Peter E Mchugh

List of Publications by Year in Descending Order

178 papers	5,407 citations	37 h-index	66 g-index
187 ext. papers	6,026 ext. citations	4.3 avg, IF	5.81 L-index

#	Paper	IF	Citations
178	Automated ex-situ detection of pitting corrosion and its effect on the mechanical integrity of rare earth magnesium alloy - WE43. *Bioactive Materials*, **2022**, 8, 545-558	16.7	4
177	Endovascular versus conventional open surgical repair for thoracoabdominal aortic aneurysms.. *The Cochrane Library*, **2022**, 4, CD012926	5.2	
176	Impact of Degradation and Material Crystallinity on the Mechanical Performance of a Bioresorbable Polymeric Stent. *Journal of Elasticity*, **2021**, 145, 243-264	1.5	
175	The role of plasticity in combined torsion and bending of elastic-plastic guidewires. *Journal of the Mechanics and Physics of Solids*, **2021**, 151, 104405	5	0
174	Investigating the Mechanical Behavior of Clot Analogues Through Experimental and Computational Analysis. *Annals of Biomedical Engineering*, **2021**, 49, 420-431	4.7	9
173	In Vitro Clot Modeling and Clinical Applications **2021**, 19-43		
172	Endovascular versus open surgical repair for complicated chronic Type B aortic dissection.. *The Cochrane Library*, **2021**, 12, CD012992	5.2	1
171	An experimental and computational investigation of the material behaviour of discrete homogenous iliofemoral and carotid atherosclerotic plaque constituents. *Journal of Biomechanics*, **2020**, 106, 109801	2.9	5
170	Early results and lessons learned using the streamliner multilayer flow modulator in the management of complex thoracoabdominal aortic aneurysms and chronic symptomatic aortic dissection. *Italian Journal of Vascular and Endovascular Surgery*, **2020**, 27,	1.4	3
169	Quantification of the regional bioarchitecture in the human aorta. *Journal of Anatomy*, **2020**, 236, 142-155	2.9	4
168	Mechanical behavior of in vitro blood clots and the implications for acute ischemic stroke treatment. *Journal of NeuroInterventional Surgery*, **2020**, 12, 853-857	7.8	27
167	Development of an in vitro model of calcified cerebral emboli in acute ischemic stroke for mechanical thrombectomy evaluation. *Journal of NeuroInterventional Surgery*, **2020**, 12, 1002-1007	7.8	6
166	Comparison of computational modelling techniques for braided stent analysis. *Computer Methods in Biomechanics and Biomedical Engineering*, **2019**, 22, 1334-1344	2.1	7
165	Characterization of strut indentation during mechanical thrombectomy in acute ischemic stroke clot analogs. *Journal of NeuroInterventional Surgery*, **2019**, 11, 891-897	7.8	35
164	A comparison of two quasi-static computational models for assessment of intra-myocardial injection as a therapeutic strategy for heart failure. *International Journal for Numerical Methods in Biomedical Engineering*, **2019**, 35, e3213	2.6	3
163	Comparison of Covered Laser-cut and Braided Respiratory Stents: From Bench to Pre-Clinical Testing. *Annals of Biomedical Engineering*, **2019**, 47, 1738-1747	4.7	1
162	Computational modelling of magnesium stent mechanical performance in a remodelling artery: Effects of multiple remodelling stimuli. *International Journal for Numerical Methods in Biomedical Engineering*, **2019**, 35, e3247	2.6	5

161	Multiscale Experimental and Computational Modeling Approaches to Characterize Therapy Delivery to the Heart from an Implantable Epicardial Biomaterial Reservoir. *Advanced Healthcare Materials*, **2019**, 8, e1900228	10.1	3
160	Multiscale Computational Modeling: Multiscale Experimental and Computational Modeling Approaches to Characterize Therapy Delivery to the Heart from an Implantable Epicardial Biomaterial Reservoir (Adv. Healthcare Mater. 16/2019). *Advanced Healthcare Materials*, **2019**, 8, 1970068	10.1	
