C Alberto Figueroa

List of Publications by Year
in descending order

108	6,164	87723 38	71532 76
papers	citations	h-index	g-index

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

#	Article	IF	Citations
1	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.	3.4	535
2	Patient-Specific Modeling of Blood Flow and Pressure in Human Coronary Arteries. Annals of Biomedical Engineering, 2010, 38, 3195-3209.	1.3	461
3	A coupled momentum method for modeling blood flow in three-dimensional deformable arteries. Computer Methods in Applied Mechanics and Engineering, 2006, 195, 5685-5706.	3.4	406
4	Patient-Specific Modeling of Cardiovascular Mechanics. Annual Review of Biomedical Engineering, 2009, 11, 109-134.	5.7	350
5	On Coupling a Lumped Parameter Heart Model and a Three-Dimensional Finite Element Aorta Model. Annals of Biomedical Engineering, 2009, 37, 2153-2169.	1.3	256
6	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.	1.3	249
7	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.	0.9	244
8	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.	1.0	225
9	A computational framework for fluidâ€“solid-growth modeling in cardiovascular simulations. Computer Methods in Applied Mechanics and Engineering, 2009, 198, 3583-3602.	3.4	179
10	External tissue support and fluidâ€“structure simulation in blood flows. Biomechanics and Modeling in Mechanobiology, 2012, 11, 1-18.	1.4	174
11	Central Artery Stiffness in Hypertension and Aging. Circulation Research, 2016, 118, 379-381.	2.0	137
12	Computational Simulations for Aortic Coarctation: Representative Results From a Sampling of Patients. Journal of Biomechanical Engineering, 2011, 133, 091008.	0.6	120
13	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.	1.0	112
14	Effect of Curvature on Displacement Forces Acting on Aortic Endografts: A 3-Dimensional Computational Analysis. Journal of Endovascular Therapy, 2009, 16, 284-294.	0.8	106
15	Quantification of regional differences in aortic stiffness in the aging human. Journal of the Mechanical Behavior of Biomedical Materials, 2014, 29, 618-634.	1.5	106
16	Multi-modality image-based computational analysis of haemodynamics in aortic dissection. Biomechanics and Modeling in Mechanobiology, 2016, 15, 857-876.	1.4	104
17	Multi-scale computational model of three-dimensional hemodynamics within a deformable full-body arterial network. Journal of Computational Physics, 2013, 244, 22-40.	1.9	96
18	Magnitude and Direction of Pulsatile Displacement Forces Acting on Thoracic Aortic Endografts. Journal of Endovascular Therapy, 2009, 16, 350-358.	0.8	93

#	Article	IF	Citations
19	On the impact of modelling assumptions in multi-scale, subject-specific models of aortic haemodynamics. Journal of the Royal Society Interface, 2016, 13, 20160073.	1.5	92
20	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.	3.4	84
21	Update in the management of type B aortic dissection. Vascular Medicine, 2016, 21, 251-263.	0.8	83
22	In Vitro Validation of Finite Element Analysis of Blood Flow in Deformable Models. Annals of Biomedical Engineering, 2011, 39, 1947-1960.	1.3	81
23	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.	0.4	81
24	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.	0.0	76
25	Impact of Patient-Specific Inflow Velocity Profile on Hemodynamics of the Thoracic Aorta. Journal of Biomechanical Engineering, 2018, 140, .	0.6	69
26	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.	1.4	68
27	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.	1.4	65
28	Cardiac remodelling following thoracic endovascular aortic repair for descending aortic aneurysms. European Journal of Cardio-thoracic Surgery, 2019, 55, 1061-1070.	0.6	61
29	Effects of age-associated regional changes in aortic stiffness on human hemodynamics revealed by computational modeling. PLoS ONE, 2017, 12, e0173177.	1.1	59
30	Non-invasive pressure difference estimation from PC-MRI using the work-energy equation. Medical Image Analysis, 2015, 26, 159-172.	7.0	53
31	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.	1.0	51
32	A computational framework for investigating the positional stability of aortic endografts. Biomechanics and Modeling in Mechanobiology, 2013, 12, 869-887.	1.4	51
33	Developing computational methods for three-dimensional finite element simulations of coronary blood flow. Finite Elements in Analysis and Design, 2010, 46, 514-525.	1.7	49
34	Patient-Specific Modeling of Hemodynamics: Supporting Surgical Planning in a Fontan Circulation Correction. Journal of Cardiovascular Translational Research, 2018, 11, 145-155.	1.1	47
35	Comparative Study of Viscoelastic Arterial Wall Models in Nonlinear One-Dimensional Finite Element Simulations of Blood Flow. Journal of Biomechanical Engineering, 2011, 133, 081003.	0.6	46
36	Preliminary 3D computational analysis of the relationship between aortic displacement force and direction of endograft movement. Journal of Vascular Surgery, 2010, 51, 1488-1497.	0.6	44

