JosÃ© Manuel GarcÃ-a Aznar

List of Publications by Year
in descending order

177 papers	6,424 citations	76196 40 h-index	91712 69 g-index
184 all docs	184 docs citations	184 times ranked	6286 citing authors

#	Article	IF	Citations
1	Collective cell durotaxis emerges from long-range intercellular force transmission. Science, 2016, 353, 1157-1161.	6.0	484
2	Modelling bone tissue fracture and healing: a review. Engineering Fracture Mechanics, 2004, 71, 1809-1840.	2.0	404
3	Force loading explains spatial sensing of ligands by cells. Nature, 2017, 552, 219-224.	13.7	244
4	Anisotropic bone remodelling model based on a continuum damage-repair theory. Journal of Biomechanics, 2002, 35, 1-17.	0.9	196
5	On scaffold designing for bone regeneration: A computational multiscale approach. Acta Biomaterialia, 2009, 5, 219-229.	4.1	183
6	Influence of fracture gap size on the pattern of long bone healing: a computational study. Journal of Theoretical Biology, 2005, 235, 105-119.	0.8	176
7	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, 1157-1170.	0.9	139
8	Permeability evaluation of 45S5 BioglassÂ®-based scaffolds for bone tissue engineering. Journal of Biomechanics, 2009, 42, 257-260.	0.9	117
9	Characterization of three-dimensional cancer cell migration in mixed collagen-Matrigel scaffolds using microfluidics and image analysis. PLoS ONE, 2017, 12, e0171417.	1.1	116
10	A bone remodelling model coupling microdamage growth and repair by 3D BMU-activity. Biomechanics and Modeling in Mechanobiology, 2005, 4, 147-167.	1.4	110
11	Computational simulation of fracture healing: Influence of interfragmentary movement on the callus growth. Journal of Biomechanics, 2007, 40, 1467-1476.	0.9	106
12	Modeling mechanosensing and its effect on the migration and proliferation of adherent cells. Acta Biomaterialia, 2008, 4, 613-621.	4.1	87
13	Characterization of Fibrin and Collagen Gels for Engineering Wound Healing Models. Materials, 2015, 8, 1636-1651.	1.3	85
14	A mathematical model for bone tissue regeneration inside a specific type of scaffold. Biomechanics and Modeling in Mechanobiology, 2008, 7, 355-366.	1.4	84
15	On the effect of substrate curvature on cell mechanics. Biomaterials, 2009, 30, 6674-6686.	5.7	83
16	Numerical estimation of bone density and elastic constants distribution in a human mandible. Journal of Biomechanics, 2007, 40, 828-836.	0.9	72
17	Combined experimental and computational characterization of crosslinked collagen-based hydrogels. PLoS ONE, 2018, 13, e0195820.	1.1	65
18	Numerical modeling of a mechano-chemical theory for wound contraction analysis. International Journal of Solids and Structures, 2009, 46, 3597-3606.	1.3	63

#	Article	IF	Citations
19	On the employ of meshless methods in biomechanics. Computer Methods in Applied Mechanics and Engineering, 2005, 194, 801-821.	3.4	62
20	The use of mixed collagen-Matrigel matrices of increasing complexity recapitulates the biphasic role of cell adhesion in cancer cell migration: ECM sensing, remodeling and forces at the leading edge of cancer invasion. PLoS ONE, 2020, 15, e0220019.	1.1	62
21	Microâ€"macro numerical modelling of bone regeneration in tissue engineering. Computer Methods in Applied Mechanics and Engineering, 2008, 197, 3092-3107.	3.4	60
22	Mechano-sensing and cell migration: a 3D model approach. Physical Biology, 2011, 8, 066008.	0.8	59
23	From individual to collective 3D cancer dissemination: roles of collagen concentration and TGF-Î². Scientific Reports, 2018, 8, 12723.	1.6	58
24	Load Transfer Mechanism for Different Metatarsal Geometries: A Finite Element Study. Journal of Biomechanical Engineering, 2009, 131, 021011.	0.6	57
25	Dynamic Mechanisms of Cell Rigidity Sensing: Insights from a Computational Model of Actomyosin Networks. PLoS ONE, 2012, 7, e49174.	1.1	57
26	Involvement of Cellular Prion Protein in Î±-Synuclein Transport in Neurons. Molecular Neurobiology, 2018, 55, 1847-1860.	1.9	55