159	Head-to-nerve analysis of electromechanical impairments of diffuse axonal injury. *Biomechanics and Modeling in Mechanobiology*, **2019**, 18, 361-374	3.8	1
158	Computational Analysis of the Utilisation of the Shape Memory Effect and Balloon Expansion in Fully Polymeric Stent Deployment. *Cardiovascular Engineering and Technology*, **2018**, 9, 60-72	2.2	10
157	Electro-mechanical response of a 3D nerve bundle model to mechanical loads leading to axonal injury. *International Journal for Numerical Methods in Biomedical Engineering*, **2018**, 34, e2942	2.6	6
156	Endovascular versus open surgical repair for complicated chronic type B aortic dissection. *The Cochrane Library*, **2018**,	5.2	2
155	Electrothermal Equivalent Three-Dimensional Finite-Element Model of a Single Neuron. *IEEE Transactions on Biomedical Engineering*, **2018**, 65, 1373-1381	5	8
154	Fabrication and characterization of gefitinib-releasing polyurethane foam as a coating for drug-eluting stent in the treatment of bronchotracheal cancer. *International Journal of Pharmaceutics*, **2018**, 548, 803-811	6.5	9
153	Endovascular versus conventional open surgical repair for thoracoabdominal aortic aneurysms. *The Cochrane Library*, **2018**,	5.2	1
152	Mechanical and Corrosion Testing of Magnesium WE43 Specimens for Pitting Corrosion Model Calibration. *Advanced Engineering Materials*, **2018**, 20, 1800656	3.5	6
151	Effects of nerve bundle geometry on neurotrauma evaluation. *International Journal for Numerical Methods in Biomedical Engineering*, **2018**, 34, e3118	2.6	5
150	Sustained release of targeted cardiac therapy with a replenishable implanted epicardial reservoir. *Nature Biomedical Engineering*, **2018**, 2, 416-428	19	55
149	Evaluating the interaction of a tracheobronchial stent in an ovine in-vivo model. *Biomechanics and Modeling in Mechanobiology*, **2018**, 17, 499-516	3.8	5
148	Modeling of Biodegradable Polyesters With Applications to Coronary Stents. *Journal of Medical Devices, Transactions of the ASME*, **2017**, 11,	1.3	4
147	Gefitinib/gefitinib microspheres loaded polyurethane constructs as drug-eluting stent coating. *European Journal of Pharmaceutical Sciences*, **2017**, 103, 94-103	5.1	8
146	Computational Modeling of the Mechanical Performance of a Magnesium Stent Undergoing Uniform and Pitting Corrosion in a Remodeling Artery. *Journal of Medical Devices, Transactions of the ASME*, **2017**, 11,	1.3	6
145	Numerical Simulation of Stent Angioplasty with Predilation: An Investigation into Lesion Constitutive Representation and Calcification Influence. *Annals of Biomedical Engineering*, **2017**, 45, 2244-2252	4.7	17
144	An ovine in vivo framework for tracheobronchial stent analysis. *Biomechanics and Modeling in Mechanobiology*, **2017**, 16, 1535-1553	3.8	3

143	Review of Mechanical Testing and Modelling of Thrombus Material for Vascular Implant and Device Design. *Annals of Biomedical Engineering*, **2017**, 45, 2494-2508	4.7	22
142	PulmoStent: In Vitro to In Vivo Evaluation of a Tissue Engineered Endobronchial Stent. *Annals of Biomedical Engineering*, **2017**, 45, 873-883	4.7	11
141	Experimental investigation into the size effect on the microscale fatigue behaviour of 316L stainless steel. *International Journal of Fatigue*, **2017**, 95, 1-7	5	9
140	Arterial and Atherosclerotic Plaque Biomechanics with Application to Stent Angioplasty Modeling. *Studies in Mechanobiology, Tissue Engineering and Biomaterials*, **2017**, 193-231	0.5	1
139	Electro-mechanical response of a 3D nerve bundle model to mechanical loads leading to axonal injury. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2017**, 2017, 978-981	0.9	2
138	Neurotrauma evaluation in a 3D electro-mechanical model of a nerve bundle **2017**,		2
