Nele Famaey

List of Publications by Year
in descending order

63 papers	1,071 citations	361296 20 h-index	454834 30 g-index
67 all docs	67 docs citations	67 times ranked	1254 citing authors

#	Article	IF	Citations
1	Growth and remodeling in the pulmonary autograft: Computational evaluation using kinematic growth models and constrained mixture theory. International Journal for Numerical Methods in Biomedical Engineering, 2022, 38, e3545.	1.0	5
2	Understanding Pulmonary Autograft Remodeling After the Ross Procedure: Stick to the Facts. Frontiers in Cardiovascular Medicine, 2022, 9, 829120.	1.1	6
3	Layerâ€specific fiber distribution in arterial tissue modeled as a constrained mixture. International Journal for Numerical Methods in Biomedical Engineering, 2022, , e3608.	1.0	0
4	Possible Contexts of Use for <i>In Silico</i> Trials Methodologies: A Consensus-Based Review. IEEE Journal of Biomedical and Health Informatics, 2021, 25, 3977-3982.	3.9	21
5	A homogenized constrained mixture model of restenosis and vascular remodelling after balloon angioplasty. Journal of the Royal Society Interface, 2021, 18, 20210068.	1.5	9
6	An in silico Framework of Cartilage Degeneration That Integrates Fibril Reorientation and Degradation Along With Altered Hydration and Fixed Charge Density Loss. Frontiers in Bioengineering and Biotechnology, 2021, 9, 680257.	2.0	6
7	Back to the root: a large animal model of the Ross procedure. Annals of Cardiothoracic Surgery, 2021, 10, 444-453.	0.6	3
8	Investigation of tissue level tolerance for cerebral contusion in a controlled cortical impact porcine model. Traffic Injury Prevention, 2021, 22, 616-622.	0.6	2
9	Guide to mechanical characterization of articular cartilage and hydrogel constructs based on a systematic in silico parameter sensitivity analysis. Journal of the Mechanical Behavior of Biomedical Materials, 2021, 124, 104795.	1.5	5
10	A Machine Learning Approach to Investigate the Uncertainty of Tissue-Level Injury Metrics for Cerebral Contusion. Frontiers in Bioengineering and Biotechnology, 2021, 9, 714128.	2.0	7
11	Towards animal surrogates for characterising large strain dynamic mechanical properties of human brain tissue. Brain Multiphysics, 2020, 1, 100018.	0.8	25
12	Regional characterization of the dynamic mechanical properties of human brain tissue by microindentation. International Journal of Engineering Science, 2020, 155, 103355.	2.7	24
13	Collagen fibre orientation in human bridging veins. Biomechanics and Modeling in Mechanobiology, 2020, 19, 2455-2489.	1.4	7
14	Mechano-biological adaptation of the pulmonary artery exposed to systemic conditions. Scientific Reports, 2020, 10, 2724.	1.6	12
15	A Chemomechanobiological Model of the Long-Term Healing Response of Arterial Tissue to a Clamping Injury. Frontiers in Bioengineering and Biotechnology, 2020, 8, 589889.	2.0	2
16	How to implement user-defined fiber-reinforced hyperelastic materials in finite element software. Journal of the Mechanical Behavior of Biomedical Materials, 2020, 110, 103737.	1.5	14
17	Mechanical characterization of squid giant axon membrane sheath and influence of the collagenous endoneurium on its properties. Scientific Reports, 2019, 9, 8969.	1.6	4
18	Combined enzymatic degradation of proteoglycans and collagen significantly alters intratissue strains in articular cartilage during cyclic compression. Journal of the Mechanical Behavior of Biomedical Materials, 2019, 98, 383-394.	1.5	24

