage constructs using composite hyaluronic acid/collagen I hydrogels and designed poly(propylene fumarate) scaffolds. *Tissue Engineering*, **2007**, 13, 537-50		100
144	Controlled nucleation of hydroxyapatite on alginate scaffolds for stem cell-based bone tissue engineering. *Journal of Biomedical Materials Research - Part A*, **2010**, 95, 222-34	5.4	99
143	Selective Laser Sintering Process Optimization for Layered Manufacturing of CAPA□ 6501 Polycaprolactone Bone Tissue Engineering Scaffolds. *Journal of Manufacturing Science and Engineering, Transactions of the ASME*, **2006**, 128, 531-540	3.3	99
142	A comparison of the influence of material on in vitro cartilage tissue engineering with PCL, PGS, and POC 3D scaffold architecture seeded with chondrocytes. *Biomaterials*, **2010**, 31, 4304-12	15.6	97
141	From structure to process, from organ to cell: recent developments of FE-analysis in orthopaedic biomechanics. *Journal of Biomechanical Engineering*, **1993**, 115, 520-7	2.1	97
140	Optimization of scaffold design for bone tissue engineering: A computational and experimental study. *Medical Engineering and Physics*, **2014**, 36, 448-57	2.4	93
139	Tissue engineering osteochondral implants for temporomandibular joint repair. *Orthodontics and Craniofacial Research*, **2005**, 8, 313-9	3	91
138	Computer aided-designed, 3-dimensionally printed porous tissue bioscaffolds for craniofacial soft tissue reconstruction. *Otolaryngology - Head and Neck Surgery*, **2015**, 152, 57-62	5.5	88
137	Differential effects of designed scaffold permeability on chondrogenesis by chondrocytes and bone marrow stromal cells. *Biomaterials*, **2010**, 31, 279-87	15.6	88
136	Computed tomography-based tissue-engineered scaffolds in craniomaxillofacial surgery. *International Journal of Medical Robotics and Computer Assisted Surgery*, **2007**, 3, 207-16	2.9	87
135	Computational design of tissue engineering scaffolds. *Computer Methods in Applied Mechanics and Engineering*, **2007**, 196, 2991-2998	5.7	86
134	Freeform fabrication of Nylon-6 tissue engineering scaffolds. *Rapid Prototyping Journal*, **2003**, 9, 43-49	3.8	85
133	Delivery and protection of adenoviruses using biocompatible hydrogels for localized gene therapy. *Molecular Therapy*, **2004**, 9, 130-8	11.7	84
132	Poly(glycerol-dodecanoate), a biodegradable polyester for medical devices and tissue engineering scaffolds. *Biomaterials*, **2009**, 30, 6479-84	15.6	83
131	Topology Optimization of Three Dimensional Tissue Engineering Scaffold Architectures for Prescribed Bulk Modulus and Diffusivity. *Structural and Multidisciplinary Optimization*, **2010**, 42, 633-644	3.6	83

130	Mechanical stimulation of tissue repair in the hydraulic bone chamber. *Journal of Bone and Mineral Research*, **1997**, 12, 1295-302	6.3	83
129	Image-based, fiber guiding scaffolds: a platform for regenerating tissue interfaces. *Tissue Engineering - Part C: Methods*, **2014**, 20, 533-42	2.9	81
128	Combined use of designed scaffolds and adenoviral gene therapy for skeletal tissue engineering. *Biomaterials*, **2006**, 27, 1160-6	15.6	81
127	Chemically-conjugated bone morphogenetic protein-2 on three-dimensional polycaprolactone scaffolds stimulates osteogenic activity in bone marrow stromal cells. *Tissue Engineering - Part A*, **2010**, 16, 3441-8	3.9	78
126	A global relationship between trabecular bone morphology and homogenized elastic properties. *Journal of Biomechanical Engineering*, **1998**, 120, 640-6	2.1	77
125	Controllable mineral coatings on PCL scaffolds as carriers for growth factor release. *Biomaterials*, **2012**, 33, 713-21	15.6	73
124	Macro-architectures in spinal cord scaffold implants influence regeneration. *Journal of Neurotrauma*, **2008**, 25, 1027-37	5.4	73
123	Treatment of severe porcine tracheomalacia with a 3-dimensionally printed, bioresorbable, external airway splint. *JAMA Otolaryngology - Head and Neck Surgery*, **2014**, 140, 66-71	3.9	72
