Carlijn Bouten

List of Publications by Citations

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

240 papers	10,012 citations	49 h-index	91 g-index
281 ext. papers	11,646 ext. citations	5.5 avg, IF	6.19 L-index

#	Paper	IF	Citations
240	Experimental investigation of collagen waviness and orientation in the arterial adventitia using confocal laser scanning microscopy. *Biomechanics and Modeling in Mechanobiology*, **2012**, 11, 461-73	3.8	595
239	A triaxial accelerometer and portable data processing unit for the assessment of daily physical activity. *IEEE Transactions on Biomedical Engineering*, **1997**, 44, 136-47	5	595
238	Design of scaffolds for blood vessel tissue engineering using a multi-layering electrospinning technique. *Acta Biomaterialia*, **2005**, 1, 575-82	10.8	362
237	The etiology of pressure ulcers: skin deep or muscle bound?. *Archives of Physical Medicine and Rehabilitation*, **2003**, 84, 616-9	2.8	283
236	Decreased mechanical stiffness in LMNA-/- cells is caused by defective nucleo-cytoskeletal integrity: implications for the development of laminopathies. *Human Molecular Genetics*, **2004**, 13, 2567-80	5.6	274
235	Extracellular vesicles: potential roles in regenerative medicine. *Frontiers in Immunology*, **2014**, 5, 608	8.4	212
234	Fibrin as a cell carrier in cardiovascular tissue engineering applications. *Biomaterials*, **2005**, 26, 3113-21	15.6	207
233	Substrates for cardiovascular tissue engineering. *Advanced Drug Delivery Reviews*, **2011**, 63, 221-41	18.5	206
232	Genesis and growth of extracellular-vesicle-derived microcalcification in atherosclerotic plaques. *Nature Materials*, **2016**, 15, 335-43	27	198
231	Tissue engineering of human heart valve leaflets: a novel bioreactor for a strain-based conditioning approach. *Annals of Biomedical Engineering*, **2005**, 33, 1778-88	4.7	168
230	Daily physical activity assessment: comparison between movement registration and doubly labeled water. *Journal of Applied Physiology*, **1996**, 81, 1019-26	3.7	167
229	In situ heart valve tissue engineering using a bioresorbable elastomeric implant - From material design to 12 months follow-up in sheep. *Biomaterials*, **2017**, 125, 101-117	15.6	161
228	The role of collagen cross-links in biomechanical behavior of human aortic heart valve leaflets--relevance for tissue engineering. *Tissue Engineering*, **2007**, 13, 1501-11		144
227	Tailoring fiber diameter in electrospun poly(epsilon-caprolactone) scaffolds for optimal cellular infiltration in cardiovascular tissue engineering. *Tissue Engineering - Part A*, **2009**, 15, 437-44	3.9	142
226	A computational model for collagen fibre remodelling in the arterial wall. *Journal of Theoretical Biology*, **2004**, 226, 53-64	2.3	140
225	Passive transverse mechanical properties of skeletal muscle under in vivo compression. *Journal of Biomechanics*, **2001**, 34, 1365-8	2.9	133
224	Can loaded interface characteristics influence strain distributions in muscle adjacent to bony prominences?. *Computer Methods in Biomechanics and Biomedical Engineering*, **2003**, 6, 171-80	2.1	125

223	Biomaterial-driven in situ cardiovascular tissue engineering-a multi-disciplinary perspective. *Npj Regenerative Medicine*, **2017**, 2, 18	15.8	124
222	The relative contributions of compression and hypoxia to development of muscle tissue damage: an in vitro study. *Annals of Biomedical Engineering*, **2007**, 35, 273-84	4.7	123
221	Strain-dependent modulation of macrophage polarization within scaffolds. *Biomaterials*, **2014**, 35, 4919-28	15.6	122
220	Fluorescently labeled collagen binding proteins allow specific visualization of collagen in tissues and live cell culture. *Analytical Biochemistry*, **2006**, 350, 177-85	3.1	121
219	Autologous human tissue-engineered heart valves: prospects for systemic application. *Circulation*, **2006**, 114, I152-8	16.7	119
218	Tissue engineering of heart valves: advances and current challenges. *Expert Review of Medical Devices*, **2009**, 6, 259-75	3.5	114
217	Predicting local cell deformations in engineered tissue constructs: a multilevel finite element approach. *Journal of Biomechanical Engineering*, **2002**, 124, 198-207	2.1	105
216	A structural constitutive model for collagenous cardiovascular tissues incorporating the angular fiber distribution. *Journal of Biomechanical Engineering*, **2005**, 127, 494-503	2.1	104
215	Effects of placement and orientation of body-fixed accelerometers on the assessment of energy expenditure during walking. *Medical and Biological Engineering and Computing*, **1997**, 35, 50-6	3.1	103
214	Remodelling of the angular collagen fiber distribution in cardiovascular tissues. *Biomechanics and Modeling in Mechanobiology*, **2008**, 7, 93-103	3.8	96
213	Compression induced cell damage in engineered muscle tissue: an in vitro model to study pressure ulcer aetiology. *Annals of Biomedical Engineering*, **2003**, 31, 1357-64	4.7	95
212	Mechanical and failure properties of single attached cells under compression. *Journal of Biomechanics*, **2005**, 38, 1685-93	2.9	88
211	The relevance of large strains in functional tissue engineering of heart valves. *Thoracic and Cardiovascular Surgeon*, **2003**, 51, 78-83	1.6	83
210	Remodelling of continuously distributed collagen fibres in soft connective tissues. *Journal of Biomechanics*, **2003**, 36, 1151-8	2.9	83
209	Computational analyses of mechanically induced collagen fiber remodeling in the aortic heart valve. *Journal of Biomechanical Engineering*, **2003**, 125, 549-57	2.1	83
208	Temporal differences in the influence of ischemic factors and deformation on the metabolism of engineered skeletal muscle. *Journal of Applied Physiology*, **2007**, 103, 464-73	3.7	82
207	High resolution imaging of collagen organisation and synthesis using a versatile collagen specific probe. *Journal of Structural Biology*, **2007**, 159, 392-9	3.4	81
206	Early in-situ cellularization of a supramolecular vascular graft is modified by synthetic stromal cell-derived factor-1[illegible]derived peptides. *Biomaterials*, **2016**, 76, 187-95	15.6	79