27	Bone ingrowth on the surface of endosseous implants. Part 1: Mathematical model. Journal of Theoretical Biology, 2009, 260, 1-12.	0.8	54
28	Degradation of extracellular matrix regulates osteoblast migration: A microfluidic-based study. Bone, 2018, 107, 10-17.	1.4	53
29	Balance of mechanical forces drives endothelial gap formation and may facilitate cancer and immune-cell extravasation. PLoS Computational Biology, 2019, 15, e1006395.	1.5	53
30	A Cell-Regulatory Mechanism Involving Feedback between Contraction and Tissue Formation Guides Wound Healing Progression. PLoS ONE, 2014, 9, e92774.	1.1	52
31	Bone remodelling simulation: a tool for implant design. Computational Materials Science, 2002, 25, 100-114.	1.4	51
32	Finite element study of intramedullary osteosynthesis in the treatment of trochanteric fractures of the hip: Gamma and PFN. Injury, 2004, 35, 130-135.	0.7	50
33	Polymer scaffolds with interconnected spherical pores and controlled architecture for tissue engineering: Fabrication, mechanical properties, and finite element modeling. Journal of Biomedical Materials Research - Part B Applied Biomaterials, 2007, 81B, 448-455.	1.6	49
34	Nonlinear elasticity of the lung extracellular microenvironment is regulated by macroscale tissue strain. Acta Biomaterialia, 2019, 92, 265-276.	4.1	49
35	Finite Element Prediction of Proximal Femoral Fracture Patterns Under Different Loads. Journal of Biomechanical Engineering, 2005, 127, 9-14.	0.6	47
36	Effect of porosity and mineral content on the elastic constants of cortical bone: a multiscale approach. Biomechanics and Modeling in Mechanobiology, 2011, 10, 309-322.	1.4	47

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37	In silico Mechano-Chemical Model of Bone Healing for the Regeneration of Critical Defects: The Effect of BMP-2. PLoS ONE, 2015, 10, e0127722.	1.1	47
38	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.	1.5	46
39	Modeling distraction osteogenesis: analysis of the distraction rate. Biomechanics and Modeling in Mechanobiology, 2009, 8, 323-335.	1.4	45
40	Scaffold microarchitecture determines internal bone directional growth structure: A numerical study. Journal of Biomechanics, 2010, 43, 2480-2486.	0.9	43
41	A multi-scale modelling framework combining musculoskeletal rigid-body simulations with adaptive finite element analyses, to evaluate the impact of femoral geometry on hip joint contact forces and femoral bone growth. PLoS ONE, 2020, 15, e0235966.	1.1	42
42	Primary Human Osteoblasts Cultured in a 3D Microenvironment Create a Unique Representative Model of Their Differentiation Into Osteocytes. Frontiers in Bioengineering and Biotechnology, 2020, 8, 336.	2.0	42
43	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, 1737-1750.	2.3	41
44	Fibroblast Migration in 3D is Controlled by Haptotaxis in a Non-muscle Myosin II-Dependent Manner. Annals of Biomedical Engineering, 2015, 43, 3025-3039.	1.3	41
45	PRIMAGE project: predictive in silico multiscale analytics to support childhood cancer personalised evaluation empowered by imaging biomarkers. European Radiology Experimental, 2020, 4, 22.	1.7	41
46	A 3D Computational Simulation of Fracture Callus Formation: Influence of the Stiffness of the External Fixator. Journal of Biomechanical Engineering, 2006, 128, 290-299.	0.6	40
47	A mathematical approach to bone tissue engineering. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2009, 367, 2055-2078.	1.6	40
48	Breast Cancer Cells Adapt Contractile Forces to Overcome Steric Hindrance. Biophysical Journal, 2019, 116, 1305-1312.	0.2	39
49	Probabilistic analysis of the influence of the bonding degree of the stemâ€"cement interface in the performance of cemented hip prostheses. Journal of Biomechanics, 2006, 39, 1859-1872.	0.9	38
50	Computational comparison of reamed versus unreamed intramedullary tibial nails. Journal of Orthopaedic Research, 2007, 25, 191-200.	1.2	37
51	Role of subject-specific musculoskeletal loading on the prediction of bone density distribution in the proximal femur. Journal of the Mechanical Behavior of Biomedical Materials, 2014, 30, 244-252.	1.5	37
