Robert Cimrman

List of Publications by Year
in descending order

36 papers	19,824 citations	840776 11 h-index	454955 30 g-index
38 all docs	38 docs citations	38 times ranked	29152 citing authors

#	Article	IF	Citations
1	The time has come to extend the expiration limit of cryopreserved allograft heart valves. Cell and Tissue Banking, 2021, 22, 161-184.	1.1	8
2	Identification of the LLDPE Constitutive Material Model for Energy Absorption in Impact Applications. Polymers, 2021, 13, 1537.	4.5	2
3	Fast evaluation of finite element weak forms using python tensor contraction packages. Advances in Engineering Software, 2021, 159, 103033.	3.8	3
4	Modelling of acoustic waves in homogenized fluid-saturated deforming poroelastic periodic structures under permanent flow. Journal of Computational and Applied Mathematics, 2021, 394, 113536.	2.0	0
5	Modelling wave dispersion in fluid saturating periodic scaffolds. Applied Mathematics and Computation, 2021, 410, 126256.	2.2	0
6	Evaluating Hellmannâ€“Feynman forces within non-local pseudopotentials. Computer Physics Communications, 2020, 250, 107034.	7.5	5
7	SciPy 1.0: fundamental algorithms for scientific computing in Python. Nature Methods, 2020, 17, 261-272.	19.0	17,539
8	Multiscale finite element calculations in Python using SfePy. Advances in Computational Mathematics, 2019, 45, 1897-1921.	1.6	44
9	Mechanical and structural properties of human aortic and pulmonary allografts do not deteriorate in the first 10Âyears of cryopreservation and storage in nitrogen. Cell and Tissue Banking, 2019, 20, 221-241.	1.1	8
10	The histological microstructure and in vitro mechanical properties of pregnant and postmenopausal ewe perineal body. Menopause, 2019, 26, 1289-1301.	2.0	4
11	The histological microstructure and in vitro mechanical properties of the human female postmenopausal perineal body. Menopause, 2019, 26, 66-77.	2.0	10
12	Isogeometric analysis in electronic structure calculations. Mathematics and Computers in Simulation, 2018, 145, 125-135.	4.4	9
13	Convergence study of isogeometric analysis based on BÃ©zier extraction in electronic structure calculations. Applied Mathematics and Computation, 2018, 319, 138-152.	2.2	7
14	Segmental differences in the orientation of smooth muscle cells in the tunica media of porcine aortae. Biomechanics and Modeling in Mechanobiology, 2015, 14, 315-332.	2.8	10
15	Modelling response of phononic Reissnerâ€“Mindlin plates using a spectral decomposition. Applied Mathematics and Computation, 2015, 258, 617-630.	2.2	4
16	A mathematical model of the carp heart ventricle during the cardiac cycle. Journal of Theoretical Biology, 2015, 373, 12-25.	1.7	7
17	Thermal conductivity analysis of delaminated thin films by scanning thermal microscopy. Measurement Science and Technology, 2014, 25, 044022.	2.6	6
18	Wave propagation and band gaps in homogenized phononic plates - modelling by spectral decomposition. Proceedings in Applied Mathematics and Mechanics, 2014, 14, 717-718.	0.2	0

#	Article	IF	Citations
19	A preliminary study into the correlation of stiffness of the laminar junction of the equine hoof with the length density of its secondary lamellae. Equine Veterinary Journal, 2013, 45, 170-175.	1.7	10
20	Python-based finite element code used as a universal and modular tool for electronic structure calculation. , 2013, , .		0
21	The contribution of vascular smooth muscle, elastin and collagen on the passive mechanics of porcine carotid arteries. Physiological Measurement, 2012, 33, 1335-1351.	2.1	33
22	Multiscale FE simulation of diffusion-deformation processes in homogenized dual-porous media. Mathematics and Computers in Simulation, 2012, 82, 1744-1772.	4.4	12
23	Hierarchical homogenization of fluid saturated porous solid with multiple porosity scales. Comptes Rendus - Mecanique, 2012, 340, 688-694.	2.1	9
24	Multiscale modeling of a fluid saturated medium with double porosity: Relevance to the compact bone. Journal of the Mechanics and Physics of Solids, 2012, 60, 857-881.	4.8	63
25	How to asses, visualize and compare the anisotropy of linear structures reconstructed from optical sectionsâ€"A study based on histopathological quantification of human brain microvessels. Journal of Theoretical Biology, 2011, 286, 67-78.	1.7	16
26	On identification of the arterial model parameters from experiments applicable â€œin vivoâ€• Mathematics and Computers in Simulation, 2010, 80, 1232-1245.	4.4	5
27	Two-Scale Modeling of Tissue Perfusion Problem Using Homogenization of Dual Porous Media. International Journal for Multiscale Computational Engineering, 2010, 8, 81-102.	1.2	19
28	On modelling the parallel diffusion flow in deforming porous media. Mathematics and Computers in Simulation, 2007, 76, 34-43.	4.4	10
29	Numerical modelling and homogenized constitutive law of large deforming fluid saturated heterogeneous solids. Computers and Structures, 2006, 84, 1095-1114.	4.4	24
30	Modeling and estimation of the cardiac electromechanical activity. Computers and Structures, 2006, 84, 1743-1759.	4.4	142
31	Cardiac function estimation from MRI using a heart model and data assimilation: Advances and difficulties. Medical Image Analysis, 2006, 10, 642-656.	11.6	132
32	Microcontinuum approach in biomechanical modeling. Mathematics and Computers in Simulation, 2003, 61, 249-260.	4.4	20
33	Modelling heart tissue using a composite muscle model with blood perfusion. , 2003, , 1642-1646.		4
34	Microstructure Oriented Modelling of Hierarchically Perfused Porous Media for Cerebral Blood Flow Evaluation. Key Engineering Materials, 0, 465, 286-289.	0.4	5
35	Microcracks and Mechanical Behaviour of Corio-Epidermal Junction of Equine Hoof. Key Engineering Materials, 0, 465, 342-345.	0.4	2
36	SymPy: symbolic computing in Python. PeerJ Computer Science, 0, 3, e103.	4.5	830