122	Developing consistently reproducible intervertebral disc degeneration at rat caudal spine by using needle puncture. *Journal of Neurosurgery: Spine*, **2009**, 10, 522-30	2.8	71
121	Design control for clinical translation of 3D printed modular scaffolds. *Annals of Biomedical Engineering*, **2015**, 43, 774-86	4.7	69
120	Stress analysis of the interface between cervical vertebrae end plates and the Bryan, Prestige LP, and ProDisc-C cervical disc prostheses: an in vivo image-based finite element study. *Spine*, **2009**, 34, 1554-60	2.3	69
119	Integration of 3D Printed and Micropatterned Polycaprolactone Scaffolds for Guidance of Oriented Collagenous Tissue Formation In Vivo. *Advanced Healthcare Materials*, **2016**, 5, 676-87	10.1	69
118	Design and Structure-Function Characterization of 3D Printed Synthetic Porous Biomaterials for Tissue Engineering. *Advanced Healthcare Materials*, **2018**, 7, e1701095	10.1	68
117	Localized viral vector delivery to enhance in situ regenerative gene therapy. *Gene Therapy*, **2007**, 14, 891-901	4	68
116	Poly(epsilon-caprolactone) and poly (L-lactic-co-glycolic acid) degradable polymer sponges attenuate astrocyte response and lesion growth in acute traumatic brain injury. *Tissue Engineering*, **2007**, 13, 2515-23		66
115	Interbody fusion cage design using integrated global layout and local microstructure topology optimization. *Spine*, **2004**, 29, 1747-54	3.3	65
114	Strategies for regeneration of the bone using porcine adult adipose-derived mesenchymal stem cells. *Theriogenology*, **2011**, 75, 1381-99	2.8	64
113	Tissue formation and vascularization in anatomically shaped human joint condyle ectopically in vivo. *Tissue Engineering - Part A*, **2009**, 15, 3923-30	3.9	62

112	Scaffold engineering: a bridge to where?. *Biofabrication*, **2009**, 1, 012001	10.5	60
111	Technical note: creating a four-dimensional model of the liver using finite element analysis. *Medical Physics*, **2002**, 29, 1403-5	4.4	59
110	Anatomic considerations of transclavicular-transcoracoid drilling for coracoclavicular ligament reconstruction. *Journal of Shoulder and Elbow Surgery*, **2013**, 22, 137-44	4.3	55
109	Comparison of bone marrow stromal cell behaviors on poly(caprolactone) with or without surface modification: studies on cell adhesion, survival and proliferation. *Journal of Biomaterials Science, Polymer Edition*, **2009**, 20, 1975-93	3.5	51
108	Bioresorbable scaffolds for bone tissue engineering: optimal design, fabrication, mechanical testing and scale-size effects analysis. *Medical Engineering and Physics*, **2015**, 37, 287-96	2.4	50
107	Intradiscal injection of simvastatin retards progression of intervertebral disc degeneration induced by stab injury. *Arthritis Research and Therapy*, **2009**, 11, R172	5.7	48
106	Image-based biomimetic approach to reconstruction of the temporomandibular joint. *Cells Tissues Organs*, **2001**, 169, 309-21	2.1	48
105	Manufacturing and characterization of 3-d hydroxyapatite bone tissue engineering scaffolds. *Annals of the New York Academy of Sciences*, **2002**, 961, 114-7	6.5	47
104	Strut size and surface area effects on long-term in vivo degradation in computer designed poly(L-lactic acid) three-dimensional porous scaffolds. *Acta Biomaterialia*, **2012**, 8, 2568-77	10.8	46
103	Functional bone engineering using ex vivo gene therapy and topology-optimized, biodegradable polymer composite scaffolds. *Tissue Engineering*, **2005**, 11, 1589-98		46
102	Controlled multiple growth factor delivery from bone tissue engineering scaffolds via designed affinity. *Tissue Engineering - Part A*, **2014**, 20, 2077-87	3.9	45
101	Porous biodegradable lumbar interbody fusion cage design and fabrication using integrated global-local topology optimization with laser sintering. *Journal of Biomechanical Engineering*, **2013**, 135, 101013-8	2.1	45
100	Three-dimensional poly(1,8-octanediol-co-citrate) scaffold pore shape and permeability effects on sub-cutaneous in vivo chondrogenesis using primary chondrocytes. *Acta Biomaterialia*, **2011**, 7, 505-14	10.8	45
