Manuel Doblar

List of Publications by Citations

258 papers	8,735 citations	51 h-index	77 g-index
264 ext. papers	9,670 ext. citations	3.5 avg, IF	6.06 L-index

#	Paper	IF	Citations
258	Modelling bone tissue fracture and healing: a review. *Engineering Fracture Mechanics*, **2004**, 71, 1809-1840	1.2	319
257	A three-dimensional finite element analysis of the combined behavior of ligaments and menisci in the healthy human knee joint. *Journal of Biomechanics*, **2006**, 39, 1686-701	2.9	311
256	Finite element analysis of the effect of meniscal tears and meniscectomies on human knee biomechanics. *Clinical Biomechanics*, **2005**, 20, 498-507	2.2	201
255	Non-linear dynamics of three-dimensional rods: Exact energy and momentum conserving algorithms. *International Journal for Numerical Methods in Engineering*, **1995**, 38, 1431-1473	2.4	181
254	Anisotropic bone remodelling model based on a continuum damage-repair theory. *Journal of Biomechanics*, **2002**, 35, 1-17	2.9	169
253	Influence of fracture gap size on the pattern of long bone healing: a computational study. *Journal of Theoretical Biology*, **2005**, 235, 105-19	2.3	157
252	On scaffold designing for bone regeneration: A computational multiscale approach. *Acta Biomaterialia*, **2009**, 5, 219-29	10.8	155
251	Why lateral meniscectomy is more dangerous than medial meniscectomy. A finite element study. *Journal of Orthopaedic Research*, **2006**, 24, 1001-10	3.8	125
250	Application of an anisotropic bone-remodelling model based on a damage-repair theory to the analysis of the proximal femur before and after total hip replacement. *Journal of Biomechanics*, **2001**, 34, 1157-70	2.9	122
249	Overview and recent advances in natural neighbour galerkin methods. *Archives of Computational Methods in Engineering*, **2003**, 10, 307-384	7.8	119
248	Mechanical stresses in abdominal aortic aneurysms: influence of diameter, asymmetry, and material anisotropy. *Journal of Biomechanical Engineering*, **2008**, 130, 021023	2.1	116
247	Biomechanical modeling of refractive corneal surgery. *Journal of Biomechanical Engineering*, **2006**, 128, 150-60	2.1	112
246	An uncoupled directional damage model for fibred biological soft tissues. Formulation and computational aspects. *International Journal for Numerical Methods in Engineering*, **2007**, 69, 2036-2057	2.4	107
245	Permeability evaluation of 45S5 Bioglass-based scaffolds for bone tissue engineering. *Journal of Biomechanics*, **2009**, 42, 257-60	2.9	98
244	Anisotropic micro-sphere-based finite elasticity applied to blood vessel modelling. *Journal of the Mechanics and Physics of Solids*, **2009**, 57, 178-203	5	94
243	A bone remodelling model coupling micro-damage growth and repair by 3D BMU-activity. *Biomechanics and Modeling in Mechanobiology*, **2005**, 4, 147-67	3.8	93
242	Computational simulation of fracture healing: influence of interfragmentary movement on the callus growth. *Journal of Biomechanics*, **2007**, 40, 1467-76	2.9	92

241	A finite element model to accurately predict real deformations of the breast. *Medical Engineering and Physics*, **2008**, 30, 1089-97	2.4	87
240	Imposing essential boundary conditions in the natural element method by means of density-scaled α-shapes. *International Journal for Numerical Methods in Engineering*, **2000**, 49, 519-546	2.4	87
239	Three-dimensional finite element analysis of several internal and external pelvis fixations. *Journal of Biomechanical Engineering*, **2000**, 122, 516-22	2.1	82
238	A stochastic-structurally based three dimensional finite-strain damage model for fibrous soft tissue. *Journal of the Mechanics and Physics of Solids*, **2006**, 54, 864-886	5	80
237	An anisotropic visco-hyperelastic model for ligaments at finite strains. Formulation and computational aspects. *International Journal of Solids and Structures*, **2007**, 44, 760-778	3.1	79
236	An experimental study of the mouse skin behaviour: damage and inelastic aspects. *Journal of Biomechanics*, **2008**, 41, 93-9	2.9	74
235	Mechanical behaviour of synthetic surgical meshes: finite element simulation of the herniated abdominal wall. *Acta Biomaterialia*, **2011**, 7, 3905-13	10.8	72
234	Modeling mechanosensing and its effect on the migration and proliferation of adherent cells. *Acta Biomaterialia*, **2008**, 4, 613-21	10.8	72