137	Modelling the degradation and elastic properties of poly(lactic-co-glycolic acid) films and regular open-cell tissue engineering scaffolds. *Journal of the Mechanical Behavior of Biomedical Materials*, **2016**, 54, 48-59	4.1	22
136	A Review of Material Degradation Modelling for the Analysis and Design of Bioabsorbable Stents. *Annals of Biomedical Engineering*, **2016**, 44, 341-56	4.7	50
135	An Experimental and Computational Investigation of Bone Formation in Mechanically Loaded Trabecular Bone Explants. *Annals of Biomedical Engineering*, **2016**, 44, 1191-203	4.7	14
134	Selection and fabrication of a non-woven polycarbonate urethane cover for a tissue engineered airway stent. *International Journal of Pharmaceutics*, **2016**, 514, 255-262	6.5	8
133	Effects of material thickness and processing method on poly(lactic-co-glycolic acid) degradation and mechanical performance. *Journal of Materials Science: Materials in Medicine*, **2016**, 27, 154	4.5	7
132	Computer Simulation of the Mechanical Behaviour of Implanted Biodegradable Stents in a Remodelling Artery. *Jom*, **2016**, 68, 1198-1203	2.1	12
131	Nanoindentation of solvent-cast and compression-moulded poly(lactic-co-glycolic acid) to determine elastic modulus and hardness. *Polymer Testing*, **2016**, 50, 111-118	4.5	8
130	Medical Stents: State of the Art and Future Directions. *Annals of Biomedical Engineering*, **2016**, 44, 274-5	4.7	12
129	Webbing and Delamination of Drug Eluting Stent Coatings. *Annals of Biomedical Engineering*, **2016**, 44, 419-31	4.7	12
128	Evaluation of cover effects on bare stent mechanical response. *Journal of the Mechanical Behavior of Biomedical Materials*, **2016**, 61, 567-580	4.1	22
127	Experimental mechanical testing of Poly (l-Lactide) (PLLA) to facilitate pre-degradation characteristics for application in cardiovascular stenting. *Polymer Testing*, **2016**, 54, 150-158	4.5	23
126	Improving the finite element model accuracy of tissue engineering scaffolds produced by selective laser sintering. *Journal of Materials Science: Materials in Medicine*, **2015**, 26, 5376	4.5	16

125	Mechanical stimulation of bone marrow in situ induces bone formation in trabecular explants. *Annals of Biomedical Engineering*, **2015**, 43, 1036-50	4.7	32
124	Evaluation of a Multiscale Modelling Methodology to Predict the Mechanical Properties of PCL/βTCP Sintered Scaffold Materials. *Annals of Biomedical Engineering*, **2015**, 43, 1989-98	4.7	5
123	Micro-scale testing and micromechanical modelling for high cycle fatigue of CoCr stent material. *Journal of the Mechanical Behavior of Biomedical Materials*, **2015**, 46, 244-60	4.1	29
122	Computational Bench Testing to Evaluate the Short-Term Mechanical Performance of a Polymeric Stent. *Cardiovascular Engineering and Technology*, **2015**, 6, 519-32	2.2	33
121	Evaluating the effect of increasing ceramic content on the mechanical properties, material microstructure and degradation of selective laser sintered polycaprolactone/βtricalcium phosphate materials. *Medical Engineering and Physics*, **2015**, 37, 767-76	2.4	25
120	Computational Modeling for Analysis and Design of Metallic Biodegradable Stents1. *Journal of Medical Devices, Transactions of the ASME*, **2015**, 9,	1.3	3
119	Thermo-electrical equivalents for simulating the electro-mechanical behavior of biological tissue. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2015**, 2015, 3969-72	0.9	5
118	Computational modelling of ovine critical-sized tibial defects with implanted scaffolds and prediction of the safety of fixator removal. *Journal of the Mechanical Behavior of Biomedical Materials*, **2015**, 44, 133-46	4.1	6
117	Predicting the elastic properties of selective laser sintered PCL/βTCP bone scaffold materials using computational modelling. *Annals of Biomedical Engineering*, **2014**, 42, 661-77	4.7	27
