Lucas O Muller

List of Publications by Year
in descending order

38 papers	1,209 citations	430754 18 h-index	377752 34 g-index
39 all docs	39 docs citations	39 times ranked	1047 citing authors

#	Article	IF	Citations
1	A global multiscale mathematical model for the human circulation with emphasis on the venous system. International Journal for Numerical Methods in Biomedical Engineering, 2014, 30, 681-725.	1.0	165
2	A benchmark study of numerical schemes for oneâ€dimensional arterial blood flow modelling. International Journal for Numerical Methods in Biomedical Engineering, 2015, 31, e02732.	1.0	144
3	Blood pressure gradients in cerebral arteries: a clue to pathogenesis of cerebral small vessel disease. Stroke and Vascular Neurology, 2017, 2, 108-117.	1.5	125
4	Well-balanced high-order numerical schemes for one-dimensional blood flow in vessels with varying mechanical properties. Journal of Computational Physics, 2013, 242, 53-85.	1.9	85
5	Wellâ€balanced highâ€order solver for blood flow in networks of vessels with variable properties. International Journal for Numerical Methods in Biomedical Engineering, 2013, 29, 1388-1411.	1.0	82
6	Enhanced global mathematical model for studying cerebral venous blood flow. Journal of Biomechanics, 2014, 47, 3361-3372.	0.9	66
7	Hyperbolic reformulation of a 1D viscoelastic blood flow model and ADER finite volume schemes. Journal of Computational Physics, 2014, 266, 101-123.	1.9	53
8	A high order approximation of hyperbolic conservation laws in networks: Application to one-dimensional blood flow. Journal of Computational Physics, 2015, 300, 423-437.	1.9	40
9	Uncertainty Quantification and Sensitivity Analysis for Computational FFR Estimation in Stable Coronary Artery Disease. Cardiovascular Engineering and Technology, 2018, 9, 597-622.	0.7	39
10	A highâ€order local time stepping finite volume solver for oneâ€dimensional blood flow simulations: application to the ADAN model. International Journal for Numerical Methods in Biomedical Engineering, 2016, 32, e02761.	1.0	33
11	Roadmap for cardiovascular circulation model. Journal of Physiology, 2016, 594, 6909-6928.	1.3	33
12	Bond Graph Model of Cerebral Circulation: Toward Clinically Feasible Systemic Blood Flow Simulations. Frontiers in Physiology, 2018, 9, 148.	1.3	32
13	Impact of baseline coronary flow and its distribution on fractional flow reserve prediction. International Journal for Numerical Methods in Biomedical Engineering, 2021, 37, e3246.	1.0	27
14	Consistent treatment of viscoelastic effects at junctions in one-dimensional blood flow models. Journal of Computational Physics, 2016, 314, 167-193.	1.9	26
15	Impact of Jugular Vein Valve Function on Cerebral Venous Haemodynamics. Current Neurovascular Research, 2015, 12, 384-397.	0.4	26
16	Assessment of reducedâ€order unscented Kalman filter for parameter identification in 1â€dimensional blood flow models using experimental data. International Journal for Numerical Methods in Biomedical Engineering, 2017, 33, e2843.	1.0	24
17	Simulation of oneâ€dimensional blood flow in networks of human vessels using a novel TVD scheme. International Journal for Numerical Methods in Biomedical Engineering, 2015, 31, e02701.	1.0	21
18	Machine learning augmented reduced-order models for FFR-prediction. Computer Methods in Applied Mechanics and Engineering, 2021, 384, 113892.	3.4	21

#	Article	IF	Citations
19	Cerebrospinal fluid dynamics coupled to the global circulation in holistic setting: Mathematical models, numerical methods and applications. International Journal for Numerical Methods in Biomedical Engineering, 2022, 38, e3532.	1.0	20
20	Impact of CCSVI on cerebral haemodynamics: a mathematical study using MRI angiographic and flow data. Phlebology, 2016, 31, 305-324.	0.6	19
21	Reduced-Order Unscented Kalman Filter With Observations in the Frequency Domain: Application to Computational Hemodynamics. IEEE Transactions on Biomedical Engineering, 2019, 66, 1269-1276.	2.5	17
22	Computational haemodynamics in stenotic internal jugular veins. Journal of Mathematical Biology, 2015, 70, 745-772.	0.8	15
23	Computational modeling of blood flow steal phenomena caused by subclavian stenoses. Journal of Biomechanics, 2016, 49, 1593-1600.	0.9	12
24	An integrated mathematical model of the cardiovascular and respiratory systems. International Journal for Numerical Methods in Biomedical Engineering, 2016, 32, e02736.	1.0	11
25	On the anatomical definition of arterial networks in blood flow simulations: comparison of detailed and simplified models. Biomechanics and Modeling in Mechanobiology, 2020, 19, 1663-1678.	1.4	11
26	A numerical method for junctions in networks of shallow-water channels. Applied Mathematics and Computation, 2018, 337, 190-213.	1.4	10
27	Deep Learning to Automatically Segment and Analyze Abdominal Aortic Aneurysm from Computed Tomography Angiography. Cardiovascular Engineering and Technology, 2022, 13, 535-547.	0.7	10
28	AENO: a Novel Reconstruction Method in Conjunction with ADER Schemes for Hyperbolic Equations. Communications on Applied Mathematics and Computation, 0, , 1.	0.7	7
29	Inner-ear circulation in humans is disrupted by extracranial venous outflow strictures: Implications for MÃ©niÃ¨reâ€™s disease. Veins and Lymphatics, 2018, 7, .	0.1	6
30	The Effects of Cerebral Vasospasm on Cerebral Blood Flow and the Effects of Induced Hypertension: A Mathematical Modelling Study. Interventional Neurology, 2019, 8, 152-163.	1.8	6
31	Computer-aided quantification of microvascular networks: Application to alterations due to pathological angiogenesis in the hamster. Microvascular Research, 2017, 112, 53-64.	1.1	5
32	Multiscale Coupling of One-dimensional Vascular Models and Elastic Tissues. Annals of Biomedical Engineering, 2021, 49, 3243-3254.	1.3	4
33	How to identify which patients should not have a systolic blood pressure target of <120 mmHg. European Heart Journal, 2022, 43, 538-539.	1.0	4
34	Total Effective Vascular Compliance of a Global Mathematical Model for the Cardiovascular System. Symmetry, 2021, 13, 1858.	1.1	4
35	Impact of sodium-glucose cotransporter-2 inhibitors-induced glucosuria in the incidence of urogenital infection on postmenopausal women with diabetes. Postgraduate Medicine, 2020, 132, 697-701.	0.9	2
36	Nonlinear lumped-parameter models for blood flow simulations in networks of vessels. ESAIM: Mathematical Modelling and Numerical Analysis, 2022, 56, 1579-1627.	0.8	2

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37	Bond Graph Model of Cerebral Circulation: Toward Clinically Feasible Systemic Blood Flow Simulations. Physiome, 2020, , .	0.3	0
38	Bond Graph Model of Cerebral Circulation: Toward Clinically Feasible Systemic Blood Flow Simulations. Physiome, 2020, , .	0.3	0