Nikos Stergiopulos

List of Publications by Year
in descending order

77 papers	4,264 citations	117625 34 h-index	114465 63 g-index
78 all docs	78 docs citations	78 times ranked	4086 citing authors

#	Article	IF	Citations
1	Validation of a one-dimensional model of the systemic arterial tree. American Journal of Physiology - Heart and Circulatory Physiology, 2009, 297, H208-H222.	3.2	497
2	A strain energy function for arteries accounting for wall composition and structure. Journal of Biomechanics, 2004, 37, 989-1000.	2.1	301
3	Pulse Wave Propagation in the Arterial Tree. Annual Review of Fluid Mechanics, 2011, 43, 467-499.	25.0	287
4	Total arterial inertance as the fourth element of the windkessel model. American Journal of Physiology - Heart and Circulatory Physiology, 1999, 276, H81-H88.	3.2	202
5	Validation of a patient-specific one-dimensional model of the systemic arterial tree. American Journal of Physiology - Heart and Circulatory Physiology, 2011, 301, H1173-H1182.	3.2	167
6	A constitutive formulation of arterial mechanics including vascular smooth muscle tone. American Journal of Physiology - Heart and Circulatory Physiology, 2004, 287, H1335-H1343.	3.2	160
7	Physiological simulation of blood flow in the aorta: Comparison of hemodynamic indices as predicted by 3-D FSI, 3-D rigid wall and 1-D models. Medical Engineering and Physics, 2013, 35, 784-791.	1.7	137
8	An ultrasound-based method for determining pulse wave velocity in superficial arteries. Journal of Biomechanics, 2004, 37, 1615-1622.	2.1	132
9	Relation of effective arterial elastance to arterial system properties. American Journal of Physiology - Heart and Circulatory Physiology, 2002, 282, H1041-H1046.	3.2	126
10	Estimation of local aortic elastic properties with MRI. Magnetic Resonance in Medicine, 2002, 47, 649-654.	3.0	124
11	Snapshots of Hemodynamics. , 2010, , .		119
12	Cardiovascular effects of arginase inhibition in spontaneously hypertensive rats with fully developed hypertension. Cardiovascular Research, 2010, 87, 569-577.	3.8	95
13	Plaque-prone hemodynamics impair endothelial function in pig carotid arteries. American Journal of Physiology - Heart and Circulatory Physiology, 2006, 290, H2320-H2328.	3.2	89
14	Quantification of the Contribution of Cardiac and Arterial Remodeling to Hypertension. Hypertension, 2000, 36, 760-765.	2.7	87
15	The activation of the cannabinoid receptor type 2 reduces neutrophilic protease-mediated vulnerability in atherosclerotic plaques. European Heart Journal, 2012, 33, 846-856.	2.2	81
16	Structural strain energy function applied to the ageing of the human aorta. Journal of Biomechanics, 2007, 40, 3061-3069.	2.1	69
17	Determinants of Pulse Pressure. Hypertension, 1998, 32, 556-559.	2.7	63
18	Arterial Wall Response to ex vivo Exposure to Oscillatory Shear Stress. Journal of Vascular Research, 2005, 42, 535-544.	1.4	62

