C Alberto Figueroa

List of Publications by Year
in descending order

108	6,164	87888 38	71685 76
papers	citations	h-index	g-index

113	113	113	4401
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	OUP accepted manuscript. European Journal of Cardio-thoracic Surgery, 2022, , .	1.4	1
2	Multiscale model of the physiological control of myocardial perfusion to delineate putative metabolic feedback mechanisms. Journal of Physiology, 2022, 600, 1913-1932.	2.9	3
3	Endovascular ascending aortic repair in type A dissection: A systematic review. Journal of Cardiac Surgery, 2021, 36, 268-279.	0.7	18
4	Imaging surveillance after open aortic repair: a feasibility study of three-dimensional growth mapping. European Journal of Cardio-thoracic Surgery, 2021, 60, 651-659.	1.4	5
5	Characterization of Post-Operative Hemodynamics Following the Norwood Procedure Using Population Data and Multi-Scale Modeling. Frontiers in Physiology, 2021, 12, 603040.	2.8	10
6	CRIMSON: An open-source software framework for cardiovascular integrated modelling and simulation. PLoS Computational Biology, 2021, 17, e1008881.	3.2	42
7	Vascular Deformation Mapping of Abdominal Aortic Aneurysm. Tomography, 2021, 7, 189-201.	1.8	3
8	Assessing the methodology used to study the ascending aorta haemodynamics in bicuspid aortic valve. European Heart Journal Digital Health, 2021, 2, 271-278.	1.7	0
9	Inverse modeling framework for characterizing patient-specific microstructural changes in the pulmonary arteries. Journal of the Mechanical Behavior of Biomedical Materials, 2021, 119, 104448.	3.1	4
10	Interventional Planning for Endovascular Revision of a Lateral Tunnel Fontan: A Patient-Specific Computational Analysis. Frontiers in Physiology, 2021, 12, 718254.	2.8	6
11	A Combined Computational Fluid Dynamics and Arterial Spin Labeling MRI Modeling Strategy to Quantify Patient-Specific Cerebral Hemodynamics in Cerebrovascular Occlusive Disease. Frontiers in Bioengineering and Biotechnology, 2021, 9, 722445.	4.1	8
12	Noninvasive quantification of cerebrovascular pressure changes using 4D Flow MRI. Magnetic Resonance in Medicine, 2021, 86, 3096-3110.	3.0	13
13	American Heart Association Precision Medicine Platform Addresses Challenges in Data Sharing. Circulation: Cardiovascular Quality and Outcomes, 2021, 14, e007949.	2.2	6
14	AngioNet: a convolutional neural network for vessel segmentation in X-ray angiography. Scientific Reports, 2021, 11, 18066.	3.3	34
15	Comparative Study of Human and Murine Aortic Biomechanics and Hemodynamics in Vascular Aging. Frontiers in Physiology, 2021, 12, 746796.	2.8	10
16	Practical considerations for territorial perfusion mapping in the cerebral circulation using superâ€selective pseudoâ€continuous arterial spin labeling. Magnetic Resonance in Medicine, 2020, 83, 492-504.	3.0	10
17	Computational analysis of renal artery flow characteristics by modeling aortoplasty and aortic bypass interventions for abdominal aortic coarctation. Journal of Vascular Surgery, 2020, 71, 505-516.e4.	1.1	15
18	Verification of the coupledâ€momentum method with Womersley's Deformable Wall analytical solution. International Journal for Numerical Methods in Biomedical Engineering, 2020, 36, e3266.	2.1	7

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19	Reply to Marrocco-Trischitta and Romarowski. European Journal of Cardio-thoracic Surgery, 2020, 57, 197-198.	1.4	0
20	Non-invasive estimation of relative pressure in turbulent flow using virtual work-energy. Medical Image Analysis, 2020, 60, 101627.	11.6	20
21	False lumen ejection fraction predicts growth in type B aortic dissection: preliminary results. European Journal of Cardio-thoracic Surgery, 2020, 57, 896-903.	1.4	40