205	Compressive deformation and damage of muscle cell subpopulations in a model system. *Annals of Biomedical Engineering*, **2001**, 29, 153-63	4.7	77
204	In Situ Tissue Engineering of Functional Small-Diameter Blood Vessels by Host Circulating Cells Only. *Tissue Engineering - Part A*, **2015**, 21, 2583-94	3.9	74
203	Modeling the mechanics of tissue-engineered human heart valve leaflets. *Journal of Biomechanics*, **2007**, 40, 325-34	2.9	73
202	Improved prediction of the collagen fiber architecture in the aortic heart valve. *Journal of Biomechanical Engineering*, **2005**, 127, 329-36	2.1	68
201	Modeling collagen remodeling. *Journal of Biomechanics*, **2010**, 43, 166-75	2.9	66
200	Selective regulation of Notch ligands during angiogenesis is mediated by vimentin. *Proceedings of the National Academy of Sciences of the United States of America*, **2017**, 114, E4574-E4581	11.5	61
199	Engineering a 3D-Bioprinted Model of Human Heart Valve Disease Using Nanoindentation-Based Biomechanics. *Nanomaterials*, **2018**, 8,	5.4	59
198	Effect of strain magnitude on the tissue properties of engineered cardiovascular constructs. *Annals of Biomedical Engineering*, **2008**, 36, 244-53	4.7	58
197	A biomimetic microfluidic model to study signalling between endothelial and vascular smooth muscle cells under hemodynamic conditions. *Lab on A Chip*, **2018**, 18, 1607-1620	7.2	58
196	Quantification of the temporal evolution of collagen orientation in mechanically conditioned engineered cardiovascular tissues. *Annals of Biomedical Engineering*, **2009**, 37, 1263-72	4.7	56
195	Mechanical characterization of anisotropic planar biological soft tissues using finite indentation: experimental feasibility. *Journal of Biomechanics*, **2008**, 41, 422-9	2.9	55
194	Heading in the Right Direction: Understanding Cellular Orientation Responses to Complex Biophysical Environments. *Cellular and Molecular Bioengineering*, **2016**, 9, 12-37	3.9	51
193	How to make a heart valve: from embryonic development to bioengineering of living valve substitutes. *Cold Spring Harbor Perspectives in Medicine*, **2014**, 4, a013912	5.4	49
192	Intermittent straining accelerates the development of tissue properties in engineered heart valve tissue. *Tissue Engineering - Part A*, **2009**, 15, 999-1008	3.9	49
191	Quantification and localisation of damage in rat muscles after controlled loading; a new approach to study the aetiology of pressure sores. *Medical Engineering and Physics*, **2001**, 23, 195-200	2.4	49
190	Hydrolytic and oxidative degradation of electrospun supramolecular biomaterials: In vitro degradation pathways. *Acta Biomaterialia*, **2015**, 27, 21-31	10.8	48
189	Macrophage-Driven Biomaterial Degradation Depends on Scaffold Microarchitecture. *Frontiers in Bioengineering and Biotechnology*, **2019**, 7, 87	5.8	45
188	Modulation of macrophage phenotype and protein secretion via heparin-IL-4 functionalized supramolecular elastomers. *Acta Biomaterialia*, **2018**, 71, 247-260	10.8	45

