Pablo J. Blanco

List of Publications by Year
in descending order

114 papers	2,428 citations	201385 27 h-index	243296 44 g-index
123 all docs	123 docs citations	123 times ranked	1926 citing authors

#	Article	IF	Citations
1	Scaling laws and the left main coronary artery bifurcation. A combination of geometric and simulation analyses. Medical Engineering and Physics, 2022, 99, 103701.	0.8	4
2	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
3	A biologically-inspired mesh optimizer based on pseudo-material remodeling. Computational Mechanics, 2022, 69, 505-525.	2.2	1
4	Fully automated lumen and vessel contour segmentation in intravascular ultrasound datasets. Medical Image Analysis, 2022, 75, 102262.	7.0	13
5	Feasibility of coronary blood flow simulations using mid-fidelity numeric and geometric models. Biomechanics and Modeling in Mechanobiology, 2022, 21, 317-334.	1.4	0
6	Sheltered in Stromal Tissue Cells, Trypanosoma cruzi Orchestrates Inflammatory Neovascularization via Activation of the Mast Cell Chymase Pathway. Pathogens, 2022, 11, 187.	1.2	2
7	A mid-fidelity numerical method for blood flow in deformable vessels. Computer Methods in Applied Mechanics and Engineering, 2022, 392, 114654.	3.4	2
8	Optimization of Flow Dynamics During the HeartWare HVAD to HeartMate 3 Exchange: A Computational Study Assessing Differential Surgical Techniques. Journal of Heart and Lung Transplantation, 2022, 41, S136.	0.3	0
9	A Computational Study of Aortic Insufficiency in Patients Supported with Left Ventricular Assist Devices. Journal of Heart and Lung Transplantation, 2022, 41, S32-S33.	0.3	0
10	Integrated cardiorespiratory system model with short timescale control mechanisms. International Journal for Numerical Methods in Biomedical Engineering, 2021, 37, e3332.	1.0	9
11	Coronary arterial geometry: A comprehensive comparison of two imaging modalities. International Journal for Numerical Methods in Biomedical Engineering, 2021, 37, e3442.	1.0	3
12	A simple coronary blood flow model to study the collateral flow index. Biomechanics and Modeling in Mechanobiology, 2021, 20, 1365-1382.	1.4	0
13	Adaptive constrained constructive optimisation for complex vascularisation processes. Scientific Reports, 2021, 11, 6180.	1.6	16
14	Combining Invasive Cardiopulmonary Exercise Testing with Computational Fluid Dynamics to Better Understand LVAD Fluid Mechanics during Exercise. Journal of Heart and Lung Transplantation, 2021, 40, S450-S451.	0.3	0
15	Left Ventricular Assist Device Flow Pattern Analysis Using Computational Fluid Dynamics at the Time of Invasive Hemodynamic Ramp Study: Using Patient-Specific Data to Optimize the Ramp Study. Journal of Heart and Lung Transplantation, 2021, 40, S449.	0.3	2
16	Simultaneous assessment of coronary stenosis relevance with automated computed tomography angiography and intravascular ultrasound analyses and fractional flow reserve. Coronary Artery Disease, 2021, Publish Ahead of Print, 25-30.	0.3	0
17	Absorbable Stents and the Ever-Evolving Coronary Hemodynamic Landscape. Cardiovascular Revascularization Medicine, 2021, 29, 16-17.	0.3	0
18	Damage-driven strain localisation in networks of fibres: A computational homogenisation approach. Computers and Structures, 2021, 255, 106635.	2.4	9