22	A nonlinear rotation-free shell formulation with prestressing for vascular biomechanics. Scientific Reports, 2020, 10, 17528.	3.3	11
23	Emerging 3D technologies and applications within congenital heart disease: teach, predict, plan andÂguide. Future Cardiology, 2020, 16, 695-709.	1.2	8
24	Flow dynamics, false lumens and implications for endografting. Journal of Vascular Surgery, 2020, 71, 2119-2120.	1.1	0
25	Numerical considerations for advectionâ€diffusion problems in cardiovascular hemodynamics. International Journal for Numerical Methods in Biomedical Engineering, 2020, 36, e3378.	2.1	6
26	Multiscale Modeling Framework of Ventricular-Arterial Bi-directional Interactions in the Cardiopulmonary Circulation. Frontiers in Physiology, 2020, 11, 2.	2.8	16
27	Mapping pre-dissection aortic wall abnormalities: a multiparametric assessment. European Journal of Cardio-thoracic Surgery, 2020, 57, 1061-1067.	1.4	5
28	Patient-Specific Computational Analysis of Hemodynamics and Wall Mechanics and Their Interactions in Pulmonary Arterial Hypertension. Frontiers in Bioengineering and Biotechnology, 2020, 8, 611149.	4.1	8
29	A flexible framework for sequential estimation of model parameters in computational hemodynamics. Advanced Modeling and Simulation in Engineering Sciences, 2020, 7, 48.	1.7	18
30	Evaluation of 4D flow MRI-based non-invasive pressure assessment in aortic coarctations. Journal of Biomechanics, 2019, 94, 13-21.	2.1	35
31	Novel Understanding on Thoracic Aortic Diseases from Bioengineering Concepts. , 2019, , 141-148.		0
32	Sex-dependent differences in central artery haemodynamics in normal and fibulin-5 deficient mice: implications for ageing. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2019, 475, 20180076.	2.1	20
33	Estimation of Cardiovascular Relative Pressure Using Virtual Work-Energy. Scientific Reports, 2019, 9, 1375.	3.3	25
34	Haemodynamic assessment of bicuspid aortic valve aortopathy: a systematic review of the current literature. European Journal of Cardio-thoracic Surgery, 2019, 55, 610-617.	1.4	17
35	Cardiac remodelling following thoracic endovascular aortic repair for descending aortic aneurysms. European Journal of Cardio-thoracic Surgery, 2019, 55, 1061-1070.	1.4	61
36	Ascending aortic rupture after zone 2 endovascular repair: a multiparametric computational analysis. European Journal of Cardio-thoracic Surgery, 2019, 56, 618-621.	1.4	12

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37	Optimal B-Spline Mapping of Flow Imaging Data for Imposing Patient-Specific Velocity Profiles in Computational Hemodynamics. IEEE Transactions on Biomedical Engineering, 2019, 66, 1872-1883.	4.2	5
38	Image-based computational assessment of vascular wall mechanics and hemodynamics in pulmonary arterial hypertension patients. Journal of Biomechanics, 2018, 68, 84-92.	2.1	44
39	Patient-Specific Modeling of Hemodynamics: Supporting Surgical Planning in a Fontan Circulation Correction. Journal of Cardiovascular Translational Research, 2018, 11, 145-155.	2.4	47
40	Improved coronary magnetic resonance angiography using gadobenate dimeglumine in pediatric congenital heart disease. Magnetic Resonance Imaging, 2018, 49, 47-54.	1.8	4
41	A computational analysis of different endograft designs for Zone 0 aortic arch repairâ€. European Journal of Cardio-thoracic Surgery, 2018, 54, 389-396.	1.4	43
42	Impact of Patient-Specific Inflow Velocity Profile on Hemodynamics of the Thoracic Aorta. Journal of Biomechanical Engineering, 2018, 140, .	1.3	69
43	Patient-specific modeling of right coronary circulation vulnerability post-liver transplant in Alagilleâ€™s syndrome. PLoS ONE, 2018, 13, e0205829.	2.5	13