52	A Finite Element Dual Porosity Approach to Model Deformation-Induced Fluid Flow in Cortical Bone. Annals of Biomedical Engineering, 2007, 35, 1687-1698.	1.3	36
53	Modelling the mechanical behaviour of living bony interfaces. Computer Methods in Applied Mechanics and Engineering, 2007, 196, 3300-3314.	3.4	35
54	Monitoring In Vivo Load Transmission Through an External Fixator. Annals of Biomedical Engineering, 2010, 38, 605-612.	1.3	35

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55	Influence of the frequency of the external mechanical stimulus on bone healing: A computational study. Medical Engineering and Physics, 2010, 32, 363-371.	0.8	35
56	Challenges in the Modeling of Wound Healing Mechanisms in Soft Biological Tissues. Annals of Biomedical Engineering, 2015, 43, 1654-1665.	1.3	35
57	Growth mixture model of distraction osteogenesis: effect of pre-traction stresses. Biomechanics and Modeling in Mechanobiology, 2010, 9, 103-115.	1.4	34
58	A Comparative Analysis of Different Treatments for Distal Femur Fractures using the Finite Element Method. Computer Methods in Biomechanics and Biomedical Engineering, 2004, 7, 245-256.	0.9	33
59	A bone remodelling model including the directional activity of BMUs. Biomechanics and Modeling in Mechanobiology, 2009, 8, 111-127.	1.4	33
60	A reactionâ€“diffusion model for long bones growth. Biomechanics and Modeling in Mechanobiology, 2009, 8, 381-395.	1.4	33
61	Piezoelectricity could predict sites of formation/resorption in bone remodelling and modelling. Journal of Theoretical Biology, 2012, 292, 86-92.	0.8	33
62	A hybrid computational model for collective cell durotaxis. Biomechanics and Modeling in Mechanobiology, 2018, 17, 1037-1052.	1.4	33
63	Mechanical and flow characterization of SponceramÂ® carriers: Evaluation by homogenization theory and experimental validation. Journal of Biomedical Materials Research - Part B Applied Biomaterials, 2008, 87B, 42-48.	1.6	32
64	Appearance and location of secondary ossification centres may be explained by a reactionâ€“diffusion mechanism. Computers in Biology and Medicine, 2009, 39, 554-561.	3.9	31
65	Numerical modelling of the angiogenesis process in wound contraction. Biomechanics and Modeling in Mechanobiology, 2013, 12, 349-360.	1.4	31
66	Finite element simulation for the mechanical characterization of soft biological materials by atomic force microscopy. Journal of the Mechanical Behavior of Biomedical Materials, 2016, 62, 222-235.	1.5	31
67	Image Analysis for the Quantitative Comparison of Stress Fibers and Focal Adhesions. PLoS ONE, 2014, 9, e107393.	1.1	30
68	Modelling the mixed-mode failure of cementâ€“bone interfaces. Engineering Fracture Mechanics, 2006, 73, 1379-1395.	2.0	29
69	Computational simulation of dental implant osseointegration through resonance frequency analysis. Journal of Biomechanics, 2008, 41, 316-325.	0.9	29
70	Quantifying 3D chemotaxis in microfluidic-based chips with step gradients of collagen hydrogel concentrations. Integrative Biology (United Kingdom), 2017, 9, 339-349.	0.6	29
71	Extracellular matrix density regulates the formation of tumour spheroids through cell migration. PLoS Computational Biology, 2021, 17, e1008764.	1.5	29
72	Unravelling cell migration: defining movement from the cell surface. Cell Adhesion and Migration, 2022, 16, 25-64.	1.1	29

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73	A comparative FEA of the debonding process in different concepts of cemented hip implants. Medical Engineering and Physics, 2006, 28, 525-533.	0.8	28
74	On the role of bone damage in calcium homeostasis. Journal of Theoretical Biology, 2008, 254, 704-712.	0.8	28
75	Computational evaluation of different numerical tools for the prediction of proximal femur loads from bone morphology. Computer Methods in Applied Mechanics and Engineering, 2014, 268, 437-450.	3.4	27
76	Microfluidic devices for studying bacterial taxis, drug testing and biofilm formation. Microbial Biotechnology, 2022, 15, 395-414.	2.0	27