187	Discoidin Domain Receptor-1 Regulates Calcific Extracellular Vesicle Release in Vascular Smooth Muscle Cell Fibrocalcific Response via Transforming Growth Factor-β Signaling. *Arteriosclerosis, Thrombosis, and Vascular Biology*, **2016**, 36, 525-33	9.4	44
186	Computational model predicts cell orientation in response to a range of mechanical stimuli. *Biomechanics and Modeling in Mechanobiology*, **2014**, 13, 227-36	3.8	43
185	Polymer-based scaffold designs for in situ vascular tissue engineering: controlling recruitment and differentiation behavior of endothelial colony forming cells. *Macromolecular Bioscience*, **2012**, 12, 577-90	5.5	43
184	Daily energy expenditure through the human life course. *Science*, **2021**, 373, 808-812	33.3	43
183	Soft substrates normalize nuclear morphology and prevent nuclear rupture in fibroblasts from a laminopathy patient with compound heterozygous LMNA mutations. *Nucleus*, **2013**, 4, 61-73	3.9	42
182	The influence of serum-free culture conditions on skeletal muscle differentiation in a tissue-engineered model. *Tissue Engineering - Part A*, **2008**, 14, 161-71	3.9	42
181	Viscoelastic properties of single attached cells under compression. *Journal of Biomechanical Engineering*, **2005**, 127, 237-43	2.1	42
180	Hypoxia induces near-native mechanical properties in engineered heart valve tissue. *Circulation*, **2009**, 119, 290-7	16.7	40
179	Colorful protein-based fluorescent probes for collagen imaging. *PLoS ONE*, **2014**, 9, e114983	3.7	40
178	Age-dependent changes of stress and strain in the human heart valve and their relation with collagen remodeling. *Acta Biomaterialia*, **2016**, 29, 161-169	10.8	39
177	Stress related collagen ultrastructure in human aortic valves--implications for tissue engineering. *Journal of Biomechanics*, **2008**, 41, 2612-7	2.9	39
176	Vimentin regulates Notch signaling strength and arterial remodeling in response to hemodynamic stress. *Scientific Reports*, **2019**, 9, 12415	4.9	38
175	Differential response of endothelial and endothelial colony forming cells on electrospun scaffolds with distinct microfiber diameters. *Biomacromolecules*, **2014**, 15, 821-9	6.9	38
174	Strain-induced collagen organization at the micro-level in fibrin-based engineered tissue constructs. *Annals of Biomedical Engineering*, **2013**, 41, 763-74	4.7	38
173	Monitoring the biomechanical response of individual cells under compression: a new compression device. *Medical and Biological Engineering and Computing*, **2003**, 41, 498-503	3.1	38
172	Development of Non-Cell Adhesive Vascular Grafts Using Supramolecular Building Blocks. *Macromolecular Bioscience*, **2016**, 16, 350-62	5.5	37
171	Decoupling the Effect of Shear Stress and Stretch on Tissue Growth and Remodeling in a Vascular Graft. *Tissue Engineering - Part C: Methods*, **2018**, 24, 418-429	2.9	37
170	Cytokine and chemokine release upon prolonged mechanical loading of the epidermis. *Experimental Dermatology*, **2007**, 16, 567-73	4	37

169	Finite element model of mechanically induced collagen fiber synthesis and degradation in the aortic valve. *Annals of Biomedical Engineering*, **2003**, 31, 1040-53	4.7	37
168	Matrix production and remodeling capacity of cardiomyocyte progenitor cells during in vitro differentiation. *Journal of Molecular and Cellular Cardiology*, **2012**, 53, 497-508	5.8	36
167	A comparative analysis of the collagen architecture in the carotid artery: second harmonic generation versus diffusion tensor imaging. *Biochemical and Biophysical Research Communications*, **2012**, 426, 54-8	3.4	36
166	Body mass index and daily physical activity in anorexia nervosa. *Medicine and Science in Sports and Exercise*, **1996**, 28, 967-73	1.2	36
165	Mechanosensitivity of Jagged-Notch signaling can induce a switch-type behavior in vascular homeostasis. *Proceedings of the National Academy of Sciences of the United States of America*, **2018**, 115, E3682-E3691	11.5	35
164	Physical activity assessment: comparison between movement registration and doubly labeled water method. *European Journal of Nutrition*, **1997**, 36, 263-7		35
163	Inertial shear forces and the use of centrifuges in gravity research. What is the proper control?. *Journal of Biomechanical Engineering*, **2003**, 125, 342-6	2.1	35
162	Monitoring local cell viability in engineered tissues: a fast, quantitative, and nondestructive approach. *Tissue Engineering*, **2003**, 9, 269-81		35
161	The Patterning and Alignment of Muscle Cells Using the Selective Adhesion of Poly(oligoethylene glycol methyl ether methacrylate)-based ABA Block Copolymers. *Advanced Materials*, **2005**, 17, 2324-2329	24	35
160	The influence of matrix (an)isotropy on cardiomyocyte contraction in engineered cardiac microtissues. *Integrative Biology (United Kingdom)*, **2014**, 6, 422-9	3.7	34
159	Combining tissue repair and tissue engineering; bioactivating implantable cell-free vascular scaffolds. *Heart*, **2014**, 100, 1825-30	5.1	34
158	Synergistic protein secretion by mesenchymal stromal cells seeded in 3D scaffolds and circulating leukocytes in physiological flow. *Biomaterials*, **2014**, 35, 9100-13	15.6	33
157	Vascular Mechanobiology: Towards Control of In Situ Regeneration. *Cells*, **2017**, 6,	7.9	33
156	Tissue-engineered heart valves develop native-like collagen fiber architecture. *Tissue Engineering - Part A*, **2010**, 16, 1527-37	3.9	33
155	Microfabricated tuneable and transferable porous PDMS membranes for Organs-on-Chips. *Scientific Reports*, **2018**, 8, 13524	4.9	33
154	Mesoscale substrate curvature overrules nanoscale contact guidance to direct bone marrow stromal cell migration. *Journal of the Royal Society Interface*, **2018**, 15,	4.1	32
153	Quantifying pressure sore-related muscle damage using high-resolution MRI. *Journal of Applied Physiology*, **2003**, 95, 2235-40	3.7	32
152	Age-Dependent Changes in Geometry, Tissue Composition and Mechanical Properties of Fetal to Adult Cryopreserved Human Heart Valves. *PLoS ONE*, **2016**, 11, e0149020	3.7	32