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19	Constrained mixture modeling affects material parameter identification from planar biaxial tests. Journal of the Mechanical Behavior of Biomedical Materials, 2019, 95, 124-135.	1.5	20
20	Development of an improved parameter fitting method for planar biaxial testing using rakes. International Journal for Numerical Methods in Biomedical Engineering, 2019, 35, e3174.	1.0	4
21	Biomechanical characterization of human dura mater. Journal of the Mechanical Behavior of Biomedical Materials, 2018, 79, 122-134.	1.5	41
22	Comparison of in vivo vs. ex situ obtained material properties of sheep common carotid artery. Medical Engineering and Physics, 2018, 55, 16-24.	0.8	4
23	The role of biomechanics in aortic aneurysm management: requirements, open problems and future prospects. Journal of the Mechanical Behavior of Biomedical Materials, 2018, 77, 295-307.	1.5	23
24	Biomechanical evaluation of a personalized external aortic root support applied in the Ross procedure. Journal of the Mechanical Behavior of Biomedical Materials, 2018, 78, 164-174.	1.5	17
25	Cartilage defect location and stiffness predispose the tibiofemoral joint to aberrant loading conditions during stance phase of gait. PLoS ONE, 2018, 13, e0205842.	1.1	14
26	Reinforcing the pulmonary artery autograft in the aortic position with a textile mesh: a histological evaluation. Interactive Cardiovascular and Thoracic Surgery, 2018, 27, 566-573.	0.5	18
27	Cartilage-on-cartilage contact: effect of compressive loading on tissue deformations and structural integrity of bovine articular cartilage. Osteoarthritis and Cartilage, 2018, 26, 1699-1709.	0.6	21
28	How important is sample alignment in planar biaxial testing of anisotropic soft biological tissues? A finite element study. Journal of the Mechanical Behavior of Biomedical Materials, 2018, 88, 201-216.	1.5	5
29	Numerical simulation of arterial remodeling in pulmonary autografts. ZAMM Zeitschrift Fur Angewandte Mathematik Und Mechanik, 2018, 98, 2239-2257.	0.9	22
30	Rupture risk in abdominal aortic aneurysms: A realistic assessment of the explicit GPU approach. Journal of Biomechanics, 2017, 56, 1-9.	0.9	5
31	InÂvivo evidence of significant levator ani muscle stretch onÂMR images of a live childbirth. American Journal of Obstetrics and Gynecology, 2017, 217, 194.e1-194.e8.	0.7	19
32	GPGPU-based explicit finite element computations for applications in biomechanics: the performance of material models, element technologies, and hardware generations. Computer Methods in Biomechanics and Biomedical Engineering, 2017, 20, 1643-1657.	0.9	7
33	Biomechanical Characterization of Ascending Aortic Aneurysms. Biomechanics and Modeling in Mechanobiology, 2017, 16, 705-720.	1.4	19
34	On the assessment of bridging vein rupture associated acute subdural hematoma through finite element analysis. Computer Methods in Biomechanics and Biomedical Engineering, 2017, 20, 530-539.	0.9	12
35	Support of the aortic wall: a histological study in sheep comparing a macroporous mesh with low-porosity vascular graft of the same polyethylene terephthalate material. Interactive Cardiovascular and Thoracic Surgery, 2017, 25, 89-95.	0.5	23
36	A validated methodology for patient specific computational modeling of self-expandable transcatheter aortic valve implantation. Journal of Biomechanics, 2016, 49, 2824-2830.	0.9	35