99	Effects of designed PLLA and 50:50 PLGA scaffold architectures on bone formation in vivo. *Journal of Tissue Engineering and Regenerative Medicine*, **2013**, 7, 99-111	4.4	41
98	Mechanical and biochemical assessments of three-dimensional poly(1,8-octanediol-co-citrate) scaffold pore shape and permeability effects on in vitro chondrogenesis using primary chondrocytes. *Tissue Engineering - Part A*, **2010**, 16, 3759-68	3.9	41
97	Brain cortex regeneration affected by scaffold architectures. *Journal of Neurosurgery*, **2008**, 109, 715-22	3.2	39
96	Integrating Image-Based Design and 3D Biomaterial Printing to create Patient Specific Devices within a Design Control Framework for Clinical Translation. *ACS Biomaterials Science and Engineering*, **2016**, 2, 1827-1836	5.5	38
95	Time course investigation of intervertebral disc degeneration produced by needle-stab injury of the rat caudal spine: laboratory investigation. *Journal of Neurosurgery: Spine*, **2011**, 15, 404-13	2.8	38

94	Experimental and computational characterization of designed and fabricated 50:50 PLGA porous scaffolds for human trabecular bone applications. *Journal of Materials Science: Materials in Medicine* , **2010**, 21, 2371-83	4.5	38
93	3D-printed, externally-implanted, bioresorbable airway splints for severe tracheobronchomalacia. *Laryngoscope*, **2019**, 129, 1763-1771	3.6	37
92	Analysis of load sharing on uncovertebral and facet joints at the C5-6 level with implantation of the Bryan, Prestige LP, or ProDisc-C cervical disc prosthesis: an in vivo image-based finite element study. *Neurosurgical Focus*, **2010**, 28, E9	4.2	37
91	The use of reactive polymer coatings to facilitate gene delivery from poly (epsilon-caprolactone) scaffolds. *Biomaterials*, **2009**, 30, 5785-92	15.6	35
90	Strain Concentrations Surrounding an Ellipsoid Model of Lacunae and Osteocytes. *Computer Methods in Biomechanics and Biomedical Engineering*, **1997**, 1, 61-68	2.1	35
89	Quantitative molecular sensing in biological tissues: an approach to non-invasive optical characterization. *Optics Express*, **2006**, 14, 6157-71	3.3	35
88	Are regional variations in bone growth related to mechanical stress and strain parameters?. *Journal of Biomechanics*, **1998**, 31, 327-35	2.9	34
87	Three-dimensional polycaprolactone scaffold-conjugated bone morphogenetic protein-2 promotes cartilage regeneration from primary chondrocytes in vitro and in vivo without accelerated endochondral ossification. *Journal of Biomedical Materials Research - Part A*, **2012**, 100, 2088-96	5.4	33
86	Digital-image-based finite element analysis for bone microstructure using conjugate gradient and Gaussian filter techniques **1993**,		33
85	Bone Morphogenetic Protein-2 Adsorption onto Poly-e-caprolactone Better Preserves Bioactivity In Vitro and Produces More Bone In Vivo than Conjugation Under Clinically Relevant Loading Scenarios. *Tissue Engineering - Part C: Methods*, **2015**, 21, 489-98	2.9	32
84	Antenatal Three-Dimensional Printing of Aberrant Facial Anatomy. *Pediatrics*, **2015**, 136, e1382-5	7.4	31
83	Evaluation of multi-scale mineralized collagen-polycaprolactone composites for bone tissue engineering. *Journal of the Mechanical Behavior of Biomedical Materials*, **2016**, 61, 318-327	4.1	30
82	Mechanical characterization and non-linear elastic modeling of poly(glycerol sebacate) for soft tissue engineering. *Journal of the Mechanical Behavior of Biomedical Materials*, **2012**, 11, 3-15	4.1	29
81	Inorganic coatings for optimized non-viral transfection of stem cells. *Scientific Reports*, **2013**, 3, 1567	4.9	29
80	Relative effects of wound healing and mechanical stimulus on early bone response to porous-coated implants. *Journal of Orthopaedic Research*, **1996**, 14, 654-62	3.8	29
79	Dual Delivery of EPO and BMP2 from a Novel Modular Poly-e-Caprolactone Construct to Increase the Bone Formation in Prefabricated Bone Flaps. *Tissue Engineering - Part C: Methods*, **2015**, 21, 889-97	2.9	28