151	Shear flow affects selective monocyte recruitment into MCP-1-loaded scaffolds. *Journal of Cellular and Molecular Medicine*, **2014**, 18, 2176-88	5.6	31
150	Influence of substrate stiffness on circulating progenitor cell fate. *Journal of Biomechanics*, **2012**, 45, 736-44	2.9	31
149	A theoretical analysis of damage evolution in skeletal muscle tissue with reference to pressure ulcer development. *Journal of Biomechanical Engineering*, **2003**, 125, 902-9	2.1	31
148	In vitro models to study compressive strain-induced muscle cell damage. *Biorheology*, **2003**, 40, 383-8	1.7	31
147	Can We Grow Valves Inside the Heart? Perspective on Material-based In Situ Heart Valve Tissue Engineering. *Frontiers in Cardiovascular Medicine*, **2018**, 5, 54	5.4	30
146	In Vivo Collagen Remodeling in the Vascular Wall of Decellularized Stented Tissue-Engineered Heart Valves. *Tissue Engineering - Part A*, **2015**, 21, 2206-15	3.9	30
145	Mechanical characterization of anisotropic planar biological soft tissues using large indentation: a computational feasibility study. *Journal of Biomechanical Engineering*, **2006**, 128, 428-36	2.1	30
144	Modulation of collagen fiber orientation by strain-controlled enzymatic degradation. *Acta Biomaterialia*, **2016**, 35, 118-26	10.8	30
143	Cardiac Progenitor Cells and the Interplay with Their Microenvironment. *Stem Cells International*, **2017**, 2017, 7471582	5	29
142	Translating autologous heart valve tissue engineering from bench to bed. *Tissue Engineering - Part B: Reviews*, **2009**, 15, 307-17	7.9	29
141	Effect of biomimetic conditions on mechanical and structural integrity of PGA/P4HB and electrospun PCL scaffolds. *Journal of Materials Science: Materials in Medicine*, **2008**, 19, 1137-44	4.5	29
140	Aerobic work capacity in elite wheelchair athletes: a cross-sectional analysis. *American Journal of Physical Medicine and Rehabilitation*, **2002**, 81, 261-71	2.6	28
139	Tissue engineering meets immunoengineering: Prospective on personalized in situ tissue engineering strategies. *Current Opinion in Biomedical Engineering*, **2018**, 6, 17-26	4.4	27
138	Energy expenditure and physical activity in subjects consuming full-or reduced-fat products as part of their normal diet. *British Journal of Nutrition*, **1996**, 76, 785-95	3.6	27
137	Annexin A1-dependent tethering promotes extracellular vesicle aggregation revealed with single-extracellular vesicle analysis. *Science Advances*, **2020**, 6,	14.3	27
136	Review article: Tissue engineering of semilunar heart valves: current status and future developments. *Journal of Heart Valve Disease*, **2004**, 13, 272-80		27
135	The evolution of collagen fiber orientation in engineered cardiovascular tissues visualized by diffusion tensor imaging. *PLoS ONE*, **2015**, 10, e0127847	3.7	26
134	Cellular Geometry Sensing at Different Length Scales and its Implications for Scaffold Design. *Materials*, **2020**, 13,	3.5	26

133	Entropic Forces Drive Cellular Contact Guidance. *Biophysical Journal*, **2019**, 116, 1994-2008	2.9	25
132	Evaluation of a continuous quantification method of apoptosis and necrosis in tissue cultures. *Cytotechnology*, **2004**, 46, 139-50	2.2	25
131	Robust Generation of Quiescent Porcine Valvular Interstitial Cell Cultures. *Journal of the American Heart Association*, **2017**, 6,	6	24
130	Mimicking Cardiac Fibrosis in a Dish: Fibroblast Density Rather than Collagen Density Weakens Cardiomyocyte Function. *Journal of Cardiovascular Translational Research*, **2017**, 10, 116-127	3.3	24
129	Controlling matrix formation and cross-linking by hypoxia in cardiovascular tissue engineering. *Journal of Applied Physiology*, **2010**, 109, 1483-91	3.7	24
128	Anisotropic, three-dimensional deformation of single attached cells under compression. *Annals of Biomedical Engineering*, **2004**, 32, 1443-52	4.7	24
127	Hemodynamic loads distinctively impact the secretory profile of biomaterial-activated macrophages - implications for in situ vascular tissue engineering. *Biomaterials Science*, **2019**, 8, 132-147	7.4	24
126	Cell-Perceived Substrate Curvature Dynamically Coordinates the Direction, Speed, and Persistence of Stromal Cell Migration. *Advanced Biology*, **2019**, 3, e1900080	3.5	23
125	Increased cardiac myocyte PDE5 levels in human and murine pressure overload hypertrophy contribute to adverse LV remodeling. *PLoS ONE*, **2013**, 8, e58841	3.7	22
124	Competition between cap and basal actin fiber orientation in cells subjected to contact guidance and cyclic strain. *Scientific Reports*, **2015**, 5, 8752	4.9	21
123	A standard calculation methodology for human doubly labeled water studies. *Cell Reports Medicine*, **2021**, 2, 100203	18	21
122	Failure of decellularized porcine small intestinal submucosa as a heart valved conduit. *Journal of Thoracic and Cardiovascular Surgery*, **2020**, 160, e201-e215	1.5	20
121	Environmental regulation of valvulogenesis: implications for tissue engineering. *European Journal of Cardio-thoracic Surgery*, **2011**, 39, 8-17	3	20
120	Layer-specific cell differentiation in bi-layered vascular grafts under flow perfusion. *Biofabrication*, **2019**, 12, 015009	10.5	20
119	The degradation and performance of electrospun supramolecular vascular scaffolds examined upon in vitro enzymatic exposure. *Acta Biomaterialia*, **2019**, 92, 48-59	10.8	19
118	Behavior of CMPCs in unidirectional constrained and stress-free 3D hydrogels. *Journal of Molecular and Cellular Cardiology*, **2015**, 87, 79-91	5.8	19
117	Variation in tissue outcome of ovine and human engineered heart valve constructs: relevance for tissue engineering. *Regenerative Medicine*, **2012**, 7, 59-70	2.5	19
116	An in vitro model system to study the damaging effects of prolonged mechanical loading of the epidermis. *Annals of Biomedical Engineering*, **2006**, 34, 506-14	4.7	19