233	On the effect of substrate curvature on cell mechanics. *Biomaterials*, **2009**, 30, 6674-86	15.6	71
232	Epicardial delivery of collagen patches with adipose-derived stem cells in rat and minipig models of chronic myocardial infarction. *Biomaterials*, **2014**, 35, 143-51	15.6	68
231	Effect of the size and location of osteochondral defects in degenerative arthritis. A finite element simulation. *Computers in Biology and Medicine*, **2007**, 37, 376-87	7	68
230	A mathematical model for bone tissue regeneration inside a specific type of scaffold. *Biomechanics and Modeling in Mechanobiology*, **2008**, 7, 355-66	3.8	68
229	Development and characterization of a microfluidic model of the tumour microenvironment. *Scientific Reports*, **2016**, 6, 36086	4.9	67
228	Assessing the use of the "opening angle method" to enforce residual stresses in patient-specific arteries. *Annals of Biomedical Engineering*, **2007**, 35, 1821-37	4.7	67
227	An accurate finite element model of the cervical spine under quasi-static loading. *Journal of Biomechanics*, **2008**, 41, 523-31	2.9	66
226	Experimental characterization and constitutive modeling of the mechanical behavior of the human trachea. *Medical Engineering and Physics*, **2010**, 32, 76-82	2.4	65
225	On modelling damage process in vaginal tissue. *Journal of Biomechanics*, **2009**, 42, 642-51	2.9	64
224	Adaptive macro finite elements for the numerical solution of monodomain equations in cardiac electrophysiology. *Annals of Biomedical Engineering*, **2010**, 38, 2331-45	4.7	63

223	A finite element simulation of the effect of graft stiffness and graft tensioning in ACL reconstruction. *Clinical Biomechanics*, **2005**, 20, 636-44	2.2	63
222	Zeolite screening for the separation of gas mixtures containing SO2, CO2 and CO. *Physical Chemistry Chemical Physics*, **2014**, 16, 19884-93	3.6	61
221	On the Mullins effect and hysteresis of fibered biological materials: A comparison between continuous and discontinuous damage models. *International Journal of Solids and Structures*, **2009**, 46, 1727-1735	3.1	61
220	An accurate validation of a computational model of a human lumbosacral segment. *Journal of Biomechanics*, **2010**, 43, 334-42	2.9	61
219	A constitutive model for fibrous tissues considering collagen fiber crimp. *International Journal of Non-Linear Mechanics*, **2007**, 42, 391-402	2.8	60
218	Structural damage models for fibrous biological soft tissues. *International Journal of Solids and Structures*, **2007**, 44, 5894-5911	3.1	59
217	On modelling nonlinear viscoelastic effects in ligaments. *Journal of Biomechanics*, **2008**, 41, 2659-66	2.9	58
216	Mechanical and histological characterization of the abdominal muscle. A previous step to modelling hernia surgery. *Journal of the Mechanical Behavior of Biomedical Materials*, **2011**, 4, 392-404	4.1	57
215	Finite element analysis of the temporomandibular joint during lateral excursions of the mandible. *Journal of Biomechanics*, **2006**, 39, 2153-63	2.9	57
214	Biomimetic hydroxyapatite coating on pore walls improves osteointegration of poly(L-lactic acid) scaffolds. *Journal of Biomedical Materials Research - Part B Applied Biomaterials*, **2013**, 101, 173-86	3.5	55
213	Numerical modeling of a mechano-chemical theory for wound contraction analysis. *International Journal of Solids and Structures*, **2009**, 46, 3597-3606	3.1	55
212	A constitutive formulation of vascular tissue mechanics including viscoelasticity and softening behaviour. *Journal of Biomechanics*, **2010**, 43, 984-9	2.9	55
211	Finite element simulation of arcuates for astigmatism correction. *Journal of Biomechanics*, **2008**, 41, 797-805	2.9	55
210	Micro-macro numerical modelling of bone regeneration in tissue engineering. *Computer Methods in Applied Mechanics and Engineering*, **2008**, 197, 3092-3107	5.7	55
209	Mechanical characterization and numerical simulation of polyether-ether-ketone (PEEK) cranial implants. *Journal of the Mechanical Behavior of Biomedical Materials*, **2011**, 4, 1819-32	4.1	54
208	On the employ of meshless methods in biomechanics. *Computer Methods in Applied Mechanics and Engineering*, **2005**, 194, 801-821	5.7	53