#	Article	IF	Citations
19	Parallel generation of extensive vascular networks with application to an archetypal human kidney model. Royal Society Open Science, 2021, 8, 210973.	1.1	8
20	Propagating uncertainties in large-scale hemodynamics models via network uncertainty quantification and reduced-order modeling. Computer Methods in Applied Mechanics and Engineering, 2020, 358, 112626.	3.4	19
21	Automated lumen segmentation using multi-frame convolutional neural networks in intravascular ultrasound datasets. European Heart Journal Digital Health, 2020, 1, 75-82.	0.7	8
22	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
23	MediÃ§Ã£o do Fluxo SanguÃneo Coronariano por Angiocoronariografia Convencional por um Novo MÃ©todo Baseado na DetecÃ§Ã£o da Densidade de Contraste. Arquivos Brasileiros De Cardiologia, 2020, 115, 513-514.	0.3	0
24	Nonâ€invasive coronary CT angiographyâ€derived fractional flow reserve: A benchmark study comparing the diagnostic performance of four different computational methodologies. International Journal for Numerical Methods in Biomedical Engineering, 2019, 35, e3235.	1.0	35
25	A new robust formulation for optical-flow/material identification problems. Computer Methods in Applied Mechanics and Engineering, 2019, 351, 766-788.	3.4	2
26	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
27	Coronary fractional flow reserve derived from intravascular ultrasound imaging: Validation of a new computational method of fusion between anatomy and physiology. Catheterization and Cardiovascular Interventions, 2019, 93, 266-274.	0.7	24
28	Towards fast hemodynamic simulations in large-scale circulatory networks. Computer Methods in Applied Mechanics and Engineering, 2019, 344, 734-765.	3.4	7
29	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
30	Thermodynamic analogies for the characterization of 3D human coronary arteries. Biomedical Signal Processing and Control, 2018, 40, 163-170.	3.5	3
31	A data-driven approach for addressing the lack of flow waveform data in studies of cerebral arterial flow in older adults. Physiological Measurement, 2018, 39, 015006.	1.2	18
32	Comparison of 1D and 3D Models for the Estimation of Fractional Flow Reserve. Scientific Reports, 2018, 8, 17275.	1.6	36
33	TCT-619 Comparison of one-dimensional (1D) and three-dimensional (3D) models for the estimation of coronary fractional flow reserve through cardiovascular imaging. Journal of the American College of Cardiology, 2018, 72, B248.	1.2	2
34	Towards a Glaucoma Risk Index Based on Simulated Hemodynamics from Fundus Images. Lecture Notes in Computer Science, 2018, , 65-73.	1.0	31
35	Boundary control in computational haemodynamics. Journal of Fluid Mechanics, 2018, 847, 329-364.	1.4	15
36	Bond Graph Model of Cerebral Circulation: Toward Clinically Feasible Systemic Blood Flow Simulations. Frontiers in Physiology, 2018, 9, 148.	1.3	32

#	Article	IF	Citations
37	Mechanical Characterization of the Vessel Wall by Data Assimilation of Intravascular Ultrasound Studies. Frontiers in Physiology, 2018, 9, 292.	1.3	7
38	Multi-scale modelling of arterial tissue: Linking networks of fibres to continua. Computer Methods in Applied Mechanics and Engineering, 2018, 341, 740-787.	3.4	15
39	A variational approach to embed 1D beam models into 3D solid continua. Computers and Structures, 2018, 206, 145-168.	2.4	5
40	Registration Methods for IVUS: Transversal and Longitudinal Transducer Motion Compensation. IEEE Transactions on Biomedical Engineering, 2017, 64, 890-903.	2.5	18
41	A computational framework to characterize and compare the geometry of coronary networks. International Journal for Numerical Methods in Biomedical Engineering, 2017, 33, e02800.	1.0	12
42	Transversally enriched pipe element method (TEPEM): An effective numerical approach for blood flow modeling. International Journal for Numerical Methods in Biomedical Engineering, 2017, 33, e2808.	1.0	13
43	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
44	Identification of residual stresses in multi-layered arterial wall tissues using a variational framework. Computer Methods in Applied Mechanics and Engineering, 2017, 319, 287-313.	3.4	4
45	Homogenization of the Navier-Stokes equations by means of the Multi-scale Virtual Power Principle. Computer Methods in Applied Mechanics and Engineering, 2017, 315, 760-779.	3.4	18
46	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
47	A head-to-head comparison between CT- and IVUS-derived coronary blood flow models. Journal of Biomechanics, 2017, 51, 65-76.	0.9	25
48	TCT-72 Computational fractional flow reserve derived from three-dimensional intravascular ultrasound: a new algorithm of fusion between anatomy and physiology. Journal of the American College of Cardiology, 2017, 70, B31-B32.	1.2	0
49	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
50	Association between three-dimensional vessel geometry and the presence of atherosclerotic plaques in the left anterior descending coronary artery of high-risk patients. Biomedical Signal Processing and Control, 2017, 31, 569-575.	3.5	6
51	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
52	TCT-573 Head-to-head comparison between coronary computed tomography angiography (CCTA) and intravascular ultrasound (IVUS) tridimensional models: a geometric point of view. Journal of the American College of Cardiology, 2016, 68, B232.	1.2	0
53	TCT-535 Coronary computed tomography angiography (CCTA) blood flow model, how we can improve it? Insights based on comparison with intravascular ultrasound (IVUS) tridimensional model.. Journal of the American College of Cardiology, 2016, 68, B216.	1.2	0
54	Computational modeling of blood flow steal phenomena caused by subclavian stenoses. Journal of Biomechanics, 2016, 49, 1593-1600.	0.9	12

