Pierre Badel

List of Publications by Year
in descending order

67 papers	1,721 citations	304602 22 h-index	289141 40 g-index
69 all docs	69 docs citations	69 times ranked	1342 citing authors

#	Article	IF	Citations
1	Bandages Static Stiffness Index Is Not Influenced by Calf Mechanical Properties but Only by Geometrical Changes. Biomechanics, 2022, 2, 87-94.	0.5	1
2	An evaluation of fiber-based damage for assessing the failure of aortic tissue: comparison between healthy and aneurysmal aortas. Mechanics of Soft Materials, 2022, 4, .	0.4	3
3	Review of Current Advances in the Mechanical Description and Quantification of Aortic Dissection Mechanisms. IEEE Reviews in Biomedical Engineering, 2021, 14, 240-255.	13.1	8
4	Hamstring muscles rupture under traction, peeling and shear lap tests: A biomechanical study in rabbits. Journal of the Mechanical Behavior of Biomedical Materials, 2021, 116, 104324.	1.5	4
5	Advanced benchmark of the flow through a mixing vane grid â€“ Large eddy simulation validation. Nuclear Engineering and Design, 2021, 381, 111335.	0.8	2
6	A Parametric Study on Factors Influencing the Onset and Propagation of Aortic Dissection Using the Extended Finite Element Method. IEEE Transactions on Biomedical Engineering, 2021, 68, 2918-2929.	2.5	9
7	Experimental Characterization of Adventitial Collagen Fiber Kinematics Using Second-Harmonic Generation Imaging Microscopy: Similarities and Differences Across Arteries, Species and Testing Conditions. Studies in Mechanobiology, Tissue Engineering and Biomaterials, 2020, , 123-164.	0.7	11
8	Lower leg compression and its biomechanical effects on the soft tissues of the leg. , 2020, , 55-85.		1
9	Implementing a micromechanical model into a finite element code to simulate the mechanical and microstructural response of arteries. Biomechanics and Modeling in Mechanobiology, 2020, 19, 2553-2566.	1.4	4
10	Characterization of Fabric-to-Fabric Friction: Application to Medical Compression Bandages. Autex Research Journal, 2020, 20, 220-227.	0.6	3
11	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
12	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
13	A combined experimental-numerical lamellar-scale approach of tensile rupture in arterial medial tissue using X-ray tomography. Journal of the Mechanical Behavior of Biomedical Materials, 2019, 95, 116-123.	1.5	6
14	Patientâ€specific simulation of guidewire deformation during transcatheter aortic valve implantation. International Journal for Numerical Methods in Biomedical Engineering, 2018, 34, e2974.	1.0	8
15	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
16	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
17	Atherosclerotic plaque delamination: Experiments and 2D finite element model to simulate plaque peeling in two strains of transgenic mice. Journal of the Mechanical Behavior of Biomedical Materials, 2017, 67, 19-30.	1.5	5
18	Superimposition of elastic and nonelastic compression bandages. Journal of Vascular Surgery: Venous and Lymphatic Disorders, 2017, 5, 851-858.	0.9	8

#	Article	IF	Citations
19	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. Journal of the Mechanical Behavior of Biomedical Materials, 2017, 74, 488-498.	1.5	30
20	Subject-Specific Computational Prediction of the Effects of Elastic Compression in the Calf. , 2017, , 523-544.		1
21	Numerical Approach for the Assessment of Pressure Generated by Elastic Compression Bandage. Annals of Biomedical Engineering, 2016, 44, 3096-3108.	1.3	9
22	Modelisation of the action of compression bandages on the lower limb. Annals of Physical and Rehabilitation Medicine, 2016, 59, e30.	1.1	0
23	<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
24	Patient-specific simulation of endovascular repair surgery with tortuous aneurysms requiring flexible stent-grafts. Journal of the Mechanical Behavior of Biomedical Materials, 2016, 63, 86-99.	1.5	53
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	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
27	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
28	Patient-specific numerical simulation of stent-graft deployment: Validation on three clinical cases. Journal of Biomechanics, 2015, 48, 1868-1875.	0.9	80
29	Experimental Investigation of Pressure Applied on the Lower Leg by Elastic Compression Bandage. Annals of Biomedical Engineering, 2015, 43, 2967-2977.	1.3	23
30	Material model calibration from planar tension tests on porcine linea alba. Journal of the Mechanical Behavior of Biomedical Materials, 2015, 43, 26-34.	1.5	8
31	Deployment of stent grafts in curved aneurysmal arteries: toward a predictive numerical tool. International Journal for Numerical Methods in Biomedical Engineering, 2015, 31, e02698.	1.0	43
32	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
33	Digital Simulation of the Delivery of Stentgrafts: Towards a Clinical Application. Annals of Vascular Surgery, 2014, 28, 1364.	0.4	1
34	In vitro analysis of localized aneurysm rupture. Journal of Biomechanics, 2014, 47, 607-616.	0.9	83
35	Numerical simulation of arterial dissection during balloon angioplasty of atherosclerotic coronary arteries. Journal of Biomechanics, 2014, 47, 878-889.	0.9	29
36	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