207	Mechanical characterization of the softening behavior of human vaginal tissue. *Journal of the Mechanical Behavior of Biomedical Materials*, **2011**, 4, 275-83	4.1	51
206	Experimental study and constitutive modelling of the passive mechanical properties of the ovine infrarenal vena cava tissue. *Journal of Biomechanics*, **2008**, 41, 3038-45	2.9	51

205	Load transfer mechanism for different metatarsal geometries: a finite element study. *Journal of Biomechanical Engineering*, **2009**, 131, 021011	2.1	49
204	The effect of material model formulation in the stress analysis of abdominal aortic aneurysms. *Annals of Biomedical Engineering*, **2009**, 37, 2218-21	4.7	49
203	Numerical estimation of bone density and elastic constants distribution in a human mandible. *Journal of Biomechanics*, **2007**, 40, 828-36	2.9	48
202	Experimental study and constitutive modeling of the viscoelastic mechanical properties of the human prolapsed vaginal tissue. *Biomechanics and Modeling in Mechanobiology*, **2010**, 9, 35-44	3.8	47
201	Bone remodelling simulation: a tool for implant design. *Computational Materials Science*, **2002**, 25, 100-114	3.4	47
200	Influence of the macro and micro-porous structure on the mechanical behavior of poly(l-lactic acid) scaffolds. *Journal of Non-Crystalline Solids*, **2012**, 358, 3141-3149	3.9	45
199	An anisotropic pseudo-elastic approach for modelling Mullins effect in fibrous biological materials. *Mechanics Research Communications*, **2009**, 36, 784-790	2.2	45
198	On finite-strain damage of viscoelastic-fibred materials. Application to soft biological tissues. *International Journal for Numerical Methods in Engineering*, **2008**, 74, 1198-1218	2.4	45
197	Numerical integration in Natural Neighbour Galerkin methods. *International Journal for Numerical Methods in Engineering*, **2004**, 60, 2077-2104	2.4	45
196	Bone ingrowth on the surface of endosseous implants. Part 1: Mathematical model. *Journal of Theoretical Biology*, **2009**, 260, 1-12	2.3	44
195	Natural element meshless simulation of flows involving short fiber suspensions. *Journal of Non-Newtonian Fluid Mechanics*, **2003**, 115, 51-78	2.7	44
194	Experimental study and constitutive modelling of the passive mechanical properties of the porcine carotid artery and its relation to histological analysis: Implications in animal cardiovascular device trials. *Medical Engineering and Physics*, **2011**, 33, 665-76	2.4	43
193	On the use of the Bingham statistical distribution in microsphere-based constitutive models for arterial tissue. *Mechanics Research Communications*, **2010**, 37, 700-706	2.2	42
192	Finite element study of intramedullary osteosynthesis in the treatment of trochanteric fractures of the hip: Gamma and PFN. *Injury*, **2004**, 35, 130-5	2.5	42
191	Finite element prediction of proximal femoral fracture patterns under different loads. *Journal of Biomechanical Engineering*, **2005**, 127, 9-14	2.1	41
190	Three-dimensional simulation of aluminium extrusion by the □shape based natural element method. *Computer Methods in Applied Mechanics and Engineering*, **2006**, 195, 4269-4286	5.7	41
189	Glioblastoma on a microfluidic chip: Generating pseudopalisades and enhancing aggressiveness through blood vessel obstruction events. *Neuro-Oncology*, **2017**, 19, 503-513	1	40
188	Proper generalized decomposition of time-multiscale models. *International Journal for Numerical Methods in Engineering*, **2012**, 90, 569-596	2.4	40

187	The effect of collagen reinforcement in the behaviour of the temporomandibular joint disc. *Journal of Biomechanics*, **2006**, 39, 1075-85	2.9	40
186	Is arterial wall-strain stiffening an additional process responsible for atherosclerosis in coronary bifurcations?: an in vivo study based on dynamic CT and MRI. *American Journal of Physiology - Heart and Circulatory Physiology*, **2011**, 301, H1097-106	5.2	39
185	Computational Modelling of Diarthrodial Joints. Physiological, Pathological and Pos-Surgery Simulations. *Archives of Computational Methods in Engineering*, **2007**, 14, 47-91	7.8	39
184	A natural element updated Lagrangian strategy for free-surface fluid dynamics. *Journal of Computational Physics*, **2007**, 223, 127-150	4.1	39
183	Modeling distraction osteogenesis: analysis of the distraction rate. *Biomechanics and Modeling in Mechanobiology*, **2009**, 8, 323-35	3.8	38