#	Article	IF	Citations
55	On the search of arterial geometry heritability. International Journal of Cardiology, 2016, 221, 1013-1021.	0.8	6
56	An integrated mathematical model of the cardiovascular and respiratory systems. International Journal for Numerical Methods in Biomedical Engineering, 2016, 32, e02736.	1.0	11
57	Roadmap for cardiovascular circulation model. Journal of Physiology, 2016, 594, 6909-6928.	1.3	33
58	Cohesive surface model for fracture based on a two-scale formulation: computational implementation aspects. Computational Mechanics, 2016, 58, 549-585.	2.2	16
59	Database system support of simulation data. Proceedings of the VLDB Endowment, 2016, 9, 1329-1340.	2.1	7
60	The method of multiscale virtual power for the derivation of a second order mechanical model. Mechanics of Materials, 2016, 99, 53-67.	1.7	37
61	Variational Foundations and Generalized Unified Theory of RVE-Based Multiscale Models. Archives of Computational Methods in Engineering, 2016, 23, 191-253.	6.0	110
62	Consistent treatment of viscoelastic effects at junctions in one-dimensional blood flow models. Journal of Computational Physics, 2016, 314, 167-193.	1.9	26
63	On the effect of preload and pre-stretch on hemodynamic simulations: an integrative approach. Biomechanics and Modeling in Mechanobiology, 2016, 15, 593-627.	1.4	8
64	Multiscale formulation for material failure accounting for cohesive cracks at the macro and micro scales. International Journal of Plasticity, 2016, 76, 75-110.	4.1	66
65	Three-dimensional reconstruction of coronary arteries based on the integration of intravascular ultrasound and conventional angiography. Revista Brasileira De Cardiologia Invasiva (English) Tj ETQq1 1 0.784314 rg BT /Overlock 10 Tf	0.1	2
66	ReconstruÃ§Ã£o tridimensional de artÃ©rias coronÃ¡rias a partir da integraÃ§Ã£o do ultrassom intracoronÃ¡rio e da angiografia convencional. Revista Brasileira De Cardiologia Invasiva, 2015, 23, 134-138.	0.1	0
67	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
68	An Anatomically Detailed Arterial Network Model for One-Dimensional Computational Hemodynamics. IEEE Transactions on Biomedical Engineering, 2015, 62, 736-753.	2.5	111
69	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
70	Improving Cardiac Phase Extraction in IVUS Studies by Integration of Gating Methods. IEEE Transactions on Biomedical Engineering, 2015, 62, 2867-2877.	2.5	23
71	On the search of more stable second-order lattice-Boltzmann schemes in confined flows. Journal of Computational Physics, 2015, 294, 605-618.	1.9	7
72	An RVE-based multiscale theory of solids with micro-scale inertia and body force effects. Mechanics of Materials, 2015, 80, 136-144.	1.7	92