77	Analysis of the debonding of the stemâ€“cement interface in intramedullary fixation using a non-linear fracture mechanics approach. Engineering Fracture Mechanics, 2005, 72, 1125-1147.	2.0	26
78	External bone remodeling through boundary elements and damage mechanics. Mathematics and Computers in Simulation, 2006, 73, 183-199.	2.4	26
79	A coupled viscoplastic rate-dependent damage model for the simulation of fatigue failure of cementâ€“bone interfaces. International Journal of Plasticity, 2007, 23, 2058-2084.	4.1	26
80	A coupled mechano-biochemical model for bone adaptation. Journal of Mathematical Biology, 2014, 69, 1383-1429.	0.8	26
81	Probabilistic Voxel-Fe model for single cell motility in 3D. In Silico Cell and Tissue Science, 2014, 1, 2.	2.6	26
82	Quantification of angiogenic sprouting under different growth factors in a microfluidic platform. Journal of Biomechanics, 2016, 49, 1340-1346.	0.9	26
83	Numerical analysis of a strain-adaptive bone remodelling problem. Computer Methods in Applied Mechanics and Engineering, 2010, 199, 1549-1557.	3.4	25
84	Mechanical modeling of collective cell migration: An agent-based and continuum material approach. Computer Methods in Applied Mechanics and Engineering, 2018, 337, 246-262.	3.4	25
85	A phenomenological approach to modelling collective cell movement in 2D. Biomechanics and Modeling in Mechanobiology, 2013, 12, 1089-1100.	1.4	24
86	Modeling of anisotropic wound healing. Journal of the Mechanics and Physics of Solids, 2015, 79, 80-91.	2.3	24
87	Traction Force Microscopy in 3â€Ðimensional Extracellular Matrix Networks. Current Protocols in Cell Biology, 2017, 75, 10.22.1-10.22.20.	2.3	24
88	Computational Methodology to Determine Fluid Related Parameters of Non Regular Three-Dimensional Scaffolds. Annals of Biomedical Engineering, 2013, 41, 2367-2380.	1.3	23
89	Inducing chemotactic and haptotactic cues in microfluidic devices for three-dimensional in vitro assays. Biomicrofluidics, 2014, 8, 064122.	1.2	23
90	Free Form Deformationâ€“Based Image Registration Improves Accuracy of Traction Force Microscopy. PLoS ONE, 2015, 10, e0144184.	1.1	23

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91	A discrete approach for modeling cellâ€“matrix adhesions. Computational Particle Mechanics, 2014, 1, 117-130.	1.5	22
92	Computational model of mesenchymal migration in 3D under chemotaxis. Computer Methods in Biomechanics and Biomedical Engineering, 2017, 20, 59-74.	0.9	22
93	Modelling actin polymerization: the effect on confined cell migration. Biomechanics and Modeling in Mechanobiology, 2019, 18, 1177-1187.	1.4	22
94	Multiscale modeling of bone tissue mechanobiology. Bone, 2021, 151, 116032.	1.4	22
95	Influence of high-frequency cyclical stimulation on the bone fracture-healing process: mathematical and experimental models. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2011, 369, 4278-4294.	1.6	21
96	Numerical stability and convergence analysis of bone remodeling model. Computer Methods in Applied Mechanics and Engineering, 2014, 271, 253-268.	3.4	21
97	Bone ingrowth on the surface of endosseous implants. Part 2: Theoretical and numerical analysis. Journal of Theoretical Biology, 2009, 260, 13-26.	0.8	20
98	Three-Dimensional Simulation of Mandibular Distraction Osteogenesis: Mechanobiological Analysis. Annals of Biomedical Engineering, 2011, 39, 35-43.	1.3	20
99	An unstructured immersed finite element method for nonlinear solid mechanics. Advanced Modeling and Simulation in Engineering Sciences, 2016, 3, 22.	0.7	20
100	The role of nuclear mechanics in cell deformation under creeping flows. Journal of Theoretical Biology, 2017, 432, 25-32.	0.8	20
101	Matrix architecture plays a pivotal role in 3D osteoblast migration: The effect of interstitial fluid flow. Journal of the Mechanical Behavior of Biomedical Materials, 2018, 83, 52-62.	1.5	20
102	Localized tissue mineralization regulated by bone remodelling: A computational approach. PLoS ONE, 2017, 12, e0173228.	1.1	20