182	Probabilistic analysis of the influence of the bonding degree of the stem-cement interface in the performance of cemented hip prostheses. *Journal of Biomechanics*, **2006**, 39, 1859-72	2.9	38
181	A 3D computational simulation of fracture callus formation: influence of the stiffness of the external fixator. *Journal of Biomechanical Engineering*, **2006**, 128, 290-9	2.1	38
180	FSI analysis of the coughing mechanism in a human trachea. *Annals of Biomedical Engineering*, **2010**, 38, 1556-65	4.7	37
179	Scaffold microarchitecture determines internal bone directional growth structure: a numerical study. *Journal of Biomechanics*, **2010**, 43, 2480-6	2.9	37
178	On the numerical treatment of initial strains in biological soft tissues. *International Journal for Numerical Methods in Engineering*, **2006**, 68, 836-860	2.4	37
177	Influence of the tunnel angle in ACL reconstructions on the biomechanics of the knee joint. *Clinical Biomechanics*, **2006**, 21, 508-16	2.2	37
176	Meshless methods with application to metal forming. *Computer Methods in Applied Mechanics and Engineering*, **2006**, 195, 6661-6675	5.7	37
175	Modelling three-dimensional piece-wise homogeneous domains using the □shape-based natural element method. *International Journal for Numerical Methods in Engineering*, **2002**, 54, 871-897	2.4	37
174	Culture of human bone marrow-derived mesenchymal stem cells on of poly(L-lactic acid) scaffolds: potential application for the tissue engineering of cartilage. *Knee Surgery, Sports Traumatology, Arthroscopy*, **2013**, 21, 1737-50	5.5	36
173	Numerical framework for patient-specific computational modelling of vascular tissue. *International Journal for Numerical Methods in Biomedical Engineering*, **2010**, 26, 35-51	2.6	36
172	Preparation and characterization of collagen-based ADSC-carrier sheets for cardiovascular application. *Acta Biomaterialia*, **2013**, 9, 6075-83	10.8	34
171	Anisotropic microsphere-based approach to damage in soft fibered tissue. *Biomechanics and Modeling in Mechanobiology*, **2012**, 11, 595-608	3.8	34
170	Quantification of restitution dispersion from the dynamic changes of the T-wave peak to end, measured at the surface ECG. *IEEE Transactions on Biomedical Engineering*, **2011**, 58, 1172-82	5	34

169	A mathematical approach to bone tissue engineering. *Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences*, **2009**, 367, 2055-78	3	34
168	Computational comparison of reamed versus unreamed intramedullary tibial nails. *Journal of Orthopaedic Research*, **2007**, 25, 191-200	3.8	34
167	Modelling the mechanical behaviour of living bony interfaces. *Computer Methods in Applied Mechanics and Engineering*, **2007**, 196, 3300-3314	5.7	34
166	Computer simulation of damage on distal femoral articular cartilage after meniscectomies. *Computers in Biology and Medicine*, **2008**, 38, 69-81	7	34
165	Volumetric locking in natural neighbour Galerkin methods. *International Journal for Numerical Methods in Engineering*, **2004**, 61, 611-632	2.4	34
164	On solving large strain hyperelastic problems with the natural element method. *International Journal for Numerical Methods in Engineering*, **2005**, 62, 159-185	2.4	34
163	Growth mixture model of distraction osteogenesis: effect of pre-traction stresses. *Biomechanics and Modeling in Mechanobiology*, **2010**, 9, 103-15	3.8	33
162	On non-linear transformations for the integration of weakly-singular and Cauchy Principal Value integrals. *International Journal for Numerical Methods in Engineering*, **1997**, 40, 3325-3358	2.4	33
161	A finite element dual porosity approach to model deformation-induced fluid flow in cortical bone. *Annals of Biomedical Engineering*, **2007**, 35, 1687-98	4.7	33
160	A procedure to simulate coronary artery bypass graft surgery. *Medical and Biological Engineering and Computing*, **2007**, 45, 819-27	3.1	33
159	Updated Lagrangian free surface flow simulations with natural neighbour Galerkin methods. *International Journal for Numerical Methods in Engineering*, **2004**, 60, 2105-2129	2.4	33
158	Finite-element simulation of flexor digitorum longus or flexor digitorum brevis tendon transfer for the treatment of claw toe deformity. *Journal of Biomechanics*, **2009**, 42, 1697-704	2.9	31