116	Computational micromechanics of bioabsorbable magnesium stents. *Journal of the Mechanical Behavior of Biomedical Materials*, **2014**, 34, 93-105	4.1	11
115	A physical corrosion model for bioabsorbable metal stents. *Acta Biomaterialia*, **2014**, 10, 2313-22	10.8	46
114	Micro□macro wear□fatigue of modular hip implant taper-lock coupling. *Journal of Strain Analysis for Engineering Design*, **2014**, 49, 2-18	1.3	12
113	Experimental characterisation for micromechanical modelling of CoCr stent fatigue. *Biomaterials*, **2014**, 35, 36-48	15.6	40
112	Nanomechanical properties of poly(lactic-co-glycolic) acid film during degradation. *Acta Biomaterialia*, **2014**, 10, 4695-4703	10.8	36
111	Strain-gradient modelling of grain size effects on fatigue of CoCr alloy. *Acta Materialia*, **2014**, 78, 341-358.4		47
110	Preclinical trial of a novel surface architecture for improved primary fixation of cementless orthopaedic implants. *Clinical Biomechanics*, **2014**, 29, 861-8	2.2	16
109	Nitinol stent design - understanding axial buckling. *Journal of the Mechanical Behavior of Biomedical Materials*, **2014**, 40, 252-263	4.1	23
108	Modelling of atherosclerotic plaque for use in a computational test-bed for stent angioplasty. *Annals of Biomedical Engineering*, **2014**, 42, 2425-39	4.7	29

107	Optimizing the design of a bioabsorbable metal stent using computer simulation methods. *Biomaterials*, **2013**, 34, 8049-60	15.6	61
106	A combined computational and experimental methodology to determine the adhesion properties of stent polymer coatings. *Computational Materials Science*, **2013**, 80, 104-112	3.2	19
105	A novel flow chamber for biodegradable alloy assessment in physiologically realistic environments. *Review of Scientific Instruments*, **2013**, 84, 094301	1.7	9
104	A finite element methodology for wear/fatigue analysis for modular hip implants. *Tribology International*, **2013**, 65, 113-127	4.9	53
103	Liposomal surface coatings of metal stents for efficient non-viral gene delivery to the injured vasculature. *Journal of Controlled Release*, **2013**, 167, 109-19	11.7	12
102	Failure modelling of trabecular bone using a non-linear combined damage and fracture voxel finite element approach. *Biomechanics and Modeling in Mechanobiology*, **2013**, 12, 225-41	3.8	38
101	Micromotion and friction evaluation of a novel surface architecture for improved primary fixation of cementless orthopaedic implants. *Journal of the Mechanical Behavior of Biomedical Materials*, **2013**, 21, 37-46	4.1	31
100	Influence of statistical size effects on the plastic deformation of coronary stents. *Journal of the Mechanical Behavior of Biomedical Materials*, **2013**, 20, 61-76	4.1	21
99	The role of elastic anisotropy, length scale and crystallographic slip in fatigue crack nucleation. *Journal of the Mechanics and Physics of Solids*, **2013**, 61, 1224-1240	5	108
98	Computational modelling of the mechanics of trabecular bone and marrow using fluid structure interaction techniques. *Annals of Biomedical Engineering*, **2013**, 41, 814-26	4.7	43
97	Laser sintering for the fabrication of tissue engineering scaffolds. *Methods in Molecular Biology*, **2012**, 868, 303-10	1.4	5
96	Fabrication, mechanical and in vivo performance of polycaprolactone/tricalcium phosphate composite scaffolds. *Acta Biomaterialia*, **2012**, 8, 3446-56	10.8	83
95	A Computational Test-Bed to Assess Coronary Stent Implantation Mechanics Using a Population-Specific Approach. *Cardiovascular Engineering and Technology*, **2012**, 3, 374-387	2.2	54
94	Finite element implementation of multiaxial continuum damage mechanics for plain and fretting fatigue. *International Journal of Fatigue*, **2012**, 44, 260-272	5	75