44	TAA14. A Computational Analysis of Different Methodologies for Revascularization of the Left Subclavian Artery. Journal of Vascular Surgery, 2018, 68, e146.	1.1	0
45	Computational Analysis of Renal Artery Flow Characteristics by Modeling Aortoplasty and Aortic Bypass Interventions for Abdominal Aortic Coarctation. Journal of Vascular Surgery, 2018, 68, e50-e51.	1.1	1
46	Comparative Analysis of Porcine and Human Thoracic Aortic Stiffness. European Journal of Vascular and Endovascular Surgery, 2018, 55, 560-566.	1.5	35
47	Commentary: Challenges of Thoracic Endovascular Aortic Repair for Type B Aortic Dissection. Journal of Endovascular Therapy, 2018, 25, 578-580.	1.5	9
48	Computational Fluid Dynamics and Aortic Thrombus Formation Following Thoracic Endovascular Aortic Repair. Annals of Thoracic Surgery, 2017, 103, 1914-1921.	1.3	31
49	Extensibility and Distensibility of the Thoracic Aorta in Patients with Aneurysm. European Journal of Vascular and Endovascular Surgery, 2017, 53, 199-205.	1.5	32
50	Functional assessment of thoracic aortic aneurysms â€“ the future of risk prediction?. British Medical Bulletin, 2017, 121, 61-71.	6.9	36
51	A Special Report on the NHLBI Initiative to Study Cellular and Molecular Mechanisms of Arterial Stiffness and Its Association With Hypertension. Circulation Research, 2017, 121, 1216-1218.	4.5	38
52	Patient-specific computational fluid dynamicsâ€”assessment of aortic hemodynamics in a spectrum of aortic valve pathologies. Journal of Thoracic and Cardiovascular Surgery, 2017, 153, 8-20.e3.	0.8	81
53	Reproducing Patient-Specific Hemodynamics in the Blalockâ€“Taussig Circulation Using a Flexible Multi-Domain Simulation Framework: Applications for Optimal Shunt Design. Frontiers in Pediatrics, 2017, 5, 78.	1.9	19
54	Effects of age-associated regional changes in aortic stiffness on human hemodynamics revealed by computational modeling. PLoS ONE, 2017, 12, e0173177.	2.5	59

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55	Multi-modality image-based computational analysis of haemodynamics in aortic dissection. Biomechanics and Modeling in Mechanobiology, 2016, 15, 857-876.	2.8	104
56	Update in the management of type B aortic dissection. Vascular Medicine, 2016, 21, 251-263.	1.5	83
57	CRIMSON: Towards a Software Environment for Patient-Specific Blood Flow Simulation for Diagnosis and Treatment. Lecture Notes in Computer Science, 2016, , 10-18.	1.3	8
58	Computational Study of Anatomical Risk Factors in Idealized Models of Type B Aortic Dissection. European Journal of Vascular and Endovascular Surgery, 2016, 52, 736-745.	1.5	30
59	On the impact of modelling assumptions in multi-scale, subject-specific models of aortic haemodynamics. Journal of the Royal Society Interface, 2016, 13, 20160073.	3.4	92
60	Assessment of CardiOvascular Remodelling following Endovascular aortic repair through imaging and computation: the CORE prospective observational cohort study protocol. BMJ Open, 2016, 6, e012270.	1.9	12
61	A mathematical model of coronary blood flow control: simulation of patient-specific three-dimensional hemodynamics during exercise. American Journal of Physiology - Heart and Circulatory Physiology, 2016, 310, H1242-H1258.	3.2	41
62	Central Artery Stiffness in Hypertension and Aging. Circulation Research, 2016, 118, 379-381.	4.5	137
63	Aortic length measurements for pulse wave velocity calculation: manual 2D vs automated 3D centreline extraction. Journal of Cardiovascular Magnetic Resonance, 2016, 19, 32.	3.3	14
64	Integration of an Electrophysiologically Driven Heart Model into Three-Dimensional Haemodynamics Simulation Using the CRIMSON Control Systems Framework. , 2016, , 155-166.		2
