

Pierre Badel

List of Publications by Year in descending order

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67
papers

1,721
citations

304368

22
h-index

288905

40
g-index

69
all docs

69
docs citations

69
times ranked

1342
citing authors

#	ARTICLE	IF	CITATIONS
1	Simulation and tomography analysis of textile composite reinforcement deformation at the mesoscopic scale. <i>Composites Science and Technology</i> , 2008, 68, 2433-2440.	3.8	158
2	Anisotropic and hyperelastic identification of in vitro human arteries from full-field optical measurements. <i>Journal of Biomechanics</i> , 2010, 43, 2978-2985.	0.9	126
3	Computational determination of in-plane shear mechanical behaviour of textile composite reinforcements. <i>Computational Materials Science</i> , 2007, 40, 439-448.	1.4	106
4	Rate constitutive equations for computational analyses of textile composite reinforcement mechanical behaviour during forming. <i>Composites Part A: Applied Science and Manufacturing</i> , 2009, 40, 997-1007.	3.8	95
5	Woven fabric permeability: From textile deformation to fluid flow mesoscale simulations. <i>Composites Science and Technology</i> , 2008, 68, 1624-1630.	3.8	84
6	In vitro analysis of localized aneurysm rupture. <i>Journal of Biomechanics</i> , 2014, 47, 607-616.	0.9	83
7	Large deformation analysis of fibrous materials using rate constitutive equations. <i>Computers and Structures</i> , 2008, 86, 1164-1175.	2.4	80
8	Finite Element Analysis of the Mechanical Performances of 8 Marketed Aortic Stent-Grafts. <i>Journal of Endovascular Therapy</i> , 2013, 20, 523-535.	0.8	80
9	Patient-specific numerical simulation of stent-graft deployment: Validation on three clinical cases. <i>Journal of Biomechanics</i> , 2015, 48, 1868-1875.	0.9	80
10	Computational comparison of the bending behavior of aortic stent-grafts. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , 2012, 5, 272-282.	1.5	79
11	Patient-specific simulation of endovascular repair surgery with tortuous aneurysms requiring flexible stent-grafts. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , 2016, 63, 86-99.	1.5	53
12	Identification of the material parameters of soft tissues in the compressed leg. <i>Computer Methods in Biomechanics and Biomedical Engineering</i> , 2012, 15, 3-11.	0.9	45
13	Deployment of stent grafts in curved aneurysmal arteries: toward a predictive numerical tool. <i>International Journal for Numerical Methods in Biomedical Engineering</i> , 2015, 31, e02698.	1.0	43
14	Mechanical identification of layer-specific properties of mouse carotid arteries using 3D-DIC and a hyperelastic anisotropic constitutive model. <i>Computer Methods in Biomechanics and Biomedical Engineering</i> , 2012, 15, 37-48.	0.9	37
15	Severe Bending of Two Aortic Stent-Grafts: An Experimental and Numerical Mechanical Analysis. <i>Annals of Biomedical Engineering</i> , 2012, 40, 2674-2686.	1.3	33
16	Simulation and tomography analysis of textile composite reinforcement deformation at the mesoscopic scale. <i>International Journal of Material Forming</i> , 2009, 2, 189-192.	0.9	30
17	Biaxial loading of arterial tissues with 3D in situ observations of adventitia fibrous microstructure: A method coupling multi-photon confocal microscopy and bulge inflation test. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , 2017, 74, 488-498.	1.5	30
18	Numerical simulation of arterial dissection during balloon angioplasty of atherosclerotic coronary arteries. <i>Journal of Biomechanics</i> , 2014, 47, 878-889.	0.9	29