93	Micromechanical methodology for fatigue in cardiovascular stents. *International Journal of Fatigue*, **2012**, 44, 202-216	5	52
92	Comparing coronary stent material performance on a common geometric platform through simulated bench testing. *Journal of the Mechanical Behavior of Biomedical Materials*, **2012**, 12, 129-38	4.1	74
91	Gene-eluting stents: non-viral, liposome-based gene delivery of eNOS to the blood vessel wall in vivo results in enhanced endothelialization but does not reduce restenosis in a hypercholesterolemic model. *Gene Therapy*, **2012**, 19, 321-8	4	33
90	Osteogenic differentiation of mesenchymal stem cells is regulated by osteocyte and osteoblast cells in a simplified bone niche. *European Cells and Materials*, **2012**, 23, 13-27	4.3	333

89	Computational study on the effect of contact geometry on fretting behaviour. *Wear*, **2011**, 271, 1462-1480	3.9	36
88	A corrosion model for bioabsorbable metallic stents. *Acta Biomaterialia*, **2011**, 7, 3523-33	10.8	117
87	Anterior cruciate ligament graft tensioning. Is the maximal sustained one-handed pull technique reproducible?. *BMC Research Notes*, **2011**, 4, 244	2.3	16
86	A Phenomenological Model of Corrosion in Biodegradable Metallic Stents **2010**,		1
85	A MULTISCALE APPROACH TO FAILURE ASSESSMENT IN DEPLOYMENT FOR CARDIOVASCULAR STENTS. *Journal of Multiscale Modeling*, **2010**, 02, 1-22	0.8	7
84	A prediction of cell differentiation and proliferation within a collagen-glycosaminoglycan scaffold subjected to mechanical strain and perfusive fluid flow. *Journal of Biomechanics*, **2010**, 43, 618-26	2.9	66
83	Investigation of the mechanical interaction of the trabecular core with an external shell using rapid prototype and finite element models. *Journal of the Mechanical Behavior of Biomedical Materials*, **2010**, 3, 63-76	4.1	14
82	Investigation of the failure behaviour of vertebral trabecular architectures under uni-axial compression and wedge action loading conditions. *Medical Engineering and Physics*, **2010**, 32, 569-76	2.4	12
81	Comparison of trabecular bone behavior in core and whole bone samples using high-resolution modeling of a vertebral body. *Biomechanics and Modeling in Mechanobiology*, **2010**, 9, 469-80	3.8	22
80	Behavior of human mesenchymal stem cells in fibrin-based vascular tissue engineering constructs. *Annals of Biomedical Engineering*, **2010**, 38, 649-57	4.7	28
79	HUVEC ICAM-1 and VCAM-1 synthesis in response to potentially athero-prone and athero-protective mechanical and nicotine chemical stimuli. *Annals of Biomedical Engineering*, **2010**, 38, 1880-92	4.7	10
78	Computational investigation of the delamination of polymer coatings during stent deployment. *Annals of Biomedical Engineering*, **2010**, 38, 2263-73	4.7	33
77	Local and regional mechanical characterisation of a collagen-glycosaminoglycan scaffold using high-resolution finite element analysis. *Journal of the Mechanical Behavior of Biomedical Materials*, **2010**, 3, 292-302	4.1	12
76	Multi-axial mechanical stimulation of HUVECs demonstrates that combined loading is not equivalent to the superposition of individual wall shear stress and tensile hoop stress components. *Journal of Biomechanical Engineering*, **2009**, 131, 081001	2.1	12
75	Evaluation of human endothelial cells post stent deployment in a cardiovascular simulator in vitro. *Annals of Biomedical Engineering*, **2009**, 37, 1322-30	4.7	22
74	Differences in the crack resistance of interstitial, osteonal and trabecular bone tissue. *Annals of Biomedical Engineering*, **2009**, 37, 2574-82	4.7	12
73	Simulation of vertebral trabecular bone loss using voxel finite element analysis. *Journal of Biomechanics*, **2009**, 42, 2789-96	2.9	30
72	Finite element predictions compared to experimental results for the effective modulus of bone tissue engineering scaffolds fabricated by selective laser sintering. *Journal of Materials Science: Materials in Medicine*, **2009**, 20, 1255-62	4.5	68