157	FSI Analysis of a healthy and a stenotic human trachea under impedance-based boundary conditions. *Journal of Biomechanical Engineering*, **2011**, 133, 021001	2.1	31
156	Influence of the frequency of the external mechanical stimulus on bone healing: a computational study. *Medical Engineering and Physics*, **2010**, 32, 363-71	2.4	31
155	An accurate simulation model of anteriorly displaced TMJ discs with and without reduction. *Medical Engineering and Physics*, **2007**, 29, 216-26	2.4	31
154	Mechanical and flow characterization of Sponceram carriers: Evaluation by homogenization theory and experimental validation. *Journal of Biomedical Materials Research - Part B Applied Biomaterials*, **2008**, 87, 42-8	3.5	31
153	Finite element implementation of a stochastic three dimensional finite-strain damage model for fibrous soft tissue. *Computer Methods in Applied Mechanics and Engineering*, **2008**, 197, 946-958	5.7	31
152	Appearance and location of secondary ossification centres may be explained by a reaction-diffusion mechanism. *Computers in Biology and Medicine*, **2009**, 39, 554-61	7	30

151	A higher order method based on local maximum entropy approximation. *International Journal for Numerical Methods in Engineering*, **2010**, 83, 741-764	2.4	30
150	FE2 multiscale in linear elasticity based on parametrized microscale models using proper generalized decomposition. *Computer Methods in Applied Mechanics and Engineering*, **2013**, 257, 183-202	5.7	29
149	Anisotropic material behaviours of soft tissues in human trachea: an experimental study. *Journal of Biomechanics*, **2012**, 45, 1717-23	2.9	29
148	Prediction of nonlinear elastic behaviour of vaginal tissue: experimental results and model formulation. *Computer Methods in Biomechanics and Biomedical Engineering*, **2010**, 13, 327-37	2.1	29
147	3D computational modelling of cell migration: a mechano-chemo-thermo-electrotaxis approach. *Journal of Theoretical Biology*, **2013**, 329, 64-73	2.3	28
146	3D finite element simulation of the opening movement of the mandible in healthy and pathologic situations. *Journal of Biomechanical Engineering*, **2006**, 128, 242-9	2.1	28
145	A comparative analysis of different treatments for distal femur fractures using the finite element method. *Computer Methods in Biomechanics and Biomedical Engineering*, **2004**, 7, 245-56	2.1	28
144	Study of crack propagation in orthotropic materials by using the boundary element method. *Engineering Fracture Mechanics*, **1990**, 37, 953-967	4.2	28
143	A bone remodelling model including the directional activity of BMUs. *Biomechanics and Modeling in Mechanobiology*, **2009**, 8, 111-27	3.8	27
142	A reaction-diffusion model for long bones growth. *Biomechanics and Modeling in Mechanobiology*, **2009**, 8, 381-95	3.8	27
141	FSI analysis of a human trachea before and after prosthesis implantation. *Journal of Biomechanical Engineering*, **2011**, 133, 071003	2.1	27
140	Modelling the mixed-mode failure of cement□bone interfaces. *Engineering Fracture Mechanics*, **2006**, 73, 1379-1395	4.2	27
139	Response of sheep chondrocytes to changes in substrate stiffness from 2 to 20 Pa: effect of cell passaging. *Connective Tissue Research*, **2013**, 54, 159-66	3.3	26
138	Modelling adaptative volumetric finite growth in patient-specific residually stressed arteries. *Journal of Biomechanics*, **2008**, 41, 1773-81	2.9	26
137	Chemical-diffusive modeling of the self-healing behavior in concrete. *International Journal of Solids and Structures*, **2015**, 69-70, 392-402	3.1	25
136	Mechanical stress redistribution in the calcaneus after autologous bone harvesting. *Journal of Biomechanics*, **2012**, 45, 1219-26	2.9	25
135	Comparative analysis of bone remodelling models with respect to computerised tomography-based finite element models of bone. *Computer Methods in Biomechanics and Biomedical Engineering*, **2010**, 13, 71-80	2.1	25
134	On the use of non-linear transformations for the evaluation of anisotropic rotationally symmetric directional integrals. Application to the stress analysis in fibred soft tissues. *International Journal for Numerical Methods in Engineering*, **2009**, 79, 474-504	2.4	25

133	A comparative FEA of the debonding process in different concepts of cemented hip implants. *Medical Engineering and Physics*, **2006**, 28, 525-33	2.4	25