#	Article	IF	Citations
37	Image-based computational assessment of vascular wall mechanics and hemodynamics in pulmonary arterial hypertension patients. Journal of Biomechanics, 2018, 68, 84-92.	0.9	44
38	A computational analysis of different endograft designs for Zone 0 aortic arch repairâ€. European Journal of Cardio-thoracic Surgery, 2018, 54, 389-396.	0.6	43
39	CRIMSON: An open-source software framework for cardiovascular integrated modelling and simulation. PLoS Computational Biology, 2021, 17, e1008881.	1.5	42
40	Computational Analysis of Stresses Acting on Intermodular Junctions in Thoracic Aortic Endografts. Journal of Endovascular Therapy, 2011, 18, 559-568.	0.8	41
41	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.	1.5	41
42	False lumen ejection fraction predicts growth in type B aortic dissection: preliminary results. European Journal of Cardio-thoracic Surgery, 2020, 57, 896-903.	0.6	40
43	Cardiovascular flow simulation at extreme scale. Computational Mechanics, 2010, 46, 71-82.	2.2	39
44	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.	1.4	39
45	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.	2.0	38
46	Functional assessment of thoracic aortic aneurysms â€“ the future of risk prediction?. British Medical Bulletin, 2017, 121, 61-71.	2.7	36
47	Comparative Analysis of Porcine and Human Thoracic Aortic Stiffness. European Journal of Vascular and Endovascular Surgery, 2018, 55, 560-566.	0.8	35
48	Evaluation of 4D flow MRI-based non-invasive pressure assessment in aortic coarctations. Journal of Biomechanics, 2019, 94, 13-21.	0.9	35
49	AngioNet: a convolutional neural network for vessel segmentation in X-ray angiography. Scientific Reports, 2021, 11, 18066.	1.6	34
50	Extensibility and Distensibility of the Thoracic Aorta in Patients with Aneurysm. European Journal of Vascular and Endovascular Surgery, 2017, 53, 199-205.	0.8	32
51	Computational Fluid Dynamics and Aortic Thrombus Formation Following Thoracic Endovascular Aortic Repair. Annals of Thoracic Surgery, 2017, 103, 1914-1921.	0.7	31
52	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.	0.8	30
53	Estimation of Cardiovascular Relative Pressure Using Virtual Work-Energy. Scientific Reports, 2019, 9, 1375.	1.6	25
54	An Experimentalâ€“Computational Study of Catheter Induced Alterations in Pulse Wave Velocity in Anesthetized Mice. Annals of Biomedical Engineering, 2015, 43, 1555-1570.	1.3	22

#	Article	IF	Citations
55	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.	1.0	20
56	Non-invasive estimation of relative pressure in turbulent flow using virtual work-energy. Medical Image Analysis, 2020, 60, 101627.	7.0	20
57	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.	0.9	19
58	Endovascular ascending aortic repair in type A dissection: A systematic review. Journal of Cardiac Surgery, 2021, 36, 268-279.	0.3	18
59	A flexible framework for sequential estimation of model parameters in computational hemodynamics. Advanced Modeling and Simulation in Engineering Sciences, 2020, 7, 48.	0.7	18
60	Haemodynamic assessment of bicuspid aortic valve aortopathy: a systematic review of the current literature. European Journal of Cardio-thoracic Surgery, 2019, 55, 610-617.	0.6	17
61	Biomechanical Changes After Thoracic Endovascular Aortic Repair in Type B Dissection. Journal of Endovascular Therapy, 2015, 22, 918-933.	0.8	16
62	Multiscale Modeling Framework of Ventricular-Arterial Bi-directional Interactions in the Cardiopulmonary Circulation. Frontiers in Physiology, 2020, 11, 2.	1.3	16
63	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.	0.6	15
64	Aortic length measurements for pulse wave velocity calculation: manual 2D vs automated 3D centreline extraction. Journal of Cardiovascular Magnetic Resonance, 2016, 19, 32.	1.6	14
65	Patient-specific modeling of right coronary circulation vulnerability post-liver transplant in Alagilleâ€™s syndrome. PLoS ONE, 2018, 13, e0205829.	1.1	13
66	Noninvasive quantification of cerebrovascular pressure changes using 4D Flow MRI. Magnetic Resonance in Medicine, 2021, 86, 3096-3110.	1.9	13
67	Assessment of CardiOvascular Remodelling following Endovascular aortic repair through imaging and computation: the CORE prospective observational cohort study protocol. BMJ Open, 2016, 6, e012270.	0.8	12
68	Ascending aortic rupture after zone 2 endovascular repair: a multiparametric computational analysis. European Journal of Cardio-thoracic Surgery, 2019, 56, 618-621.	0.6	12
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 nonlinear rotation-free shell formulation with prestressing for vascular biomechanics. Scientific Reports, 2020, 10, 17528.	1.6	11
71	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.	1.9	10
72	Characterization of Post-Operative Hemodynamics Following the Norwood Procedure Using Population Data and Multi-Scale Modeling. Frontiers in Physiology, 2021, 12, 603040.	1.3	10