71	Vibrational testing of trabecular bone architectures using rapid prototype models. *Medical Engineering and Physics*, **2009**, 31, 108-15	2.4	5
70	Calibration of a constitutive model for the post-yield behaviour of cortical bone. *Journal of the Mechanical Behavior of Biomedical Materials*, **2009**, 2, 460-70	4.1	46
69	A review on dielectric elastomer actuators, technology, applications, and challenges. *Journal of Applied Physics*, **2008**, 104, 071101	2.5	471
68	A finite element prediction of strain on cells in a highly porous collagen-glycosaminoglycan scaffold. *Journal of Biomechanical Engineering*, **2008**, 130, 061001	2.1	24
67	Response of mesenchymal stem cells to the biomechanical environment of the endothelium on a flexible tubular silicone substrate. *Biomaterials*, **2008**, 29, 1610-9	15.6	66
66	Authors' response to "comments on 'measurement of the microstructural fracture toughness of cortical bone using indentation fracture'". *Journal of Biomechanics*, **2008**, 41, 2602-3	2.9	4
65	Heterogeneous linear elastic trabecular bone modelling using micro-CT attenuation data and experimentally measured heterogeneous tissue properties. *Journal of Biomechanics*, **2008**, 41, 2589-96	2.9	58
64	Modelling of in vitro chondrocyte detachment. *Journal of the Mechanics and Physics of Solids*, **2008**, 56, 1554-1565	5	27
63	Effects of intervertebral disk degeneration on the flexibility of the human thoracolumbar spine. *Journal of Long-Term Effects of Medical Implants*, **2008**, 18, 269-88	0.2	5
62	Micromechanical modelling of cortical bone. *Computer Methods in Biomechanics and Biomedical Engineering*, **2007**, 10, 159-69	2.1	27
61	X-ray micro-tomography of a coronary stent deployed in a model artery. *Medical Engineering and Physics*, **2007**, 29, 1132-41	2.4	11
60	Dependence of mechanical properties of polyamide components on build parameters in the SLS process. *Journal of Materials Processing Technology*, **2007**, 182, 477-488	5.3	393
59	Engineering Assisted Surgery□A route for digital design and manufacturing of customised maxillofacial implants. *Journal of Materials Processing Technology*, **2007**, 183, 333-338	5.3	23
58	Endothelial cell response to biomechanical forces under simulated vascular loading conditions. *Journal of Biomechanics*, **2007**, 40, 3146-54	2.9	36
57	Measurement of the microstructural fracture toughness of cortical bone using indentation fracture. *Journal of Biomechanics*, **2007**, 40, 3285-8	2.9	47
56	The effect of physiological cyclic stretch on the cell morphology, cell orientation and protein expression of endothelial cells. *Journal of Materials Science: Materials in Medicine*, **2007**, 18, 1973-81	4.5	38
55	Vertebral osteoporosis and trabecular bone quality. *Annals of Biomedical Engineering*, **2007**, 35, 170-89	4.7	92
54	Modeling of size dependent failure in cardiovascular stent struts under tension and bending. *Annals of Biomedical Engineering*, **2007**, 35, 1539-53	4.7	23

53	Weber B. Bilateral malleolus fracture and interfragmentary screw placement: a cadaveric study. *European Journal of Orthopaedic Surgery and Traumatology*, **2007**, 17, 461-464	2.2	1
52	Mathematical models of cell motility. *Cell Biochemistry and Biophysics*, **2007**, 49, 14-28	3.2	30
51	Finite element comparison of performance related characteristics of balloon expandable stents. *Computer Methods in Biomechanics and Biomedical Engineering*, **2007**, 10, 103-10	2.1	19
50	Computational Examination of the Effect of Material Inhomogeneity on the Necking of Stent Struts Under Tensile Loading. *Journal of Applied Mechanics, Transactions ASME*, **2007**, 74, 978-989	2.7	25