78	Stress-related molar responses to the transpalatal arch: a finite element analysis. *American Journal of Orthodontics and Dentofacial Orthopedics*, **1997**, 112, 512-8	2.1	28
77	Comparison of reconstructive procedures for glenoid bone loss associated with recurrent anterior shoulder instability. *Journal of Shoulder and Elbow Surgery*, **2014**, 23, 1113-9	4.3	27

76	Advances in 3-Dimensional Printing in Otolaryngology: A Review. *JAMA Otolaryngology - Head and Neck Surgery*, **2017**, 143, 178-183	3.9	27
75	Biomechanical evaluation of human and porcine auricular cartilage. *Laryngoscope*, **2015**, 125, E262-8	3.6	27
74	A paradigm for the development and evaluation of novel implant topologies for bone fixation: implant design and fabrication. *Journal of Biomechanics*, **2012**, 45, 2241-7	2.9	26
73	Co-culture of adipose-derived stem cells and chondrocytes on three-dimensionally printed bioscaffolds for craniofacial cartilage engineering. *Laryngoscope*, **2018**, 128, E251-E257	3.6	25
72	Mechanical, permeability, and degradation properties of 3D designed poly(1,8 octanediol-co-citrate) scaffolds for soft tissue engineering. *Journal of Biomedical Materials Research - Part B Applied Biomaterials*, **2010**, 93, 141-9	3.5	23
71	Tissue-engineered heart valve prostheses: Tstate of the heartT *Regenerative Medicine*, **2008**, 3, 399-419	2.5	22
70	Do bone ingrowth processes produce a globally optimized structure?. *Journal of Biomechanics*, **1993**, 26, 391-407	2.9	22
69	Auricular reconstruction from rib to 3D printing. *Journal of 3D Printing in Medicine*, **2018**, 2, 35-41	1.5	20
68	Tissue Engineering and 3-Dimensional Modeling for Facial Reconstruction. *Facial Plastic Surgery Clinics of North America*, **2019**, 27, 151-161	2.4	20
67	Treatment of Severe Acquired Tracheomalacia With a Patient-Specific, 3D-Printed, Permanent Tracheal Splint. *JAMA Otolaryngology - Head and Neck Surgery*, **2017**, 143, 523-525	3.9	19
66	Biomineral coating increases bone formation by ex vivo BMP-7 gene therapy in rapid prototyped poly(L-lactic acid) (PLLA) and poly(Ecaprolactone) (PCL) porous scaffolds. *Advanced Healthcare Materials*, **2015**, 4, 621-32	10.1	19
65	Designing Biodegradable Shape Memory Polymers for Tissue Repair. *Advanced Functional Materials*, **2020**, 30, 2002014	15.6	19
64	Pore architecture effects on chondrogenic potential of patient-specific 3-dimensionally printed porous tissue bioscaffolds for auricular tissue engineering. *International Journal of Pediatric Otorhinolaryngology*, **2018**, 114, 170-174	1.7	17
63	Static and dynamic fatigue behavior of topology designed and conventional 3D printed bioresorbable PCL cervical interbody fusion devices. *Journal of the Mechanical Behavior of Biomedical Materials*, **2015**, 49, 332-42	4.1	16
62	Tissue Engineering of TMJ and Bone: Concept to Clinic Approach. *Journal of Oral and Maxillofacial Surgery*, **2008**, 66, 7-8	1.8	16
61	Tissue engineering of the synovial joint: the role of cell density. *Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine*, **2007**, 221, 429-40	1.7	15
60	Tailoring the physicochemical and shape memory properties of the biodegradable polymer poly(glycerol dodecanoate) via curing conditions. *Journal of Biomedical Materials Research - Part A*, **2017**, 105, 1618-1623	5.4	14
59	Wireless sensor enables longitudinal monitoring of regenerative niche mechanics during rehabilitation that enhance bone repair. *Bone*, **2020**, 135, 115311	4.7	13

58	A Mineralized Collagen-Polycaprolactone Composite Promotes Healing of a Porcine Mandibular Defect. *Tissue Engineering - Part A*, **2018**, 24, 943-954	3.9	12
57	A paradigm for the development and evaluation of novel implant topologies for bone fixation: in vivo evaluation. *Journal of Biomechanics*, **2012**, 45, 2651-7	2.9	11
