Jose A Sanz-Herrera

List of Publications by Year
in descending order

47 papers	1,490 citations	471371 17 h-index	315616 38 g-index
50 all docs	50 docs citations	50 times ranked	2047 citing authors

#	Article	IF	Citations
1	Understanding glioblastoma invasion using physically-guided neural networks with internal variables. PLoS Computational Biology, 2022, 18, e1010019.	1.5	3
2	Data-Driven Computational Simulation in Bone Mechanics. Annals of Biomedical Engineering, 2021, 49, 407-419.	1.3	6
3	Inverse method based on 3D nonlinear physically constrained minimisation in the framework of traction force microscopy. Soft Matter, 2021, 17, 10210-10222.	1.2	14
4	Mechanical Influence of Surrounding Soft Tissue on Bone Regeneration Processes: A Bone Lengthening Study. Annals of Biomedical Engineering, 2021, 49, 642-652.	1.3	7
5	Advanced in silico validation framework for three-dimensional traction force microscopy and application to an in vitro model of sprouting angiogenesis. Acta Biomaterialia, 2021, 126, 326-338.	4.1	13
6	TFMLAB: A MATLAB toolbox for 4D traction force microscopy. SoftwareX, 2021, 15, 100723.	1.2	22
7	Prediction and identification of physical systems by means of Physically-Guided Neural Networks with meaningful internal layers. Computer Methods in Applied Mechanics and Engineering, 2021, 381, 113816.	3.4	11
8	Structural optimization of 3D-printed patient-specific ceramic scaffolds for in vivo bone regeneration in load-bearing defects. Journal of the Mechanical Behavior of Biomedical Materials, 2021, 121, 104613.	1.5	16
9	Analysis of the Parametric Correlation in Mathematical Modeling of In Vitro Glioblastoma Evolution Using Copulas. Mathematics, 2021, 9, 27.	1.1	1
10	Mathematical formulation and parametric analysis of in vitro cell models in microfluidic devices: application to different stages of glioblastoma evolution. Scientific Reports, 2020, 10, 21193.	1.6	17
11	A multiscale data-driven approach for bone tissue biomechanics. Computer Methods in Applied Mechanics and Engineering, 2020, 368, 113136.	3.4	14
12	Special Issue on â€œBiomaterials for Bone Tissue Engineeringâ€ Applied Sciences (Switzerland), 2020, 10, 2660.	1.3	2
13	Continuum Modeling and Simulation in Bone Tissue Engineering. Applied Sciences (Switzerland), 2019, 9, 3674.	1.3	8
14	Computational Multiscale Solvers for Continuum Approaches. Materials, 2019, 12, 691.	1.3	7
15	Numerical investigation of the coupled mechanical behavior of self-healing materials under cyclic loading. International Journal of Solids and Structures, 2019, 160, 232-246.	1.3	9
16	An unsupervised data completion method for physically-based data-driven models. Computer Methods in Applied Mechanics and Engineering, 2019, 344, 120-143.	3.4	12
17	Multiscale Characterisation of Cortical Bone Tissue. Applied Sciences (Switzerland), 2019, 9, 5228.	1.3	4
18	In silico design of magnesium implants: Macroscopic modeling. Journal of the Mechanical Behavior of Biomedical Materials, 2018, 79, 181-188.	1.5	18

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19	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.	3.4	30
20	Model of dissolution in the framework of tissue engineering and drug delivery. Biomechanics and Modeling in Mechanobiology, 2018, 17, 1331-1341.	1.4	2
21	In silico dynamic characterization of the femur: Physiological versus mechanical boundary conditions. Medical Engineering and Physics, 2018, 58, 80-85.	0.8	14
22	A PGD-based multiscale formulation for non-linear solid mechanics under small deformations. Computer Methods in Applied Mechanics and Engineering, 2016, 305, 806-826.	3.4	12
23	In vivo measurement of skin surface strain and sub-surface layer deformation induced by natural tissue stretching. Journal of the Mechanical Behavior of Biomedical Materials, 2016, 62, 556-569.	1.5	111
24	Chemical-diffusive modeling of the self-healing behavior in concrete. International Journal of Solids and Structures, 2015, 69-70, 392-402.	1.3	31
25	A novel method for visualising and quantifying through-plane skin layer deformations. Journal of the Mechanical Behavior of Biomedical Materials, 2012, 14, 199-207.	1.5	46
26	Modelling bioactivity and degradation of bioactive glass based tissue engineering scaffolds. International Journal of Solids and Structures, 2011, 48, 257-268.	1.3	57
27	Multiscale simulation of particle-reinforced elasticâ€“plastic adhesives at small strains. Computer Methods in Applied Mechanics and Engineering, 2011, 200, 2211-2222.	3.4	8
28	The pro-angiogenic properties of multi-functional bioactive glass composite scaffolds. Biomaterials, 2011, 32, 4096-4108.	5.7	176
29	Cell-Biomaterial Mechanical Interaction in the Framework of Tissue Engineering: Insights, Computational Modeling and Perspectives. International Journal of Molecular Sciences, 2011, 12, 8217-8244.	1.8	50
30	Modelling bone tissue engineering. Towards an understanding of the role of scaffold design parameters. Computational Methods in Applied Sciences (Springer), 2011, , 71-90.	0.1	2
31	A rotating bed system bioreactor enables cultivation of primary osteoblasts on wellâ€characterized sponceramÂ® regarding structural and flow properties. Biotechnology Progress, 2010, 26, 671-678.	1.3	11
32	Scaffold microarchitecture determines internal bone directional growth structure: A numerical study. Journal of Biomechanics, 2010, 43, 2480-2486.	0.9	43
33	Cellâ€“Material Communication: Mechanosensing Modelling for Design in Tissue Engineering. Studies in Mechanobiology, Tissue Engineering and Biomaterials, 2010, , 451-462.	0.7	1
34	Novel 3D biomaterials for tissue engineering based on collagen and macroporous ceramics. Materialwissenschaft Und Werkstofftechnik, 2009, 40, 54-60.	0.5	9
35	On the effect of substrate curvature on cell mechanics. Biomaterials, 2009, 30, 6674-6686.	5.7	83
36	Analysis of cracked piezoelectric solids by a mixed three-dimensional BE approach. Engineering Analysis With Boundary Elements, 2009, 33, 271-282.	2.0	13

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37	Permeability evaluation of 45S5 BioglassÂ®-based scaffolds for bone tissue engineering. Journal of Biomechanics, 2009, 42, 257-260.	0.9	117
38	On scaffold designing for bone regeneration: A computational multiscale approach. Acta Biomaterialia, 2009, 5, 219-229.	4.1	183
39	A mathematical approach to bone tissue engineering. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2009, 367, 2055-2078.	1.6	40
40	Fast multipole method applied to 3-D frequency domain elastodynamics. Engineering Analysis With Boundary Elements, 2008, 32, 787-795.	2.0	13
41	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
42	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
43	Microâ€“macro numerical modelling of bone regeneration in tissue engineering. Computer Methods in Applied Mechanics and Engineering, 2008, 197, 3092-3107.	3.4	60
44	Simulation of Bone Remodelling and Bone Ingrowth within Scaffolds. Key Engineering Materials, 2008, 377, 225-273.	0.4	3
45	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
46	Three-dimensional BEM for piezoelectric fracture analysis. Engineering Analysis With Boundary Elements, 2005, 29, 586-596.	2.0	25
47	Bone-Cement Interface Micromechanical Model under Cyclic Loading. Key Engineering Materials, 0, 488-489, 391-394.	0.4	0