49	Computational modelling of the extrusion of an Al-SiC metal matrix composite using macroscale and microscale methods. *Journal of Strain Analysis for Engineering Design*, **2007**, 42, 237-252	1.3	10
48	Development of a Discrete Finite Element Cell Model **2007**, 437		
47	Comparison of the implicit and explicit finite element methods using crystal plasticity. *Computational Materials Science*, **2007**, 39, 481-494	3.2	130
46	Development of a novel bioreactor to apply shear stress and tensile strain simultaneously to cell monolayers. *Review of Scientific Instruments*, **2006**, 77, 104301	1.7	14
45	Investigation of finite element mesh independence in rate dependent materials. *Computational Materials Science*, **2006**, 37, 442-453	3.2	25
44	A combined experimental and computational study of deformation in grains of biomedical grade 316LVM stainless steel. *Acta Materialia*, **2006**, 54, 4825-4840	8.4	16
43	Manufacturing of small featured PCL scaffolds for bone tissue engineering using selective laser sintering. *Journal of Biomechanics*, **2006**, 39, S216	2.9	4
42	The influence of grain size on the ductility of micro-scale stainless steel stent struts. *Journal of Materials Science: Materials in Medicine*, **2006**, 17, 1-6	4.5	14
41	Characterisation of a collagen membrane for its potential use in cardiovascular tissue engineering applications. *Journal of Materials Science: Materials in Medicine*, **2006**, 17, 195-201	4.5	9
40	Micromechanical Modeling of the Static Loading of an Al 359-SiC MMC. *Journal of Engineering Materials and Technology, Transactions of the ASME*, **2005**, 127, 106-118	1.8	5
39	Computational mechanics modelling of cell–substrate contact during cyclic substrate deformation. *Journal of the Mechanics and Physics of Solids*, **2005**, 53, 2597-2637	5	34
38	Determination of elastic and plastic material properties using indentation: Development of method and application to a thin surface coating. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2005**, 399, 254-266	5.3	32
37	A review of deformation and fatigue of metals at small size scales. *Fatigue and Fracture of Engineering Materials and Structures*, **2005**, 28, 1119-1152	3	73
36	Biomodels of bone: a review. *Annals of Biomedical Engineering*, **2005**, 33, 1295-311	4.7	41

35	The influence of passivation and electropolishing on the performance of medical grade stainless steels in static and fatigue loading. *Journal of Materials Science: Materials in Medicine*, **2005**, 16, 107-17	4.5	24
34	Finite Element Simulation and Experimental Determination of Residual Stresses after Extrusion Process in Metal Matrix Composites. *Advanced Composites Letters*, **2005**, 14, 096369350501400	1.2	
33	Coronary stent strut size dependent stress-strain response investigated using micromechanical finite element models. *Annals of Biomedical Engineering*, **2004**, 32, 202-11	4.7	39
32	Micromechanical investigation of the fatigue crack growth behaviour of Al SiC MMCs. *International Journal of Fatigue*, **2004**, 26, 795-804	5	16
31	Analysis of the mechanical performance of a cardiovascular stent design based on micromechanical modelling. *Computational Materials Science*, **2004**, 31, 421-438	3.2	64
30	Predicting the Effects of Overloads on Fatigue Crack Growth in an Al-SiC MMC Using a Computational Model. *Journal of Engineering Materials and Technology, Transactions of the ASME*, **2004**, 126, 172-178	1.8	
29	Profiling the Shear Stress of Atherosclerosis; A Genomic View. *Current Genomics*, **2004**, 5, 287-297	2.6	2
28	Accuracy of laser cutting and its influence on mechanical behavior of stents **2003**, 4876, 574		4
27	The stress-strain behavior of coronary stent struts is size dependent. *Annals of Biomedical Engineering*, **2003**, 31, 686-91	4.7	75