56	Use of micro-computed tomography to nondestructively characterize biomineral coatings on solid freeform fabricated poly (L-lactic acid) and poly ((Ecaprolactone) scaffolds in vitro and in vivo. *Tissue Engineering - Part C: Methods*, **2013**, 19, 507-17	2.9	10
55	Computational modeling of airway instability and collapse in tracheomalacia. *Respiratory Research*, **2017**, 18, 62	7.3	9
54	Mandibular reconstruction with a bioactive-coated cementless Ti6Al4V modular endoprosthesis in Macaca fascicularis. *International Journal of Oral and Maxillofacial Surgery*, **2014**, 43, 758-68	2.9	9
53	Acoustic microscopy analyses to determine good vs. failed tissue engineered oral mucosa under normal or thermally stressed culture conditions. *Annals of Biomedical Engineering*, **2011**, 39, 44-52	4.7	9
52	Defining Design Targets for Tissue Engineering Scaffolds **2009**, 521-537		9
51	Comparison of scanning acoustic microscopy and histology images in characterizing surface irregularities among engineered human oral mucosal tissues. *Ultrasound in Medicine and Biology*, **2011**, 37, 1734-42	3.5	8
50	Hierarchical bioactive materials for tissue reconstruction: Integrated design and manufacturing challenges. *Jom*, **2011**, 63, 56-65	2.1	8
49	Effective anisotropic elastic constants of bimaterial interphases: comparison between experimental and analytical techniques. *Journal of Materials Science: Materials in Medicine*, **1996**, 7, 109-117	1.5	8
48	Characterizing morphology and nonlinear elastic properties of normal and thermally stressed engineered oral mucosal tissues using scanning acoustic microscopy. *Tissue Engineering - Part C: Methods*, **2013**, 19, 345-51	2.9	7
47	Computational Design, Freeform Fabrication and Testing of Nylon-6 Tissue Engineering Scaffolds. *Materials Research Society Symposia Proceedings*, **2002**, 758, 571		7
46	Regulatory interfaces surrounding the growing field of additive manufacturing of medical devices and biologic products. *Journal of Clinical and Translational Science*, **2018**, 2, 301-304	0.4	7
45	Degradation properties of a biodegradable shape memory elastomer, poly(glycerol dodecanoate), for soft tissue repair. *PLoS ONE*, **2020**, 15, e0229112	3.7	6
44	Internal Structure Evaluation of Three-Dimensional Calcium Phosphate Bone Scaffolds: A Micro-Computed Tomographic Study. *Journal of the American Ceramic Society*, **2006**, 89, 3176-3181	3.8	6
43	Paediatric devices that grow up. *Nature Biomedical Engineering*, **2017**, 1, 777-778	19	5
42	Subcutaneous tissue response to titanium, poly(Ecaprolactone), and carbonate-substituted hydroxyapatite-coated poly(Ecaprolactone) plates: a rabbit study. *Journal of Biomedical Materials Research - Part A*, **2013**, 101, 2258-66	5.4	5
41	Future Prospects for Periodontal Bioengineering Using Growth Factors. *Clinical Advances in Periodontics*, **2011**, 1, 88-94	0.9	5

40	3D bioprinting of a trachea-mimetic cellular construct of a clinically relevant size. *Biomaterials*, **2021**, 279, 121246	15.6	5
39	An analysis of trabecuar bone micro-mechanics using homogenization theory with comparison to experimental results. *Journal of Biomechanics*, **1989**, 22, 1025	2.9	4
38	Nonlinear Elastic Scaffold Design, Modeling and Fabrication for Soft Tissue Engineering. *Computational Methods in Applied Sciences (Springer)*, **2011**, 35-53	0.4	3
37	High-resolution ultrasonic monitoring of cellular differentiation in an ex vivo produced oral mucosal equivalent (EVPOME) **2009**,		3
36	Selective Laser Sintering of Polycaprolactone Bone Tissue Engineering Scaffolds. *Materials Research Society Symposia Proceedings*, **2004**, 845, 340		3
35	(i) Mechanical factors influencing the outcome of total joint replacement. *Orthopaedics and Trauma*, **1995**, 9, 2-8		3
34	Evaluation of human nasal cartilage nonlinear and rate dependent mechanical properties. *Journal of Biomechanics*, **2020**, 100, 109549	2.9	3
33	Computational Design and Simulation of Tissue Engineering Scaffolds **2008**, 113-127		3