115	Degree of scaffold degradation influences collagen (re)orientation in engineered tissues. *Tissue Engineering - Part A*, **2014**, 20, 1747-57	3.9	18
114	Straining mode-dependent collagen remodeling in engineered cardiovascular tissue. *Tissue Engineering - Part A*, **2009**, 15, 841-9	3.9	18
113	A mesofluidics-based test platform for systematic development of scaffolds for in situ cardiovascular tissue engineering. *Tissue Engineering - Part C: Methods*, **2012**, 18, 475-85	2.9	18
112	Compression-induced damage in a muscle cell model in vitro. *Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine*, **2005**, 219, 1-12	1.7	18
111	Anti-fibrotic Effects of Cardiac Progenitor Cells in a 3D-Model of Human Cardiac Fibrosis. *Frontiers in Cardiovascular Medicine*, **2019**, 6, 52	5.4	17
110	Current Challenges in Translating Tissue-Engineered Heart Valves. *Current Treatment Options in Cardiovascular Medicine*, **2017**, 19, 71	2.1	17
109	Engineering skeletal muscle tissues from murine myoblast progenitor cells and application of electrical stimulation. *Journal of Visualized Experiments*, **2013**, e4267	1.6	17
108	Differential Leaflet Remodeling of Bone‐Marrow Cell Pre-Seeded Versus Nonseeded Bioresorbable Transcatheter Pulmonary Valve Replacements. *JACC Basic To Translational Science*, **2020**, 5, 15-31	8.7	17
107	Host Response and Neo-Tissue Development during Resorption of a Fast Degrading Supramolecular Electrospun Arterial Scaffold. *Bioengineering*, **2018**, 5,	5.3	16
106	Collagen Matrix Remodeling in Stented Pulmonary Arteries after Transapical Heart Valve Replacement. *Cells Tissues Organs*, **2016**, 201, 159-69	2.1	16
105	Shear stress induces expression, intracellular reorganization and enhanced Notch activation potential of Jagged1. *Integrative Biology (United Kingdom)*, **2018**, 10, 719-726	3.7	16
104	An automated quantitative analysis of cell, nucleus and focal adhesion morphology. *PLoS ONE*, **2018**, 13, e0195201	3.7	15
103	Conceptual model for early health technology assessment of current and novel heart valve interventions. *Open Heart*, **2016**, 3, e000500	3	15
102	Supramolecular surface functionalization via catechols for the improvement of cell-material interactions. *Biomaterials Science*, **2017**, 5, 1541-1548	7.4	14
101	In Situ Remodeling Overrules Bioinspired Scaffold Architecture of Supramolecular Elastomeric Tissue-Engineered Heart Valves. *JACC Basic To Translational Science*, **2020**, 5, 1187-1206	8.7	14
100	Strain mediated enzymatic degradation of arterial tissue: Insights into the role of the non-collagenous tissue matrix and collagen crimp. *Acta Biomaterialia*, **2018**, 77, 301-310	10.8	14
99	Cyclic Strain Affects Macrophage Cytokine Secretion and Extracellular Matrix Turnover in Electrospun Scaffolds. *Tissue Engineering - Part A*, **2019**, 25, 1310-1325	3.9	14
98	Cellular Contact Guidance Emerges from Gap Avoidance. *Cell Reports Physical Science*, **2020**, 1, 100055	6.1	13