65	An Experimentalâ€“Computational Study of Catheter Induced Alterations in Pulse Wave Velocity in Anesthetized Mice. Annals of Biomedical Engineering, 2015, 43, 1555-1570.	2.5	22
66	Simulation of short-term pressure regulation during the tilt test in a coupled 3Dâ€“0D closed-loop model of the circulation. Biomechanics and Modeling in Mechanobiology, 2015, 14, 915-929.	2.8	39
67	Biomechanical Changes After Thoracic Endovascular Aortic Repair in Type B Dissection. Journal of Endovascular Therapy, 2015, 22, 918-933.	1.5	16
68	Non-invasive pressure difference estimation from PC-MRI using the work-energy equation. Medical Image Analysis, 2015, 26, 159-172.	11.6	53
69	Patient-Specific Image-Based Computational Modeling in Congenital Heart Disease: A Clinician Perspective. Journal of Cardiology and Therapy, 2015, 2, 436-448.	0.1	12
70	A haemodynamic predictor of intraluminal thrombus formation in abdominal aortic aneurysms. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2014, 470, 20140163.	2.1	112
71	Pressure Wave Propagation in Full-body Arterial Models: A Gateway to Exploring Aging and Hypertension. Procedia IUTAM, 2014, 10, 382-395.	1.2	8
72	Quantification of regional differences in aortic stiffness in the aging human. Journal of the Mechanical Behavior of Biomedical Materials, 2014, 29, 618-634.	3.1	106

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73	A systematic comparison between 1â€Ð and 3â€Ð hemodynamics in compliant arterial models. International Journal for Numerical Methods in Biomedical Engineering, 2014, 30, 204-231.	2.1	225
74	A computational framework for investigating the positional stability of aortic endografts. Biomechanics and Modeling in Mechanobiology, 2013, 12, 869-887.	2.8	51
75	Computational simulations of hemodynamic changes within thoracic, coronary, and cerebral arteries following early wall remodeling in response to distal aortic coarctation. Biomechanics and Modeling in Mechanobiology, 2013, 12, 79-93.	2.8	65
76	Multi-scale computational model of three-dimensional hemodynamics within a deformable full-body arterial network. Journal of Computational Physics, 2013, 244, 22-40.	3.8	96
77	Sequential identification of boundary support parameters in a fluid-structure vascular model using patient image data. Biomechanics and Modeling in Mechanobiology, 2013, 12, 475-496.	2.8	68
78	Hemodynamic Alterations Associated with Coronary and Cerebral Arterial Remodeling Following a Surgically-Induced Aortic Coarctation. , 2013, , 203-216.		0
79	External tissue support and fluidâ€“structure simulation in blood flows. Biomechanics and Modeling in Mechanobiology, 2012, 11, 1-18.	2.8	174
80	Computational Analysis of Stresses Acting on Intermodular Junctions in Thoracic Aortic Endografts. Journal of Endovascular Therapy, 2011, 18, 559-568.	1.5	41
81	Computational Analysis of Displacement Forces Acting on Endografts Used to Treat Aortic Aneurysms. Studies in Mechanobiology, Tissue Engineering and Biomaterials, 2011, , 221-246.	1.0	8
82	A Finite Element Approach for Evaluating the Risk of Endograft Migration. , 2011, , .		0
83	Computational Simulations Demonstrate Altered Wall Shear Stress in Aortic Coarctation Patients Treated by Resection with End-to-end Anastomosis. Congenital Heart Disease, 2011, 6, 432-443.	0.2	76
84	In Vitro Validation of Finite Element Analysis of Blood Flow in Deformable Models. Annals of Biomedical Engineering, 2011, 39, 1947-1960.	2.5	81
85	Simulation of blood flow in deformable vessels using subject-specific geometry and spatially varying wall properties. International Journal for Numerical Methods in Biomedical Engineering, 2011, 27, 1000-1016.	2.1	51
86	Computational Simulations for Aortic Coarctation: Representative Results From a Sampling of Patients. Journal of Biomechanical Engineering, 2011, 133, 091008.	1.3	120