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37	GPU-Based Fast Finite Element Solution for Nonlinear Anisotropic Material Behavior and Comparison of Integration Strategies. , 2016, , 97-105.		2
38	Cognitive AutonomouS CAtheters Operating in Dynamic Environments. Journal of Medical Robotics Research, 2016, 01, 1640011.	1.0	4
39	Intuitive Control Strategies for Teleoperation of Active Catheters in Endovascular Surgery. Journal of Medical Robotics Research, 2016, 01, 1640012.	1.0	7
40	Patient Specific Vascular Benchtop Models for Development and Validation of Medical Devices for Minimally Invasive Procedures. Journal of Medical Robotics Research, 2016, 01, 1640008.	1.0	4
41	Planar biaxial testing of soft biological tissue using rakes: A critical analysis of protocol and fitting process. Journal of the Mechanical Behavior of Biomedical Materials, 2016, 61, 135-151.	1.5	50
42	Atherosclerosis Alters Loading-Induced Arterial Damage: Implications for Robotic Surgery. PLoS ONE, 2016, 11, e0156936.	1.1	3
43	Arterial Vasoreactivity is Equally Affected by <i>In Vivo</i> Cross-Clamping with Increasing Loads in Young and Middle-Aged Mice Aortas. Annals of Thoracic and Cardiovascular Surgery, 2016, 22, 38-43.	0.3	4
44	Biomechanical and biochemical properties of the thoracic aorta in warmblood horses, Friesian horses, and Friesians with aortic rupture. BMC Veterinary Research, 2015, 11, 285.	0.7	12
45	Non-invasive, energy-based assessment of patient-specific material properties of arterial tissue. Biomechanics and Modeling in Mechanobiology, 2015, 14, 1045-1056.	1.4	28
46	Strain assessment in the carotid artery wall using ultrasound speckle tracking: validation in a sheep model. Physics in Medicine and Biology, 2015, 60, 1107-1123.	1.6	16
47	Analyzing the potential of GPGPUs for real-time explicit finite element analysis of soft tissue deformation using CUDA. Finite Elements in Analysis and Design, 2015, 105, 79-89.	1.7	22
48	Human thoracic and abdominal aortic aneurysmal tissues: Damage experiments, statistical analysis and constitutive modeling. Journal of the Mechanical Behavior of Biomedical Materials, 2015, 41, 92-107.	1.5	76
49	Structural and mechanical characterisation of bridging veins: A review. Journal of the Mechanical Behavior of Biomedical Materials, 2015, 41, 222-240.	1.5	35
50	Characterisation of Mechanical Properties of Human Pulmonary and Aortic Tissue. IFMBE Proceedings, 2015, , 387-390.	0.2	3
51	<i>In situ</i> Evolution of the Mechanical Properties of Stretchable and Non-Stretchable ePTFE Vascular Grafts and Adjacent Native Vessels. International Journal of Artificial Organs, 2014, 37, 900-910.	0.7	11
52	Mechanics of the mitral valve. Biomechanics and Modeling in Mechanobiology, 2013, 12, 1053-1071.	1.4	70
53	Assessment of longitudinal strain in the carotid artery wall using ultrasound-based Speckle tracking - Validation in a sheep model. , 2013, , .		0
54	A three-constituent damage model for arterial clamping in computer-assisted surgery. Biomechanics and Modeling in Mechanobiology, 2013, 12, 123-136.	1.4	39

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55	Cardiovascular Tissue Damage: An Experimental and Computational Framework. , 2013, , 129-148.		0
56	Design and in vivo validation of a force-measuring manipulator for MIS providing synchronized video, motion and force data. , 2013, , .		6
57	Intraoperative Damage Monitoring of Endoclamp Balloon Expansion Using Real-Time Finite Element Modeling. , 2013, , 39-47.		2
58	Arterial clamping: Finite element simulation and in vivo validation. Journal of the Mechanical Behavior of Biomedical Materials, 2012, 12, 107-118.	1.5	39
59	In vivo soft tissue damage assessment for applications in surgery. Medical Engineering and Physics, 2010, 32, 437-443.	0.8	31
60	Acoustical analysis of mechanical heart valve sounds for early detection of malfunction. Medical Engineering and Physics, 2010, 32, 934-939.	0.8	4
61	Cyclically stretching developing tissue in vivo enhances mechanical strength and organization of vascular grafts. Acta Biomaterialia, 2010, 6, 2448-2456.	4.1	27
62	Off-Label use of Stretchable Polytetrafluoroethylene: Overexpansion of Synthetic Shunts. International Journal of Artificial Organs, 2010, 33, 263-270.	0.7	5
63	Soft tissue modelling for applications in virtual surgery and surgical robotics. Computer Methods in Biomechanics and Biomedical Engineering, 2008, 11, 351-366.	0.9	86