26	Application of closure based fatigue modelling methodology to Al SiC MMCs. *International Journal of Fatigue*, **2003**, 25, 577-584	5	5
25	Bioreactors for cardiovascular cell and tissue growth: a review. *Annals of Biomedical Engineering*, **2003**, 31, 1017-30	4.7	128
24	Micromechanical modelling of ductile crack growth in the binder phase of WC o. *Computational Materials Science*, **2003**, 27, 423-436	3.2	30
23	Strain on the human sciatic nerve in vivo during movement of the hip and knee. *Journal of Bone and Joint Surgery: British Volume*, **2003**, 85, 363-5		30
22	Flexor tendon reconstruction using a FDP emi-tendon *Irish Journal of Medical Science*, **2002**, 171, 45-46	1.9	
21	Residual stress analysis in aerospace MMC materials by neutron diffraction. *Applied Physics A: Materials Science and Processing*, **2002**, 74, s1701-s1703	2.6	6
20	Methodology for modelling the small crack fatigue behaviour of aluminium alloys. *International Journal of Fatigue*, **2002**, 24, 1071-1078	5	13
19	Wear of a thin surface coating: modelling and experimental investigations. *Computational Materials Science*, **2002**, 25, 61-72	3.2	10
18	Micromechanical modelling of the static and cyclic loading of an Al 2124-SiC MMC. *International Journal of Plasticity*, **2001**, 17, 565-599	7.6	36

17	An atomistic study of void growth in single crystalline copper. *Computational Materials Science*, **2000**, 18, 102-117	3.2	25
16	Fracture modelling of WC-Co hardmetals using crystal plasticity theory and the Gurson model. *Fatigue and Fracture of Engineering Materials and Structures*, **1999**, 22, 77-86	3	17
15	Investigation of the strengthening of particulate reinforced composites using different analytical and finite element models. *Computational Materials Science*, **1999**, 15, 1-10	3.2	21
14	New tool materials with a structural gradient for milling applications. *European Physical Journal Special Topics*, **1999**, 09, Pr9-147-Pr9-156		3
13	Modelling of creep in a Ni base superalloy using a single crystal plasticity model. *Computational Materials Science*, **1997**, 9, 134-140	3.2	25
12	Void growth simulations in single crystals. *Computational Mechanics*, **1997**, 20, 115-121	4	47
11	A LIQUID PHASE SINTERING MODEL: APPLICATION TO Si3N4 AND WC-Co. *Acta Materialia*, **1997**, 45, 2995-3003	8.4	36
10	Simulation of void growth in WC-Co hardmetals using crystal plasticity theory. *International Journal of Mechanical Sciences*, **1997**, 39, 173-183	5.5	21
9	Computational modelling of the cyclic deformation of aluminium and aluminium matrix composites. *Computational Materials Science*, **1996**, 5, 187-194	3.2	3
8	Modelling the thermo-mechanical behaviour of an Al alloy-SiCp composite effects of particle shape and microscale fracture. *Computational Materials Science*, **1994**, 3, 199-206	3.2	5
7	Computational modeling of metal matrix composite materials I. Isothermal deformation patterns in ideal microstructures. *Acta Metallurgica Et Materialia*, **1993**, 41, 1461-1476		85
6	Computational modeling of metal matrix composite materials II. Comparisons with phenomenological models. *Acta Metallurgica Et Materialia*, **1993**, 41, 1489-1499		20
5	Computational modeling of metal matrix composite materials IV. Thermal deformations. *Acta Metallurgica Et Materialia*, **1993**, 41, 1501-1510		9
4	Computational modeling of metal matrix composite materials I. Isothermal stress-strain behavior. *Acta Metallurgica Et Materialia*, **1993**, 41, 1477-1488		17
3	Crystal Plasticity Models **1993**, 139-157		6
2	Computational modeling of microstructures. *Future Generation Computer Systems*, **1989**, 5, 295-318	7.5	25
1	Real-time ultrasound in the diagnosis of congenital dislocation and dysplasia of the hip. *Journal of Bone and Joint Surgery: British Volume*, **1985**, 67, 406-12		117