#	Article	IF	Citations
37	Biomechanical response of varicose veins to elastic compression: A numerical study. Journal of Biomechanics, 2013, 46, 599-603.	0.9	27
38	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
39	A New Method for the In Vivo 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
40	Identification of the in vivo 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
41	Biomechanics of Porcine Renal Arteries and Role of Axial Stretch. Journal of Biomechanical Engineering, 2013, 135, 81007.	0.6	21
42	Finite Element Analysis of the Mechanical Performances of 8 Marketed Aortic Stent-Grafts. Journal of Endovascular Therapy, 2013, 20, 523-535.	0.8	80
43	Patient-specific modelling of the calf muscle under elastic compression using magnetic resonance imaging and ultrasound elastography. Computer Methods in Biomechanics and Biomedical Engineering, 2013, 16, 332-333.	0.9	3
44	Patient-specific numerical model of soft tissues in the compressed leg: application to six subjects. Computer Methods in Biomechanics and Biomedical Engineering, 2012, 15, 44-45.	0.9	3
45	Identification of the material parameters of soft tissues in the compressed leg. Computer Methods in Biomechanics and Biomedical Engineering, 2012, 15, 3-11.	0.9	45
46	MECHANICAL PERFORMANCES OF STENT-GRAFTS WITHIN TORTUOUS ABDOMINAL AORTIC ANEURYSMS. Journal of Biomechanics, 2012, 45, S311.	0.9	0
47	Severe Bending of Two Aortic Stent-Grafts: An Experimental and Numerical Mechanical Analysis. Annals of Biomedical Engineering, 2012, 40, 2674-2686.	1.3	33
48	Mechanical identification of layer-specific properties of mouse carotid arteries using 3D-DIC and a hyperelastic anisotropic constitutive model. Computer Methods in Biomechanics and Biomedical Engineering, 2012, 15, 37-48.	0.9	37
49	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
50	3D Residual Stress Field in Arteries: Novel Inverse Method Based on Optical Fullâ€field Measurements. Strain, 2012, 48, 528-538.	1.4	22
51	Computational comparison of the bending behavior of aortic stent-grafts. Journal of the Mechanical Behavior of Biomedical Materials, 2012, 5, 272-282.	1.5	79
52	Characterisation of failure in human aortic tissue using digital image correlation. Computer Methods in Biomechanics and Biomedical Engineering, 2011, 14, 73-74.	0.9	5
53	Anisotropic and hyperelastic identification of in vitro human arteries from full-field optical measurements. Journal of Biomechanics, 2010, 43, 2978-2985.	0.9	126
54	Inverse methods for characterizing the anisotropic hyperelastic behaviour of arteries in vitro. EPJ Web of Conferences, 2010, 6, 18001.	0.1	0

#	Article	IF	Citations
55	Mesoscopic Mechanical Analyses of Textile Composites: Validation with X-Ray Tomography. Lecture Notes in Applied and Computational Mechanics, 2010, , 71-78.	2.0	1
56	Simulation and tomography analysis of textile composite reinforcement deformation at the mesoscopic scale. International Journal of Material Forming, 2009, 2, 189-192.	0.9	30
57	Flow of non-Newtonian liquid polymers through deformed composites reinforcements. Composites Science and Technology, 2009, 69, 612-619.	3.8	15
58	Rate constitutive equations for computational analyses of textile composite reinforcement mechanical behaviour during forming. Composites Part A: Applied Science and Manufacturing, 2009, 40, 997-1007.	3.8	95
59	Simulations Ã©lÃ©ments-finis de la dÃ©formation de textiles aux Ã©chelles macro et mÃ©soscopique. Mecanique Et Industries, 2009, 10, 15-19.	0.2	6
60	Simulation and tomography analysis of textile composite reinforcement deformation at the mesoscopic scale. Composites Science and Technology, 2008, 68, 2433-2440.	3.8	158
61	Large deformation analysis of fibrous materials using rate constitutive equations. Computers and Structures, 2008, 86, 1164-1175.	2.4	80
62	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
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	Computational determination of the mechanical behavior of textile composite reinforcement. Validation with x-ray tomography. International Journal of Material Forming, 2008, 1, 823-826.	0.9	6
65	Woven fabric permeability: From textile deformation to fluid flow mesoscale simulations. Composites Science and Technology, 2008, 68, 1624-1630.	3.8	84
66	Computational determination of in-plane shear mechanical behaviour of textile composite reinforcements. Computational Materials Science, 2007, 40, 439-448.	1.4	106
67	Study of the Behavior of Different Guidewire Shapes in a Patient-Specific Numerical Model for Transcatheter Aortic Valve Implantation. , 0, , .		1