32	Non-linear stress-strain measurements of ex vivo produced oral mucosal equivalent (EVPOME) compared to normal oral mucosal and skin tissue. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2011**, 2011, 286-9	0.9	2
31	Three dimensional elastic modulus reconstruction for non-invasive, quantitative monitoring of tissue scaffold mechanical property changes **2008**,		2
30	Predicting trabecular bone strength and micro-strain using homogenization theory. *Journal of Biomechanics*, **1989**, 22, 1014	2.9	2
29	Repair of critical-size porcine craniofacial bone defects using a collagen-polycaprolactone composite biomaterial. *Biofabrication*, **2021**, 14,	10.5	2
28	Hybrid Three-Dimensional-Printed Ear Tissue Scaffold With Autologous Cartilage Mitigates Soft Tissue Complications. *Laryngoscope*, **2021**, 131, 1008-1015	3.6	2
27	5C-2 Non-Invasive Ultrasound Elastic Modulus Estimates on Tissue Scaffold Mechanical Property Change. *Proceedings IEEE Ultrasonics Symposium*, **2007**,		1
26	Normal and reconstructed mandibular condyle mechanics. *Journal of Mechanical Science and Technology*, **2001**, 15, 974-981		1
25	Reverse Engineering of Geometrically Complex Automotive Structures Using X-Ray Computed Tomography and Digital Image Based Finite Element Methods **1998**,		1
24	3D Printing of Thermoplastics with Higher Strength Using SWIR-Supercontinuum Laser **2016**,		1
23	Biomechanics of Osteo-Synthetics **2020**, 397-425		1

22	Modulating nonlinear elastic behavior of biodegradable shape memory elastomer and small intestinal submucosa(SIS) composites for soft tissue repair. *Journal of the Mechanical Behavior of Biomedical Materials*, **2020**, 110, 103965	4.1	1
21	Evaluating Directional Dependency of Selective Laser Sintered Patient Specific Biodegradable Devices to Improve Predictive Modeling and Design Verification. *Annals of Biomedical Engineering*, **2021**, 49, 2579-2589	4.7	1
20	Quality Control of 3D Printed Resorbable Implants: The 3D Printed Airway Splint Example **2018**, 131-160		1
19	Development of Photocrosslinked Poly(glycerol dodecanedioate)A Biodegradable Shape Memory Polymer for 3D-Printed Tissue Engineering Applications. *Advanced Engineering Materials*, **2021**, 23, 2100219	3.5	1
18	Anatomic-Based Design, Manufacturing, and Preclinical Assessment of a Novel 3D-Printed Bioscaffold for Total Nasal Reconstruction. *Facial Plastic Surgery and Aesthetic Medicine*, **2020**, 22, 486-488	2.4	0
17	Finite Strain Elastostatics With Stiffening Materials: A Constrained Minimization Model. *Journal of Applied Mechanics, Transactions ASME*, **1997**, 64, 440-442	2.7	0
16	Preclinical assessment of clinically streamlined, 3D-printed, biocompatible single- and two-stage tissue scaffolds for ear reconstruction. *Journal of Biomedical Materials Research - Part B Applied Biomaterials*, **2021**, 109, 394-400	3.5	0
15	Tracheal agenesis: Esophageal airway support with a 3-dimensional-printed bioresorbable splint.. *JTCVS Techniques*, **2021**, 10, 563-568	0.2	0
14	Early preclinical evaluation of a novel, computer aided designed, 3D printed, bioresorbable posterior cricoid scaffold. *International Journal of Pediatric Otorhinolaryngology*, **2021**, 150, 110892	1.7	0
13	Design and Quality Control for Translating 3D-Printed Scaffolds **2015**, 43-59		
12	High-frequency ultrasonic imaging of growth and development in manufactured engineered oral mucosal tissue surfaces. *Ultrasound in Medicine and Biology*, **2014**, 40, 2244-51	3.5	
11	Engineered Scaffold Architecture Influences Soft Tissue Regeneration **2008**, 67-78		
10	Noninvasive, quantitative fluorescence sensing in 3D tissues: an approach to in vivo molecular characterization of engineered tissue constructs **2006**, ME59		
9	Fabrication of Polycaprolactone Bone Tissue Engineering Scaffolds Using Selective Laser Sintering **2004**, 525		
8	Image-based Hierarchical Analysis and Design of Tissue Engineering Scaffolds **2006**, 503-515		
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