132	Simulation of axisymmetric discharging in metallic silos. Analysis of the induced pressure distribution and comparison with different standards. *Engineering Structures*, **2002**, 24, 1561-1574	4.7	25
131	Analysis of the debonding of the stem□ement interface in intramedullary fixation using a non-linear fracture mechanics approach. *Engineering Fracture Mechanics*, **2005**, 72, 1125-1147	4.2	25
130	An anisotropic internal-external bone adaptation model based on a combination of CAO and continuum damage mechanics technologies. *Computer Methods in Biomechanics and Biomedical Engineering*, **2001**, 4, 355-77	2.1	25
129	A natural neighbour Galerkin method with quadtree structure. *International Journal for Numerical Methods in Engineering*, **2005**, 63, 789-812	2.4	24
128	Stress transfer properties of different commercial dental implants: a finite element study. *Computer Methods in Biomechanics and Biomedical Engineering*, **2012**, 15, 263-73	2.1	23
127	A comparison of implicit and explicit natural element methods in large strains problems: Application to soft biological tissues modeling. *Computer Methods in Applied Mechanics and Engineering*, **2010**, 199, 1691-1700	5.7	23
126	Computational simulation of dental implant osseointegration through resonance frequency analysis. *Journal of Biomechanics*, **2008**, 41, 316-25	2.9	23
125	Nonlinear mechanical property of tracheal cartilage: a theoretical and experimental study. *Journal of Biomechanics*, **2008**, 41, 1995-2002	2.9	23
124	External bone remodeling through boundary elements and damage mechanics. *Mathematics and Computers in Simulation*, **2006**, 73, 183-199	3.3	23
123	Numerical Calculation of Wind Loads over Solar Collectors. *Energy Procedia*, **2014**, 49, 163-173	2.3	22
122	Insights on the Molecular Mechanisms of Hydrogen Adsorption in Zeolites. *Journal of Physical Chemistry C*, **2013**, 117, 14374-14380	3.8	22
121	Numerical modeling of a human stented trachea under different stent designs. *International Communications in Heat and Mass Transfer*, **2011**, 38, 855-862	5.8	22
120	Clenching TMJs-loads increases in partial edentates: a 3D finite element study. *Annals of Biomedical Engineering*, **2008**, 36, 1014-23	4.7	22
119	Modularity in developmental biology and artificial organs: a missing concept in tissue engineering. *Artificial Organs*, **2011**, 35, 656-62	2.6	21
118	Modeling of the fluid structure interaction of a human trachea under different ventilation conditions. *International Communications in Heat and Mass Transfer*, **2011**, 38, 10-15	5.8	21
117	On the imposition of essential boundary conditions in natural neighbour Galerkin methods. *Communications in Numerical Methods in Engineering*, **2003**, 19, 361-376		21
116	Remarks on methods for the computation of boundary-element integrals by co-ordinate transformation. *Communications in Applied Numerical Methods*, **1990**, 6, 121-123		21

115	Study of the Chemotactic Response of Multicellular Spheroids in a Microfluidic Device. *PLoS ONE*, **2015**, 10, e0139515	3.7	20
114	Patient-specific models of human trachea to predict mechanical consequences of endoprosthesis implantation. *Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences*, **2010**, 368, 2881-96	3	20
113	Evaluation of the probability distribution of crack propagation life in metal fatigue by means of probabilistic finite element method and B-models. *Engineering Fracture Mechanics*, **1999**, 63, 675-711	4.2	20
112	Enabling cell recovery from 3D cell culture microfluidic devices for tumour microenvironment biomarker profiling. *Scientific Reports*, **2019**, 9, 6199	4.9	19
111	A new reliability-based data-driven approach for noisy experimental data with physical constraints. *Computer Methods in Applied Mechanics and Engineering*, **2018**, 328, 752-774	5.7	19
110	Computational methodology to determine fluid related parameters of non regular three-dimensional scaffolds. *Annals of Biomedical Engineering*, **2013**, 41, 2367-80	4.7	19
109	Computational modelling of multi-cell migration in a multi-signalling substrate. *Physical Biology*, **2014**, 11, 026002	3	19
108	Computational modelling and analysis of mechanical conditions on cell locomotion and cell-cell interaction. *Computer Methods in Biomechanics and Biomedical Engineering*, **2014**, 17, 678-93	2.1	18