97	Growth and remodeling play opposing roles during postnatal human heart valve development. *Scientific Reports*, **2018**, 8, 1235	4.9	13
96	Modelling The Combined Effects Of Collagen and Cyclic Strain On Cellular Orientation In Collagenous Tissues. *Scientific Reports*, **2018**, 8, 8518	4.9	13
95	Matrix production and organization by endothelial colony forming cells in mechanically strained engineered tissue constructs. *PLoS ONE*, **2013**, 8, e73161	3.7	13
94	A Bioreactor to Identify the Driving Mechanical Stimuli of Tissue Growth and Remodeling. *Tissue Engineering - Part C: Methods*, **2017**, 23, 377-387	2.9	12
93	Superior Tissue Evolution in Slow-Degrading Scaffolds for Valvular Tissue Engineering. *Tissue Engineering - Part A*, **2016**, 22, 123-32	3.9	12
92	Mechanics of the pulmonary valve in the aortic position. *Journal of the Mechanical Behavior of Biomedical Materials*, **2014**, 29, 557-67	4.1	12
91	Understanding strain-induced collagen matrix development in engineered cardiovascular tissues from gene expression profiles. *Cell and Tissue Research*, **2013**, 352, 727-37	4.2	12
90	Monocytic cells become less compressible but more deformable upon activation. *PLoS ONE*, **2014**, 9, e92814	3.7	12
89	Cardiomyocyte progenitor cell mechanoresponse unrevealed: strain avoidance and mechanosome development. *Integrative Biology (United Kingdom)*, **2016**, 8, 991-1001	3.7	12
88	Functional peptide presentation on different hydrogen bonding biomaterials using supramolecular additives. *Biomaterials*, **2019**, 224, 119466	15.6	11
87	Human In Vitro Model Mimicking Material-Driven Vascular Regeneration Reveals How Cyclic Stretch and Shear Stress Differentially Modulate Inflammation and Matrix Deposition. *Advanced Biology*, **2020**, 4, e1900249	3.5	11
86	Mechanobiology of the cell–matrix interplay: Catching a glimpse of complexity via minimalistic models. *Extreme Mechanics Letters*, **2018**, 20, 59-64	3.9	11
85	Spatial patterning of the Notch ligand Dll4 controls endothelial sprouting in vitro. *Scientific Reports*, **2018**, 8, 6392	4.9	11
84	Mechanical analysis of ovine and pediatric pulmonary artery for heart valve stent design. *Journal of Biomechanics*, **2013**, 46, 2075-81	2.9	11
83	Mechanically Robust Electrospun Hydrogel Scaffolds Crosslinked via Supramolecular Interactions. *Macromolecular Bioscience*, **2017**, 17, 1700053	5.5	11
82	What Is the Potential of Tissue-Engineered Pulmonary Valves in Children?. *Annals of Thoracic Surgery*, **2019**, 107, 1845-1853	2.7	10
81	Computational and experimental investigation of local stress fiber orientation in uniaxially and biaxially constrained microtissues. *Biomechanics and Modeling in Mechanobiology*, **2014**, 13, 1053-63	3.8	10
80	Decreased mechanical properties of heart valve tissue constructs cultured in platelet lysate as compared to fetal bovine serum. *Tissue Engineering - Part C: Methods*, **2011**, 17, 607-17	2.9	10

79	A membrane-based microfluidic device for mechano-chemical cell manipulation. *Biomedical Microdevices*, **2016**, 18, 31	3.7	9
78	High-Throughput Screening Assay for the Identification of Compounds Enhancing Collagenous Extracellular Matrix Production by ATDC5 Cells. *Tissue Engineering - Part C: Methods*, **2015**, 21, 726-36	2.9	9
77	Platelet-lysate as an autologous alternative for fetal bovine serum in cardiovascular tissue engineering. *Tissue Engineering - Part A*, **2010**, 16, 1317-27	3.9	9
76	Cellular strain avoidance is mediated by a functional actin cap - observations in an -deficient cell model. *Journal of Cell Science*, **2017**, 130, 779-790	5.3	8
75	The Effects of Scaffold Remnants in Decellularized Tissue-Engineered Cardiovascular Constructs on the Recruitment of Blood Cells. *Tissue Engineering - Part A*, **2017**, 23, 1142-1151	3.9	8
74	Low oxygen concentrations impair tissue development in tissue-engineered cardiovascular constructs. *Tissue Engineering - Part A*, **2012**, 18, 221-31	3.9	8
73	Effects of temperature and doxorubicin exposure on keratinocyte damage in vitro. *In Vitro Cellular and Developmental Biology - Animal*, **2008**, 44, 81-6	2.6	8
72	Aortic calcified particles modulate valvular endothelial and interstitial cells. *Cardiovascular Pathology*, **2017**, 28, 36-45	3.8	7
71	Lmna knockout mouse embryonic fibroblasts are less contractile than their wild-type counterparts. *Integrative Biology (United Kingdom)*, **2017**, 9, 709-721	3.7	7
70	From molecular design to 3D printed life-like materials with unprecedented properties. *Current Opinion in Biomedical Engineering*, **2017**, 2, 43-48	4.4	7
69	Integrative Multi-Omics Analysis in Calcific Aortic Valve Disease Reveals a Link to the Formation of Amyloid-Like Deposits. *Cells*, **2020**, 9,	7.9	7
68	Optimization of Anti-kinking Designs for Vascular Grafts Based on Supramolecular Materials. *Frontiers in Materials*, **2020**, 7,	4	7
67	Methods to Model Cardiac Mechanobiology in Health and Disease. *Tissue Engineering - Part C: Methods*, **2021**, 27, 139-151	2.9	7
66	Immuno-regenerative biomaterials for in situ cardiovascular tissue engineering - Do patient characteristics warrant precision engineering?. *Advanced Drug Delivery Reviews*, **2021**, 178, 113960	18.5	7
65	Early cost-utility analysis of tissue-engineered heart valves compared to bioprostheses in the aortic position in elderly patients. *European Journal of Health Economics*, **2020**, 21, 557-572	3.6	6
64	Pressure-induced collagen degradation in arterial tissue as a potential mechanism for degenerative arterial disease progression. *Journal of the Mechanical Behavior of Biomedical Materials*, **2020**, 109, 103771	4.1	6
63	Intrinsic Cell Stress is Independent of Organization in Engineered Cell Sheets. *Cardiovascular Engineering and Technology*, **2018**, 9, 181-192	2.2	6
62	Then and now: hypes and hopes of regenerative medicine. *Trends in Biotechnology*, **2013**, 31, 121-3	15.1	6