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19	Individualization of transfer function in estimation of central aortic pressure from the peripheral pulse is not required in patients at rest. Journal of Applied Physiology, 2008, 105, 1858-1863.	2.5	59
20	Effect of an Abdominal Aortic Aneurysm on Wave Reflection in the Aorta. IEEE Transactions on Biomedical Engineering, 2008, 55, 1602-1611.	4.2	58
21	Systemic and pulmonary hemodynamics assessed with a lumped-parameter heart-arterial interaction model. Journal of Engineering Mathematics, 2003, 47, 185-199.	1.2	57
22	Physical basis of pressure transfer from periphery to aorta: a model-based study. American Journal of Physiology - Heart and Circulatory Physiology, 1998, 274, H1386-H1392.	3.2	54
23	Pulse Pressure Method and the Area Method for the Estimation of Total Arterial Compliance in Dogs: Sensitivity to Wave Reflection Intensity. Annals of Biomedical Engineering, 1999, 27, 480-485.	2.5	54
24	Left Ventricular Hypertrophy Induced by Reduced Aortic Compliance. Journal of Vascular Research, 2009, 46, 417-425.	1.4	54
25	Influence of inlet boundary conditions on the local haemodynamics of intracranial aneurysms. Computer Methods in Biomechanics and Biomedical Engineering, 2009, 12, 431-444.	1.6	52
26	Conductance catheter-based assessment of arterial input impedance, arterial function, and ventricular-vascular interaction in mice. American Journal of Physiology - Heart and Circulatory Physiology, 2005, 288, H1157-H1164.	3.2	51
27	Effects of Reduced Cyclic Stretch on Vascular Smooth Muscle Cell Function of Pig Carotids Perfused Ex Vivo. American Journal of Hypertension, 2008, 21, 425-431.	2.0	48
28	Shear Stress and Cyclic Circumferential Stretch, But Not Pressure, Alter Connexin43 Expression in Endothelial Cells. Cell Communication and Adhesion, 2005, 12, 261-270.	1.0	47
29	Arterial pressure transfer characteristics: effects of travel time. American Journal of Physiology - Heart and Circulatory Physiology, 2007, 292, H800-H807.	3.2	47
30	Reduced cyclic stretch, endothelial dysfunction, and oxidative stress: an ex vivo model. Cardiovascular Pathology, 2010, 19, e91-e98.	1.6	44
31	Pulmonary arterial compliance in dogs and pigs: the three-element windkessel model revisited. American Journal of Physiology - Heart and Circulatory Physiology, 1999, 277, H725-H731.	3.2	43
32	Systolic Hypertension Mechanisms: Effect of Global and Local Proximal Aorta Stiffening on Pulse Pressure. Annals of Biomedical Engineering, 2012, 40, 742-749.	2.5	42
33	Predicting systolic and diastolic aortic blood pressure and stroke volume in the intact sheep. Journal of Biomechanics, 2001, 34, 41-50.	2.1	39
34	A Structural Model of the Venous Wall Considering Elastin Anisotropy. Journal of Biomechanical Engineering, 2008, 130, 031017.	1.3	38
35	Arterial remodeling in response to hypertension using a constituent-based model. American Journal of Physiology - Heart and Circulatory Physiology, 2007, 293, H3130-H3139.	3.2	37
36	Experimental characterization of the distribution of collagen fiber recruitment. Journal of Biorheology, 2010, 24, 84-93.	0.5	36

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37	Effects of longitudinal stretch on VSM tone and distensibility of muscular conduit arteries. American Journal of Physiology - Heart and Circulatory Physiology, 2002, 283, H2599-H2605.	3.2	34
38	Update on the Role of Cannabinoid Receptors after Ischemic Stroke. Mediators of Inflammation, 2012, 2012, 1-8.	3.0	34
39	Patient-specific mean pressure drop in the systemic arterial tree, a comparison between 1-D and 3-D models. Journal of Biomechanics, 2012, 45, 2499-2505.	2.1	33
40	Local Hemodynamics and Intimal Hyperplasia at the Venous Side of a Porcine Arteriovenous Shunt. IEEE Transactions on Information Technology in Biomedicine, 2010, 14, 681-690.	3.2	30
41	Left ventricular wall stress normalization in chronic pressure-overloaded heart: a mathematical model study. American Journal of Physiology - Heart and Circulatory Physiology, 2000, 279, H1120-H1127.	3.2	27
42	Autonomous Effects of Shear Stress and Cyclic Circumferential Stretch regarding Endothelial Dysfunction and Oxidative Stress: An ex vivo Arterial Model. Journal of Vascular Research, 2010, 47, 336-345.	1.4	27
43	Arginase inhibition prevents the low shear stress-induced development of vulnerable atherosclerotic plaques in ApoEâˆ'/âˆ' mice. Atherosclerosis, 2013, 227, 236-243.	0.8	27
44	A New Adjustable Glaucoma Drainage Device. , 2014, 55, 1848.		27
45	Numerical assessment and comparison of pulse wave velocity methods aiming at measuring aortic stiffness. Physiological Measurement, 2017, 38, 1953-1967.	2.1	25
46	A Structure-Based Model of Arterial Remodeling in Response to Sustained Hypertension. Journal of Biomechanical Engineering, 2009, 131, 101004.	1.3	24
47	Contribution of the Arterial System and the Heart to Blood Pressure during Normal Aging â€" A Simulation Study. PLoS ONE, 2016, 11, e0157493.	2.5	24
48	A constituent-based model of age-related changes in conduit arteries. American Journal of Physiology - Heart and Circulatory Physiology, 2011, 301, H1286-H1301.	3.2	23
49	Regulation of arginase pathway in response to wall shear stress. Atherosclerosis, 2010, 210, 63-70.	0.8	22
50	A structural constitutive model considering angular dispersion and waviness of collagen fibres of rabbit facial veins. BioMedical Engineering OnLine, 2011, 10, 18.	2.7	22
51	Role of ERK1/2 activation and nNOS uncoupling on endothelial dysfunction induced by lysophosphatidylcholine. Atherosclerosis, 2017, 258, 108-118.	0.8	21
52	Functional, mechanical and geometrical adaptation of the arterial wall of a non-axisymmetric artery in vitro. Journal of Hypertension, 2004, 22, 339-347.	0.5	17
53	Wall properties of the apolipoprotein E-deficient mouse aorta. Atherosclerosis, 2012, 223, 314-320.	0.8	16
54	Differences in the Mechanical Properties of the Rat Carotid Artery In Vivo, In Situ, and In Vitro. Hypertension, 1998, 32, 180-185.	2.7	15