103	A damage model for the growth plate: Application to the prediction of slipped capital epiphysis. Journal of Biomechanics, 2007, 40, 3305-3313.	0.9	19
104	Computational modelling of bone cement polymerization: Temperature and residual stresses. Computers in Biology and Medicine, 2009, 39, 751-759.	3.9	19
105	An interface finite element model can be used to predict healing outcome of bone fractures. Journal of the Mechanical Behavior of Biomedical Materials, 2014, 29, 328-338.	1.5	19
106	Subject-specific musculoskeletal loading of the tibia: Computational load estimation. Journal of the Mechanical Behavior of Biomedical Materials, 2017, 65, 334-343.	1.5	19
107	A probabilistic damage model for acrylic cements. Application to the life prediction of cemented hip implants. International Journal of Fatigue, 2005, 27, 891-904.	2.8	18
108	An Interspecies Computational Study on Limb Lengthening. Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine, 2010, 224, 1245-1256.	1.0	18

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109	A bone remodelling model including the effect of damage on the steering of BMUs. Journal of the Mechanical Behavior of Biomedical Materials, 2014, 32, 99-112.	1.5	18
110	3D Cell Migration Studies for Chemotaxis on Microfluidic-Based Chips: A Comparison between Cardiac and Dermal Fibroblasts. Bioengineering, 2018, 5, 45.	1.6	18
111	A mathematical model for cell differentiation, as an evolutionary and regulated process. Computer Methods in Biomechanics and Biomedical Engineering, 2014, 17, 1051-1070.	0.9	17
112	Comparison between accelerometer and kinematic techniques for the evaluation of hoof slip distance: a preliminary study. Computer Methods in Biomechanics and Biomedical Engineering, 2010, 13, 71-72.	0.9	16
113	Integration of in vitro and in silico Models Using Bayesian Optimization With an Application to Stochastic Modeling of Mesenchymal 3D Cell Migration. Frontiers in Physiology, 2018, 9, 1246.	1.3	16
114	Does Increased Boneâ€"Cement Interface Strength have Negative Consequences for Bulk Cement Integrity? A Finite Element Study. Annals of Biomedical Engineering, 2009, 37, 454-466.	1.3	15
115	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.	1.0	15
116	Nonlinear finite element simulations of injuries with free boundaries: Application to surgical wounds. International Journal for Numerical Methods in Biomedical Engineering, 2014, 30, 616-633.	1.0	14
117	A hybrid computational model to explore the topological characteristics of epithelial tissues. International Journal for Numerical Methods in Biomedical Engineering, 2017, 33, e2877.	1.0	14
118	Image-based Characterization of 3D Collagen Networks and the Effect of Embedded Cells. Microscopy and Microanalysis, 2019, 25, 971-981.	0.2	14
119	Biomechanical response of a mandible in a patient affected with hemifacial microsomia before and after distraction osteogenesis. Medical Engineering and Physics, 2010, 32, 860-866.	0.8	13
120	On the Modelling of Biological Patterns withÂMechanochemical Models: Insights from Analysis andÂComputation. Bulletin of Mathematical Biology, 2010, 72, 400-431.	0.9	13
121	A lattice-based approach to model distraction osteogenesis. Journal of Biomechanics, 2012, 45, 2736-2742.	0.9	13
122	A time-dependent phenomenological model for cell mechano-sensing. Biomechanics and Modeling in Mechanobiology, 2014, 13, 451-462.	1.4	13
123	Is the callus shape an optimal response to a mechanobiological stimulus?. Medical Engineering and Physics, 2014, 36, 1508-1514.	0.8	13
124	The role of fluid flow on bone mechanobiology: mathematical modeling and simulation. Computational Geosciences, 2021, 25, 823-830.	1.2	13
125	Decellularization of tumours: A new frontier in tissue engineering. Journal of Tissue Engineering, 2022, 13, 204173142210916.	2.3	13
126	Mechano-driven regeneration predicts response variations in large animal model based on scaffold implantation site and individual mechano-sensitivity. Bone, 2021, 144, 115769.	1.4	12