#	Article	IF	Citations
73	Hybrid element-based approximation for the Navierâ€“Stokes equations in pipe-like domains. Computer Methods in Applied Mechanics and Engineering, 2015, 283, 971-993.	3.4	14
74	Combining Transversal and Longitudinal Registration in IVUS Studies. Lecture Notes in Computer Science, 2015, , 346-353.	1.0	1
75	Thermomechanical Multiscale Constitutive Modeling: Accounting for Microstructural Thermal Effects. Journal of Elasticity, 2014, 115, 27-46.	0.9	21
76	Blood flow distribution in an anatomically detailed arterial network model: criteria and algorithms. Biomechanics and Modeling in Mechanobiology, 2014, 13, 1303-1330.	1.4	66
77	A twoâ€scale failure model for heterogeneous materials: numerical implementation based on the finite element method. International Journal for Numerical Methods in Engineering, 2014, 97, 313-351.	1.5	41
78	A computational approach to generate concurrent arterial networks in vascular territories. International Journal for Numerical Methods in Biomedical Engineering, 2013, 29, 601-614.	1.0	29
79	On the continuity of mean total normal stress in geometrical multiscale cardiovascular problems. Journal of Computational Physics, 2013, 251, 136-155.	1.9	11
80	A dimensionally-heterogeneous closed-loop model for the cardiovascular system and its applications. Medical Engineering and Physics, 2013, 35, 652-667.	0.8	60
81	Failure-Oriented Multi-scale Variational Formulation: Micro-structures with nucleation and evolution of softening bands. Computer Methods in Applied Mechanics and Engineering, 2013, 257, 221-247.	3.4	44
82	Mathematical Model of Blood Flow in an Anatomically Detailed Arterial Network of the Arm. ESAIM: Mathematical Modelling and Numerical Analysis, 2013, 47, 961-985.	0.8	31
83	Implicit Coupling of One-Dimensional and Three-Dimensional Blood Flow Models with Compliant Vessels. Multiscale Modeling and Simulation, 2013, 11, 474-506.	0.6	32
84	A blackâ€box decomposition approach for coupling heterogeneous components in hemodynamics simulations. International Journal for Numerical Methods in Biomedical Engineering, 2013, 29, 408-427.	1.0	13
85	Mortar Coupling for Heterogeneous Partial Differential Equations. Lecture Notes in Computational Science and Engineering, 2013, , 419-426.	0.1	1
86	Identification of vascular territory resistances in one-dimensional hemodynamics simulations. Journal of Biomechanics, 2012, 45, 2066-2073.	0.9	30
87	HeMoLab â€“ Hemodynamics Modelling Laboratory: An application for modelling the human cardiovascular system. Computers in Biology and Medicine, 2012, 42, 993-1004.	3.9	24
88	The role of the variational formulation in the dimensionally-heterogeneous modelling of the human cardiovascular system. Modeling, Simulation and Applications, 2012, , 251-288.	1.3	3
89	Software livre e de cÃ³digo aberto para avaliaÃ§Ã£o de imagens de angiotomografia de coronÃ¡rias. Arquivos Brasileiros De Cardiologia, 2012, 99, 944-951.	0.3	5
90	On the integration of the baroreflex control mechanism in a heterogeneous model of the cardiovascular system. International Journal for Numerical Methods in Biomedical Engineering, 2012, 28, 412-433.	1.0	30