107	A coupled mechano-biochemical model for bone adaptation. *Journal of Mathematical Biology*, **2014**, 69, 1383-429	2	18
106	CFD analysis of the human airways under impedance-based boundary conditions: application to healthy, diseased and stented trachea. *Computer Methods in Biomechanics and Biomedical Engineering*, **2013**, 16, 198-216	2.1	18
105	A coupled viscoplastic rate-dependent damage model for the simulation of fatigue failure of cement□bone interfaces. *International Journal of Plasticity*, **2007**, 23, 2058-2084	7.6	18
104	On the role of bone damage in calcium homeostasis. *Journal of Theoretical Biology*, **2008**, 254, 704-12	2.3	18
103	Influence of first proximal phalanx geometry on hallux valgus deformity: a finite element analysis. *Medical and Biological Engineering and Computing*, **2015**, 53, 645-53	3.1	17
102	An interspecies computational study on limb lengthening. *Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine*, **2010**, 224, 1245-56	1.7	17
101	Fourth-order compact schemes with adaptive time step for monodomain reaction□diffusion equations. *Journal of Computational and Applied Mathematics*, **2008**, 216, 39-55	2.4	17
100	Zeolites for the selective adsorption of sulfur hexafluoride. *Physical Chemistry Chemical Physics*, **2015**, 17, 18121-30	3.6	16
99	Computational modelling of bone cement polymerization: temperature and residual stresses. *Computers in Biology and Medicine*, **2009**, 39, 751-9	7	16
98	Evolution of the properties of a poly(l-lactic acid) scaffold with double porosity during in vitro degradation in a phosphate-buffered saline solution. *Journal of Applied Polymer Science*, **2014**, 131, n/a-n/a	2.9	15

97	Altered swelling and ion fluxes in articular cartilage as a biomarker in osteoarthritis and joint immobilization: a computational analysis. *Journal of the Royal Society Interface*, **2015**, 12, 20141090	4.1	15
96	Advantages and drawbacks of proximal interphalangeal joint fusion versus flexor tendon transfer in the correction of hammer and claw toe deformity. A finite-element study. *Journal of Biomechanical Engineering*, **2010**, 132, 051002	2.1	15
95	Does increased bone-cement interface strength have negative consequences for bulk cement integrity? A finite element study. *Annals of Biomedical Engineering*, **2009**, 37, 454-66	4.7	15
94	Study on tracheal collapsibility, compliance, and stress by considering nonlinear mechanical property of cartilage. *Annals of Biomedical Engineering*, **2009**, 37, 2380-9	4.7	15
93	Bone ingrowth on the surface of endosseous implants. Part 2: Theoretical and numerical analysis. *Journal of Theoretical Biology*, **2009**, 260, 13-26	2.3	15
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91	Higher-order natural element methods: Towards an isogeometric meshless method. *International Journal for Numerical Methods in Engineering*, **2008**, 74, 1928-1954	2.4	15
90	Dynamic 3D FE modelling of the human temporomandibular joint during whiplash. *Medical Engineering and Physics*, **2008**, 30, 700-9	2.4	15
89	A probabilistic damage model for acrylic cements. Application to the life prediction of cemented hip implants. *International Journal of Fatigue*, **2005**, 27, 891-904	5	15
88	Application of the natural element method to finite deformation inelastic problems in isotropic and fiber-reinforced biological soft tissues. *Computer Methods in Applied Mechanics and Engineering*, **2008**, 197, 1983-1996	5.7	14
87	Numerical simulation of bone remodelling around dental implants. *Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine*, **2011**, 225, 897-906	1.7	13
86	FE simulation of human trachea swallowing movement before and after the implantation of an endoprothesis. *Applied Mathematical Modelling*, **2011**, 35, 4902-4912	4.5	12
85	Effect of Sample Pre-Contact on the Experimental Evaluation of Cartilage Mechanical Properties. *Experimental Mechanics*, **2013**, 53, 911-917	2.6	11
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83	Effect of limbal relaxing incisions during phacoemulsification surgery based on nomogram review and numerical simulation. *Cornea*, **2009**, 28, 1042-9	3.1	11
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