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127	ESB Clinical Biomechanics Award 2020: Pelvis and hip movement strategies discriminate typical and pathological femoral growth â€“ Insights gained from a multi-scale mechanobiological modelling framework. Clinical Biomechanics, 2021, 87, 105405.	0.5	12
128	Numerical analysis of a diffusive strain-adaptive bone remodelling theory. International Journal of Solids and Structures, 2012, 49, 2085-2093.	1.3	11
129	Model for direct bone apposition on pre-existing surfaces, during peri-implant osseointegration. Journal of Theoretical Biology, 2012, 304, 131-142.	0.8	11
130	Effect of Sample Pre-Contact on the Experimental Evaluation of Cartilage Mechanical Properties. Experimental Mechanics, 2013, 53, 911-917.	1.1	11
131	Numerical estimation of 3D mechanical forces exerted by cells on non-linear materials. Journal of Biomechanics, 2013, 46, 50-55.	0.9	11
132	Numerical study of the scratch-closing behavior of coatings containing an expansive layer. Surface and Coatings Technology, 2012, 206, 2220-2225.	2.2	10
133	Microfluidic model of monocyte extravasation reveals the role of hemodynamics and subendothelial matrix mechanics in regulating endothelial integrity. Biomicrofluidics, 2021, 15, 054102.	1.2	10
134	Novel 3D biomaterials for tissue engineering based on collagen and macroporous ceramics. Materialwissenschaft Und Werkstofftechnik, 2009, 40, 54-60.	0.5	9
135	Accelerating numerical simulations of strain-adaptive bone remodeling predictions. Computer Methods in Applied Mechanics and Engineering, 2014, 273, 255-272.	3.4	9
136	Modeling the formation of cell-matrix adhesions on a single 3D matrix fiber. Journal of Theoretical Biology, 2015, 384, 84-94.	0.8	9
137	An iterative finite element-based method for solving inverse problems in traction force microscopy. Computer Methods and Programs in Biomedicine, 2019, 182, 105056.	2.6	9
138	Computer simulation of an adaptive damage-bone remodeling law applied to three unit-bone bars structure. Computers in Biology and Medicine, 2004, 34, 259-273.	3.9	8
139	On numerical modelling of growth, differentiation and damage in structural living tissues. Archives of Computational Methods in Engineering, 2006, 13, 471-513.	6.0	8
140	Numerical analysis of a piezoelectric bone remodelling problem. European Journal of Applied Mathematics, 2012, 23, 635-657.	1.4	8
141	A theoretical analysis of the scale separation in a model to predict solid tumour growth. Journal of Theoretical Biology, 2022, 547, 111173.	0.8	8
142	Position of the AI for Health Imaging (AI4HI) network on metadata models for imaging biobanks. European Radiology Experimental, 2022, 6, .	1.7	8
143	Title is missing!. Meccanica, 2002, 37, 365-374.	1.2	7
144	A phenomenological cohesive model for the macroscopic simulation of cellâ€“matrix adhesions. Biomechanics and Modeling in Mechanobiology, 2017, 16, 1207-1224.	1.4	7

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145	Evaluation of residual stresses due to bone callus growth: A computational study. Journal of Biomechanics, 2011, 44, 1782-1787.	0.9	6
146	Computational mechano-chemo-biology: a tool for the design of tissue scaffolds. Biomanufacturing Reviews, 2016, 1, 1.	4.8	6
147	Matrix degradation regulates osteoblast protrusion dynamics and individual migration. Integrative Biology (United Kingdom), 2019, 11, 404-413.	0.6	6
148	Finite element simulation of the structural integrity of endothelial cell monolayers: A step for tumor cell extravasation. Engineering Fracture Mechanics, 2020, 224, 106718.	2.0	6
149	A new 3D finite element-based approach for computing cell surface tractions assuming nonlinear conditions. PLoS ONE, 2021, 16, e0249018.	1.1	6
150	Phenomenological modelling and simulation of cell clusters in 3D cultures. Computers in Biology and Medicine, 2016, 77, 249-260.	3.9	5