#	Article	IF	Citations
91	A two-level time step technique for the partitioned solution of one-dimensional arterial networks. Computer Methods in Applied Mechanics and Engineering, 2012, 237-240, 212-226.	3.4	27
92	Tuning a lattice-Boltzmann model for applications in computational hemodynamics. Medical Engineering and Physics, 2012, 34, 339-349.	0.8	8
93	Partitioned Analysis for Dimensionally-Heterogeneous Hydraulic Networks. Multiscale Modeling and Simulation, 2011, 9, 872-903.	0.6	26
94	Coupled models technology in multi-scale computational haemodynamics. International Journal of Biomedical Engineering and Technology, 2011, 5, 132.	0.2	2
95	Extended Variational Formulation for Heterogeneous Partial Differential Equations. Computational Methods in Applied Mathematics, 2011, 11, 141-172.	0.4	9
96	Modeling dimensionally-heterogeneous problems: analysis, approximation and applications. Numerische Mathematik, 2011, 119, 299-335.	0.9	18
97	Algorithms for the partitioned solution of weakly coupled fluid models for cardiovascular flows. International Journal for Numerical Methods in Biomedical Engineering, 2011, 27, 2035-2057.	1.0	25
98	Black-box decomposition approach for computational hemodynamics: One-dimensional models. Computer Methods in Applied Mechanics and Engineering, 2011, 200, 1389-1405.	3.4	21
99	Iterative strong coupling of dimensionally heterogeneous models. International Journal for Numerical Methods in Engineering, 2010, 81, 1558-1580.	1.5	13
100	Assessing the influence of heart rate in local hemodynamics through coupled 3Dâ€1Dâ€0D models. International Journal for Numerical Methods in Biomedical Engineering, 2010, 26, 890-903.	1.0	16
101	On the potentialities of 3Dâ€“1D coupled models in hemodynamics simulations. Journal of Biomechanics, 2009, 42, 919-930.	0.9	75
102	Sensitivity analysis in kinematically incompatible models. Computer Methods in Applied Mechanics and Engineering, 2009, 198, 3287-3298.	3.4	7
103	An assessment of the Gurson yield criterion by a computational multiâ€scale approach. Engineering Computations, 2009, 26, 281-301.	0.7	52
104	A variational approach for coupling kinematically incompatible structural models. Computer Methods in Applied Mechanics and Engineering, 2008, 197, 1577-1602.	3.4	37
105	A variational framework for fluidâ€“solid interaction problems based on immersed domains: Theoretical bases. Computer Methods in Applied Mechanics and Engineering, 2008, 197, 2353-2371.	3.4	6
106	A unified variational approach for coupling 3Dâ€“1D models and its blood flow applications. Computer Methods in Applied Mechanics and Engineering, 2007, 196, 4391-4410.	3.4	102
107	Multidimensional modelling for the carotid artery blood flow. Computer Methods in Applied Mechanics and Engineering, 2006, 195, 4002-4017.	3.4	116
108	Sensitivity of Blood Flow Patterns to the Constitutive Law of the Fluid. , 2006, , 181-181.		1

#	Article	IF	Citations
109	A multi-scale approach to model arterial tissue. Anais Do ... Congresso Ibero-Latino-Americano De MÃ©todos Computacionais Em Engenharia, 0, , .	0.0	0
110	RVE-based multiscale modeling for the Navier-Stokes equations: linking continuum and Lattice-Boltzmann models. , 0, , .		0
111	Fast numerical method for blood flow simulation in three-dimensional arterial trees. Anais Do ... Congresso Ibero-Latino-Americano De MÃ©todos Computacionais Em Engenharia, 0, , .	0.0	0
112	Mechanical characterization of arterial walls based on IVUS studies. Anais Do ... Congresso Ibero-Latino-Americano De MÃ©todos Computacionais Em Engenharia, 0, , .	0.0	0
113	An efficient method for the numerical solution of blood flow in 3D bifurcated regions. , 0, , .		0
114	Human vs. machine vs. core lab for the assessment of coronary atherosclerosis with lumen and vessel contour segmentation with intravascular ultrasound. International Journal of Cardiovascular Imaging, 0, , 1.	0.2	2