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19	Biomechanical response of varicose veins to elastic compression: A numerical study. Journal of Biomechanics, 2013, 46, 599-603.	0.9	27
20	Prediction of the Biomechanical Effects of Compression Therapy on Deep Veins Using Finite Element Modelling. Annals of Biomedical Engineering, 2015, 43, 314-324.	1.3	25
21	Non-orthogonal constitutive model for woven composites incorporating tensile effect on shear behavior. International Journal of Material Forming, 2008, 1, 891-894.	0.9	23
22	Experimental Investigation of Pressure Applied on the Lower Leg by Elastic Compression Bandage. Annals of Biomedical Engineering, 2015, 43, 2967-2977.	1.3	23
23	3D Residual Stress Field in Arteries: Novel Inverse Method Based on Optical Full-field Measurements. Strain, 2012, 48, 528-538.	1.4	22
24	Biomechanics of Porcine Renal Arteries and Role of Axial Stretch. Journal of Biomechanical Engineering, 2013, 135, 81007.	0.6	21
25	Review of patient-specific simulations of transcatheter aortic valve implantation. International Journal of Advances in Engineering Sciences and Applied Mathematics, 2016, 8, 2-24.	0.7	20
26	<i>In vivo</i> Identification of the Passive Mechanical Properties of Deep Soft Tissues in the Human Leg. Strain, 2016, 52, 400-411.	1.4	19
27	Finite Element simulation of buckling-induced vein tortuosity and influence of the wall constitutive properties. Journal of the Mechanical Behavior of Biomedical Materials, 2013, 26, 119-126.	1.5	18
28	Prediction of the Biomechanical Effects of Compression Therapy by Finite Element Modeling and Ultrasound Elastography. IEEE Transactions on Biomedical Engineering, 2015, 62, 1011-1019.	2.5	18
29	Identification of heterogeneous elastic properties in stenosed arteries: a numerical plane strain study. Computer Methods in Biomechanics and Biomedical Engineering, 2012, 15, 49-58.	0.9	16
30	A computational model for understanding the micro-mechanics of collagen fiber network in the tunica adventitia. Biomechanics and Modeling in Mechanobiology, 2019, 18, 1507-1528.	1.4	16
31	Flow of non-Newtonian liquid polymers through deformed composites reinforcements. Composites Science and Technology, 2009, 69, 612-619.	3.8	15
32	Identification of the <i>in vivo</i> elastic properties of common carotid arteries from MRI: A study on subjects with and without atherosclerosis. Journal of the Mechanical Behavior of Biomedical Materials, 2013, 27, 184-203.	1.5	15
33	Numerical Model Reduction for the Prediction of Interface Pressure Applied by Compression Bandages on the Lower Leg. IEEE Transactions on Biomedical Engineering, 2018, 65, 449-457.	2.5	13
34	Does the Knowledge of the Local Thickness of Human Ascending Thoracic Aneurysm Walls Improve Their Mechanical Analysis?. Frontiers in Bioengineering and Biotechnology, 2019, 7, 169.	2.0	13
35	A New Method for the <i>In Vivo</i> Identification of Mechanical Properties in Arteries From Cine MRI Images: Theoretical Framework and Validation. IEEE Transactions on Medical Imaging, 2013, 32, 1448-1461.	5.4	12
36	Tensile rupture of medial arterial tissue studied by X-ray micro-tomography on stained samples. Journal of the Mechanical Behavior of Biomedical Materials, 2018, 78, 362-368.	1.5	12