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55	Biomechanical, morphological and zero-stress state characterization of jugular vein remodeling in arteriovenous fistulas for hemodialysis. Biorheology, 2010, 47, 297-319.	0.4	15
56	On the in-series and in-parallel contribution of elastin assessed by a structure-based biomechanical model of the arterial wall. Journal of Biomechanics, 2008, 41, 737-743.	2.1	14
57	In Vivo Testing of a Novel Adjustable Glaucoma Drainage Device. , 2014, 55, 7520.		14
58	Generic and patient-specific models of the arterial tree. Journal of Clinical Monitoring and Computing, 2012, 26, 375-382.	1.6	11
59	Co-localization of microstructural damage and excessive mechanical strain at aortic branches in angiotensin-II-infused mice. Biomechanics and Modeling in Mechanobiology, 2020, 19, 81-97.	2.8	11
60	Transcriptional and post-transcriptional regulation of preproendothelin-1 by plaque-prone hemodynamics. Atherosclerosis, 2007, 194, 383-390.	0.8	10
61	Arterial remodeling in response to increased blood flow using a constituent-based model. Journal of Biomechanics, 2009, 42, 531-536.	2.1	9
62	Non-invasive method for the assessment of non-linear elastic properties and stress of forearm arteries in vivo. Journal of Hypertension, 1992, 10, S23???S26.	0.5	8
63	Arterial elastance and heart-arterial coupling in aortic regurgitation are determined by aortic leak severity. American Heart Journal, 2002, 144, 568-576.	2.7	8
64	Differential Effects of Reduced Cyclic Stretch and Perturbed Shear Stress Within the Arterial Wall and on Smooth Muscle Function. American Journal of Hypertension, 2009, 22, 1250-1257.	2.0	8
65	nNOS uncoupling by oxidized LDL: Implications in atherosclerosis. Free Radical Biology and Medicine, 2017, 113, 335-346.	2.9	8
66	Effects of Isoflurane Anesthesia on Aortic Compliance and Systemic Hemodynamics in Compliant and Noncompliant Aortas. Journal of Cardiothoracic and Vascular Anesthesia, 2013, 27, 1282-1288.	1.3	7
67	Mapping the site-specific accuracy of loop-based local pulse wave velocity estimation and reflection magnitude: a 1D arterial network model analysis. Physiological Measurement, 2019, 40, 075002.	2.1	7
68	Modulation of nNOS ser852 phosphorylation and translocation by PKA/PP1 pathway in endothelial cells. Nitric Oxide - Biology and Chemistry, 2018, 72, 52-58.	2.7	6
69	Arterial elastance and heart-arterial coupling in aortic regurgitation are determined by aortic leak severity. American Heart Journal, 2002, 144, 568-576.	2.7	5
70	Hemodynamic Impact of the Câ€Pulse Cardiac Support Device: A Oneâ€Dimensional Arterial Model Study. Artificial Organs, 2017, 41, E141-E154.	1.9	5
71	Influence of segmentation on morphological parameters and computed hemodynamics in cerebral aneurysms. Journal of Biorheology, 2013, 26, 44-57.	0.5	3
72	Assessment of Stiffness of Large to Small Arteries in Multistage Renal Disease Model: A Numerical Study. Frontiers in Physiology, 2022, 13, 832858.	2.8	3

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73	A 1D computer model of the arterial circulation in horses: An important resource for studying global interactions between heart and vessels under normal and pathological conditions. PLoS ONE, 2019, 14, e0221425.	2.5	2
74	eyeWatch™ System Combined with Non-plated Intraorbital Tube Insertion for the Management of Refractory Glaucoma: A Case Series. Journal of Current Glaucoma Practice, 2020, 14, 64-67.	0.5	1
75	The Effect of Collagen Fiber Directional Distribution on the Mechanical Response of the Vascular Wall. , 2009, , .		0
76	Large artery biomechanical adaptation induced by flow-overload. , 2011, , .		0
77	P140 ARTERIAL WAVE DYNAMICS IN THE HORSE: INSIGHTS OBTAINED FROM A 1D ARTERIAL NETWORK MODEL SIMULATION. Artery Research, 2018, 24, 120.	0.6	0