61	Fibrotic aortic valve disease after radiotherapy: an immunohistochemical study in breast cancer and lymphoma patients. *Cardiovascular Pathology*, **2020**, 45, 107176	3.8	6
60	Protein Micropatterning in 2.5D: An Approach to Investigate Cellular Responses in Multi-Cue Environments. *ACS Applied Materials & Interfaces*, **2021**, 13, 25589-25598	9.5	6
59	Myocardial Disease and Long-Distance Space Travel: Solving the Radiation Problem. *Frontiers in Cardiovascular Medicine*, **2021**, 8, 631985	5.4	6
58	Bioprinting of kidney in vitro models: cells, biomaterials, and manufacturing techniques. *Essays in Biochemistry*, **2021**, 65, 587-602	7.6	6
57	Increased Cell Traction-Induced Prestress in Dynamically Cultured Microtissues. *Frontiers in Bioengineering and Biotechnology*, **2019**, 7, 41	5.8	5
56	Modeling the impact of scaffold architecture and mechanical loading on collagen turnover in engineered cardiovascular tissues. *Biomechanics and Modeling in Mechanobiology*, **2015**, 14, 603-13	3.8	5
55	Nondestructive mechanical characterization of developing biological tissues using inflation testing. *Journal of the Mechanical Behavior of Biomedical Materials*, **2017**, 74, 438-447	4.1	5
54	Quantification of cytoskeletal deformation in living cells based on hierarchical feature vector matching. *American Journal of Physiology - Cell Physiology*, **2002**, 283, C639-45	5.4	5
53	Material-based engineering strategies for cardiac regeneration. *Current Pharmaceutical Design*, **2014**, 20, 2057-68	3.3	5
52	Functional tissue engineering of the aortic heart valve. *Clinical Hemorheology and Microcirculation*, **2005**, 33, 197-9	2.5	5
51	Heart valve tissue regeneration **2011**, 202-224		4
50	A Multi-Cue Bioreactor to Evaluate the Inflammatory and Regenerative Capacity of Biomaterials under Flow and Stretch. *Journal of Visualized Experiments*, **2020**,	1.6	4
49	Cytokine release in tissue-engineered epidermal equivalents after prolonged mechanical loading. *Methods in Molecular Biology*, **2010**, 585, 335-44	1.4	4
48	Inconsistency in Graft Outcome of Bilayered Bioresorbable Supramolecular Arterial Scaffolds in Rats. *Tissue Engineering - Part A*, **2021**, 27, 894-904	3.9	4
47	Impact of Additives on Mechanical Properties of Supramolecular Electrospun Scaffolds. *ACS Applied Polymer Materials*, **2020**, 2, 3742-3748	4.3	4
46	Triple-marker cardiac MRI detects sequential tissue changes of healing myocardium after a hydrogel-based therapy. *Scientific Reports*, **2019**, 9, 19366	4.9	4
45	Predicting and understanding collagen remodeling in human native heart valves during early development. *Acta Biomaterialia*, **2018**, 80, 203-216	10.8	4
44	Spheroid three-dimensional culture enhances Notch signaling in cardiac progenitor cells. *MRS Communications*, **2017**, 7, 496-501	2.7	3

43	Transcatheter-Delivered Expandable Bioresorbable Polymeric Graft With Stenting Capacity Induces Vascular Regeneration. *JACC Basic To Translational Science*, **2020**, 5, 1095-1110	8.7	3
42	Computational Characterization of The Dish-In-A-Dish, A High Yield Culture Platform for Endothelial Shear Stress Studies on the Orbital Shaker. *Micromachines*, **2020**, 11,	3.3	3
41	and Approaches Reveal Novel Insight Into the Ability of Epicardium-Derived Cells to Create Their Own Extracellular Environment. *Frontiers in Cardiovascular Medicine*, **2019**, 6, 81	5.4	3
40	Sequential use of human-derived medium supplements favours cardiovascular tissue engineering. *Journal of Cellular and Molecular Medicine*, **2012**, 16, 730-9	5.6	3
39	Initial scaffold thickness affects the emergence of a geometrical and mechanical equilibrium in engineered cardiovascular tissues. *Journal of the Royal Society Interface*, **2018**, 15,	4.1	3
38	Mechanical Properties of Bioengineered Corneal Stroma. *Advanced Healthcare Materials*, **2021**, 10, e2100972	[illegible]	3
37	Physical activity and fat-free mass during growth and in later life. *American Journal of Clinical Nutrition*, **2021**, 114, 1583-1589	7	3
36	The Mechanical Contribution of Vimentin to Cellular Stress Generation. *Journal of Biomechanical Engineering*, **2018**, 140,	2.1	2
35	The Future of Tissue Engineering. *Current Opinion in Biomedical Engineering*, **2018**, 6, iii-v	4.4	2
34	Tissue-engineered heart valves **2019**, 123-176		2
33	The Influence of Serum-Free Culture Conditions on Skeletal Muscle Differentiation in a Tissue-Engineered Model. *Tissue Engineering*, **2008**, 14, 161-171		2
32	Vascular Tissue Engineering: Pathological Considerations, Mechanisms, and Translational Implications **2020**, 95-134		2
31	Advanced Modeling to Study the Paradox of Mechanically Induced Cardiac Fibrosis. *Tissue Engineering - Part C: Methods*, **2021**, 27, 100-114	2.9	2
30	Inflammatory and regenerative processes in bioresorbable synthetic pulmonary valves up to two years in sheep-Spatiotemporal insights augmented by Raman microspectroscopy. *Acta Biomaterialia*, **2021**, 135, 243-259	10.8	2
29	Substrate Stiffness Determines the Establishment of Apical-Basal Polarization in Renal Epithelial Cells but Not in Tubuloid-Derived Cells.. *Frontiers in Bioengineering and Biotechnology*, **2022**, 10, 820930	5.8	2
28	Imaging the In Vivo Degradation of Tissue Engineering Implants by Use of Supramolecular Radiopaque Biomaterials. *Macromolecular Bioscience*, **2020**, 20, e2000024	5.5	1
27	Engineering fibrin-based tissue constructs from myofibroblasts and application of constraints and strain to induce cell and collagen reorganization. *Journal of Visualized Experiments*, **2013**, e51009	1.6	1
26	Remodeling of the collagen fiber architecture in cardiovascular tissues. *Journal of Biomechanics*, **2006**, 39, S317-S318	2.9	1