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37	Experimental Characterization of Adventitial Collagen Fiber Kinematics Using Second-Harmonic Generation Imaging Microscopy: Similarities and Differences Across Arteries, Species and Testing Conditions. <i>Studies in Mechanobiology, Tissue Engineering and Biomaterials</i> , 2020, , 123-164.	0.7	11
38	Numerical Approach for the Assessment of Pressure Generated by Elastic Compression Bandage. <i>Annals of Biomedical Engineering</i> , 2016, 44, 3096-3108.	1.3	9
39	A Parametric Study on Factors Influencing the Onset and Propagation of Aortic Dissection Using the Extended Finite Element Method. <i>IEEE Transactions on Biomedical Engineering</i> , 2021, 68, 2918-2929.	2.5	9
40	Material model calibration from planar tension tests on porcine linea alba. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , 2015, 43, 26-34.	1.5	8
41	Superimposition of elastic and nonelastic compression bandages. <i>Journal of Vascular Surgery: Venous and Lymphatic Disorders</i> , 2017, 5, 851-858.	0.9	8
42	Patient-specific simulation of guidewire deformation during transcatheter aortic valve implantation. <i>International Journal for Numerical Methods in Biomedical Engineering</i> , 2018, 34, e2974.	1.0	8
43	Review of Current Advances in the Mechanical Description and Quantification of Aortic Dissection Mechanisms. <i>IEEE Reviews in Biomedical Engineering</i> , 2021, 14, 240-255.	13.1	8
44	Computational determination of the mechanical behavior of textile composite reinforcement. Validation with x-ray tomography. <i>International Journal of Material Forming</i> , 2008, 1, 823-826.	0.9	6
45	Simulations numériques de la déformation de textiles aux échelles macro et microscopique. <i>Mecanique Et Industries</i> , 2009, 10, 15-19.	0.2	6
46	A combined experimental-numerical lamellar-scale approach of tensile rupture in arterial medial tissue using X-ray tomography. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , 2019, 95, 116-123.	1.5	6
47	Characterisation of failure in human aortic tissue using digital image correlation. <i>Computer Methods in Biomechanics and Biomedical Engineering</i> , 2011, 14, 73-74.	0.9	5
48	Atherosclerotic plaque delamination: Experiments and 2D finite element model to simulate plaque peeling in two strains of transgenic mice. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , 2017, 67, 19-30.	1.5	5
49	Implementing a micromechanical model into a finite element code to simulate the mechanical and microstructural response of arteries. <i>Biomechanics and Modeling in Mechanobiology</i> , 2020, 19, 2553-2566.	1.4	4
50	Hamstring muscles rupture under traction, peeling and shear lap tests: A biomechanical study in rabbits. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , 2021, 116, 104324.	1.5	4
51	Patient-specific numerical model of soft tissues in the compressed leg: application to six subjects. <i>Computer Methods in Biomechanics and Biomedical Engineering</i> , 2012, 15, 44-45.	0.9	3
52	Patient-specific modelling of the calf muscle under elastic compression using magnetic resonance imaging and ultrasound elastography. <i>Computer Methods in Biomechanics and Biomedical Engineering</i> , 2013, 16, 332-333.	0.9	3
53	Characterization of Fabric-to-Fabric Friction: Application to Medical Compression Bandages. <i>Autex Research Journal</i> , 2020, 20, 220-227.	0.6	3
54	An evaluation of fiber-based damage for assessing the failure of aortic tissue: comparison between healthy and aneurysmal aortas. <i>Mechanics of Soft Materials</i> , 2022, 4, .	0.4	3

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55	Combined experimental and numerical approach for the assessment of pressure generated by elastic compression bandage. Computer Methods in Biomechanics and Biomedical Engineering, 2014, 17, 166-167.	0.9	2
56	Advanced benchmark of the flow through a mixing vane grid " Large eddy simulation validation. Nuclear Engineering and Design, 2021, 381, 111335.	0.8	2
57	Digital Simulation of the Delivery of Stentgrafts: Towards a Clinical Application. Annals of Vascular Surgery, 2014, 28, 1364.	0.4	1
58	Subject-Specific Computational Prediction of the Effects of Elastic Compression in the Calf. , 2017, , 523-544.		1
59	Lower leg compression and its biomechanical effects on the soft tissues of the leg. , 2020, , 55-85.		1
60	Mesoscopic Mechanical Analyses of Textile Composites: Validation with X-Ray Tomography. Lecture Notes in Applied and Computational Mechanics, 2010, , 71-78.	2.0	1
61	Study of the Behavior of Different Guidewire Shapes in a Patient-Specific Numerical Model for Transcatheter Aortic Valve Implantation. , 0, , .		1
62	Bandages Static Stiffness Index Is Not Influenced by Calf Mechanical Properties but Only by Geometrical Changes. Biomechanics, 2022, 2, 87-94.	0.5	1
63	Modelling of the flow of generalised Newtonian fluids through deformed textile reinforcements. International Journal of Material Forming, 2008, 1, 903-906.	0.9	0
64	Inverse methods for characterizing the anisotropic hyperelastic behaviour of arteries in vitro. EPJ Web of Conferences, 2010, 6, 18001.	0.1	0
65	MECHANICAL PERFORMANCES OF STENT-GRAFTS WITHIN TORTUOUS ABDOMINAL AORTIC ANEURYSMS. Journal of Biomechanics, 2012, 45, S311.	0.9	0
66	Modelisation of the action of compression bandages on the lower limb. Annals of Physical and Rehabilitation Medicine, 2016, 59, e30.	1.1	0
67	Comparing the Passive Biomechanics of Tension-Pressure Loading of Porcine Renal Artery and Its First Branch. Conference Proceedings of the Society for Experimental Mechanics, 2014, , 35-40.	0.3	0