151	Biomechanical assessment and clinical analysis of different intramedullary nailing systems for oblique fractures. Computer Methods in Biomechanics and Biomedical Engineering, 2016, 19, 1266-1277.	0.9	5
152	Mechanical modeling of lung alveoli: From macroscopic behaviour to cell mechano-sensing at microscopic level. Journal of the Mechanical Behavior of Biomedical Materials, 2022, 126, 105043.	1.5	5
153	A mechanistic protrusive-based model for 3D cell migration. European Journal of Cell Biology, 2022, 101, 151255.	1.6	5
154	Numerical method for the bone regeneration model, defined within the evolving 2D axisymmetric physical domain. Computer Methods in Applied Mechanics and Engineering, 2013, 253, 117-145.	3.4	4
155	An affine micro-sphere-based constitutive model, accounting for junctional sliding, can capture F-actin network mechanics. Computer Methods in Biomechanics and Biomedical Engineering, 2013, 16, 1002-1012.	0.9	4
156	An agent-based and FE approach to simulate cell jamming and collective motion in epithelial layers. Computational Particle Mechanics, 2019, 6, 85-96.	1.5	4
157	A novel algorithm to resolve lack of convergence and checkerboard instability in bone adaptation simulations using nonâ€local averaging. International Journal for Numerical Methods in Biomedical Engineering, 2021, 37, e3419.	1.0	4
158	A finite element based optimization algorithm to include diffusion into the analysis of DCE-MRI. Engineering With Computers, 2022, 38, 3849-3865.	3.5	4
159	Simulation of Bone Remodelling and Bone Ingrowth within Scaffolds. Key Engineering Materials, 2008, 377, 225-273.	0.4	3
160	In-Silico Models as a Tool for the Design of Specific Treatments: Applications in Bone Regeneration. Lecture Notes in Computational Vision and Biomechanics, 2012, , 1-17.	0.5	3
161	Numerical analysis of an osteoconduction model arising in bone-implant integration. ZAMM Zeitschrift Fur Angewandte Mathematik Und Mechanik, 2017, 97, 1050-1063.	0.9	3
162	A web-based application for automated quantification of chemical gradients induced in microfluidic devices. Computers in Biology and Medicine, 2018, 95, 118-128.	3.9	3

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163	A 3D multi-agent-based model for lumen morphogenesis: the role of the biophysical properties of the extracellular matrix. Engineering With Computers, 2022, 38, 4135-4149.	3.5	3
164	Cell biophysical stimuli in lobodopodium formation: a computer based approach. Computer Methods in Biomechanics and Biomedical Engineering, 2020, 24, 1-10.	0.9	2
165	Modelling Living Tissues: Mechanical and Mechanobiological Aspects. Mathematics in Industry, 2010, , 3-8.	0.1	2
166	Cellâ€"Material Communication: Mechanosensing Modelling for Design in Tissue Engineering. Studies in Mechanobiology, Tissue Engineering and Biomaterials, 2010, , 451-462.	0.7	1
167	Insights to regenerate materials: learning from nature. Smart Materials and Structures, 2016, 25, 084001.	1.8	1
168	Modeling Confined Cell Migration Mediated by Cytoskeleton Dynamics. Computation, 2018, 6, 33.	1.0	1
169	Periprosthetic bone remodeling. A finite elementstudy of the influence of the implant design. Journal of Applied Biomaterials and Biomechanics, 2005, 3, 117-27.	0.4	1
170	Preface: Particle-based simulations on cell and biomolecular mechanics. Computational Particle Mechanics, 2015, 2, 315-315.	1.5	0
171	A Workbench for Biomedical Applications Based on Image Analysis. Lecture Notes in Computational Vision and Biomechanics, 2018, , 544-547.	0.5	0
172	Abstract B85: Quantification of sprouting angiogenesis under the effect of different growth factors involved in the tumor microenvironment. , 2017, , .		0
173	Prediction of the structure and mechanical properties of polycaprolactoneâ€"silica nanocomposites and the interphase region by molecular dynamics simulations: the effect of PEGylation. Soft Matter, 2022, 18, 2800-2813.	1.2	0
174	Title is missing!. , 2020, 15, e0220019.		0
175	Title is missing!. , 2020, 15, e0220019.		0
176	Title is missing!. , 2020, 15, e0220019.		0
177	Title is missing!. , 2020, 15, e0220019.		0