25	Imparting Immunomodulatory Activity to Scaffolds via Biotin-Avidin Interactions. *ACS Biomaterials Science and Engineering*, **2021**,	5.5	1
24	Computationally guided in-vitro vascular growth model reveals causal link between flow oscillations and disorganized neotissue		1
23	Inflammatory and regenerative processes in bioresorbable synthetic pulmonary valves up to 2 years in sheep: Spatiotemporal insights augmented by Raman microspectroscopy		1
22	Radiation Induces Valvular Interstitial Cell Calcific Response in an Model of Calcific Aortic Valve Disease. *Frontiers in Cardiovascular Medicine*, **2021**, 8, 687885	5.4	1
21	Distinct Effects of Heparin and Interleukin-4 Functionalization on Macrophage Polarization and In Situ Arterial Tissue Regeneration Using Resorbable Supramolecular Vascular Grafts in Rats. *Advanced Healthcare Materials*, **2021**, 10, e2101103	10.1	1
20	The Aetiopathology of Pressure Ulcers: A Hierarchical Approach **2005**, 1-9		1
19	New Tissue Repair Strategies **2005**, 353-374		1
18	Animal studies for the evaluation of in situ tissue-engineered vascular grafts - a systematic review, evidence map, and meta-analysis.. *Npj Regenerative Medicine*, **2022**, 7, 17	15.8	1
17	Engineering tissue morphogenesis: taking it up a Notch.. *Trends in Biotechnology*, **2022**,	15.1	1
16	Dual Electrospun Supramolecular Polymer Systems for Selective Cell Migration. *Macromolecular Bioscience*, **2018**, 18, e1800004	5.5	0
15	Total energy expenditure is repeatable in adults but not associated with short-term changes in body composition.. *Nature Communications*, **2022**, 13, 99	17.4	0
14	A Brief History in Cardiac Regeneration, and How the Extra Cellular Matrix May Turn the Tide. *Frontiers in Cardiovascular Medicine*, **2021**, 8, 682342	5.4	0
13	Computationally guided in-vitro vascular growth model reveals causal link between flow oscillations and disorganized neotissue. *Communications Biology*, **2021**, 4, 546	6.7	0
12	Renal Epithelial Cell Responses to Supramolecular Thermoplastic Elastomeric Concave and Convex Structures. *Advanced Materials Interfaces*, **2021**, 8, 2001490	4.6	0
11	Renal Biology Driven Macro- and Microscale Design Strategies for Creating an Artificial Proximal Tubule Using Fiber-Based Technologies. *ACS Biomaterials Science and Engineering*, **2021**, 7, 4679-4693	5.5	0
10	Scaffold Geometry-Imposed Anisotropic Mechanical Loading Guides the Evolution of the Mechanical State of Engineered Cardiovascular Tissues .. *Frontiers in Bioengineering and Biotechnology*, **2022**, 10, 796452	5.8	0
9	Tissue-engineered collagenous fibrous cap models to systematically elucidate atherosclerotic plaque rupture.. *Scientific Reports*, **2022**, 12, 5434	4.9	0
8	In-vitro engineered human cerebral tissues mimic pathological circuit disturbances in 3D.. *Communications Biology*, **2022**, 5, 254	6.7	0

7	Pirfenidone Has Anti-fibrotic Effects in a Tissue-Engineered Model of Human Cardiac Fibrosis.. *Frontiers in Cardiovascular Medicine*, **2022**, 9, 854314	5.4	0
6	Engineered patterns of Notch ligands Jag1 and Dll4 elicit differential spatial control of endothelial sprouting. *IScience*, **2022**, 25, 104306	6.1	0
5	Cardiac patching and the regeneration of infarcted myocardium: where do we go from here?. *Future Cardiology*, **2014**, 10, 167-70	1.3	
4	In Vitro Muscle Model Studies **2005**, 287-300		
3	Vascular Tissue Engineering: Pathological Considerations, Mechanisms, and Translational Implications **2020**, 1-41		
2	Heart valve tissue engineering: current preclinical and clinical approaches **2020**, 383-398		
1	P142Anti-fibrotic effects of cardiac progenitor cells in a 3D-model of human cardiac fibrosis. *Cardiovascular Research*, **2018**, 114, S37-S37	9.9	