87	Comparative Study of Viscoelastic Arterial Wall Models in Nonlinear One-Dimensional Finite Element Simulations of Blood Flow. Journal of Biomechanical Engineering, 2011, 133, 081003.	1.3	46
88	Patient-Specific Modeling of Blood Flow and Pressure in Human Coronary Arteries. Annals of Biomedical Engineering, 2010, 38, 3195-3209.	2.5	461
89	Quantification of Hemodynamics in Abdominal Aortic Aneurysms During Rest and Exercise Using Magnetic Resonance Imaging and Computational Fluid Dynamics. Annals of Biomedical Engineering, 2010, 38, 1288-1313.	2.5	249
90	Cardiovascular flow simulation at extreme scale. Computational Mechanics, 2010, 46, 71-82.	4.0	39

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91	Developing computational methods for three-dimensional finite element simulations of coronary blood flow. Finite Elements in Analysis and Design, 2010, 46, 514-525.	3.2	49
92	Preliminary 3D computational analysis of the relationship between aortic displacement force and direction of endograft movement. Journal of Vascular Surgery, 2010, 51, 1488-1497.	1.1	44
93	Outflow boundary conditions for 3D simulations of non-periodic blood flow and pressure fields in deformable arteries. Computer Methods in Biomechanics and Biomedical Engineering, 2010, 13, 625-640.	1.6	244
94	Simulation of Blood Flow in Deformable Arteries Using Subject-Specific Geometry and Variable Vessel Wall Properties. , 2009, , .		1
95	Effect of Curvature on Displacement Forces Acting on Aortic Endografts: A 3-Dimensional Computational Analysis. Journal of Endovascular Therapy, 2009, 16, 284-294.	1.5	106
96	Magnitude and Direction of Pulsatile Displacement Forces Acting on Thoracic Aortic Endografts. Journal of Endovascular Therapy, 2009, 16, 350-358.	1.5	93
97	On Coupling a Lumped Parameter Heart Model and a Three-Dimensional Finite Element Aorta Model. Annals of Biomedical Engineering, 2009, 37, 2153-2169.	2.5	256
98	A computational framework for fluidâ€“solid-growth modeling in cardiovascular simulations. Computer Methods in Applied Mechanics and Engineering, 2009, 198, 3583-3602.	6.6	179
99	Augmented Lagrangian method for constraining the shape of velocity profiles at outlet boundaries for three-dimensional finite element simulations of blood flow. Computer Methods in Applied Mechanics and Engineering, 2009, 198, 3551-3566.	6.6	84
100	Patient-Specific Modeling of Cardiovascular Mechanics. Annual Review of Biomedical Engineering, 2009, 11, 109-134.	12.3	350
101	A Longitudinal Study of Migration Forces on a Patient-Specific Abdominal Aortic Endograft Model. , 2009, , .		0
102	Using Computational Fluid Dynamics to Design and Optimize a Novel Endovascular Procedure for Carotid Stenosis Repair. , 2008, , .		0
103	A Framework for Fluid-Solid-Growth Modeling and its Application to Understanding the Enlargement of a Fusiform Aneurysm. , 2008, , .		0
104	On Coupling a Lumped-Parameter Heart Model With a Three-Dimensional Finite Element Model of the Aorta. , 2007, , 317.		0
105	Hemodynamics in Human Abdominal Aortic Aneurysms During Rest and Simulated Exercise. , 2007, , .		2
106	Use of Computational Fluid Dynamics for the Replication of Clinical Blood Flow and Pressure Measurements and Characterization of Hemodynamics in the Normal Ascending and Thoracic Aorta. , 2007, , .		0
107	Outflow boundary conditions for three-dimensional finite element modeling of blood flow and pressure in arteries. Computer Methods in Applied Mechanics and Engineering, 2006, 195, 3776-3796.	6.6	535
108	A coupled momentum method for modeling blood flow in three-dimensional deformable arteries. Computer Methods in Applied Mechanics and Engineering, 2006, 195, 5685-5706.	6.6	406