#	Article	IF	Citations
73	Comparative Study of Human and Murine Aortic Biomechanics and Hemodynamics in Vascular Aging. Frontiers in Physiology, 2021, 12, 746796.	1.3	10
74	Commentary: Challenges of Thoracic Endovascular Aortic Repair for Type B Aortic Dissection. Journal of Endovascular Therapy, 2018, 25, 578-580.	0.8	9
75	Computational Analysis of Displacement Forces Acting on Endografts Used to Treat Aortic Aneurysms. Studies in Mechanobiology, Tissue Engineering and Biomaterials, 2011, , 221-246.	0.7	8
76	Pressure Wave Propagation in Full-body Arterial Models: A Gateway to Exploring Aging and Hypertension. Procedia IUTAM, 2014, 10, 382-395.	1.2	8
77	CRIMSON: Towards a Software Environment for Patient-Specific Blood Flow Simulation for Diagnosis and Treatment. Lecture Notes in Computer Science, 2016, , 10-18.	1.0	8
78	Emerging 3D technologies and applications within congenital heart disease: teach, predict, plan andÂguide. Future Cardiology, 2020, 16, 695-709.	0.5	8
79	Patient-Specific Computational Analysis of Hemodynamics and Wall Mechanics and Their Interactions in Pulmonary Arterial Hypertension. Frontiers in Bioengineering and Biotechnology, 2020, 8, 611149.	2.0	8
80	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.	2.0	8
81	Verification of the coupledâ€momentum method with Womersley's Deformable Wall analytical solution. International Journal for Numerical Methods in Biomedical Engineering, 2020, 36, e3266.	1.0	7
82	Numerical considerations for advectionâ€diffusion problems in cardiovascular hemodynamics. International Journal for Numerical Methods in Biomedical Engineering, 2020, 36, e3378.	1.0	6
83	Interventional Planning for Endovascular Revision of a Lateral Tunnel Fontan: A Patient-Specific Computational Analysis. Frontiers in Physiology, 2021, 12, 718254.	1.3	6
84	American Heart Association Precision Medicine Platform Addresses Challenges in Data Sharing. Circulation: Cardiovascular Quality and Outcomes, 2021, 14, e007949.	0.9	6
85	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.	2.5	5
86	Mapping pre-dissection aortic wall abnormalities: a multiparametric assessment. European Journal of Cardio-thoracic Surgery, 2020, 57, 1061-1067.	0.6	5
87	Imaging surveillance after open aortic repair: a feasibility study of three-dimensional growth mapping. European Journal of Cardio-thoracic Surgery, 2021, 60, 651-659.	0.6	5
88	Improved coronary magnetic resonance angiography using gadobenate dimeglumine in pediatric congenital heart disease. Magnetic Resonance Imaging, 2018, 49, 47-54.	1.0	4
89	Inverse modeling framework for characterizing patient-specific microstructural changes in the pulmonary arteries. Journal of the Mechanical Behavior of Biomedical Materials, 2021, 119, 104448.	1.5	4
90	Vascular Deformation Mapping of Abdominal Aortic Aneurysm. Tomography, 2021, 7, 189-201.	0.8	3

#	Article	IF	Citations
91	Multiscale model of the physiological control of myocardial perfusion to delineate putative metabolic feedback mechanisms. Journal of Physiology, 2022, 600, 1913-1932.	1.3	3
92	Hemodynamics in Human Abdominal Aortic Aneurysms During Rest and Simulated Exercise. , 2007, , .		2
93	Integration of an Electrophysiologically Driven Heart Model into Three-Dimensional Haemodynamics Simulation Using the CRIMSON Control Systems Framework. , 2016, , 155-166.		2
94	Simulation of Blood Flow in Deformable Arteries Using Subject-Specific Geometry and Variable Vessel Wall Properties. , 2009, , .		1
95	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.	0.6	1
96	OUP accepted manuscript. European Journal of Cardio-thoracic Surgery, 2022, , .	0.6	1
97	On Coupling a Lumped-Parameter Heart Model With a Three-Dimensional Finite Element Model of the Aorta. , 2007, , 317.		0
98	Using Computational Fluid Dynamics to Design and Optimize a Novel Endovascular Procedure for Carotid Stenosis Repair. , 2008, , .		0
99	A Longitudinal Study of Migration Forces on a Patient-Specific Abdominal Aortic Endograft Model. , 2009, , .		0
100	A Finite Element Approach for Evaluating the Risk of Endograft Migration. , 2011, , .		0
101	TAA14. A Computational Analysis of Different Methodologies for Revascularization of the Left Subclavian Artery. Journal of Vascular Surgery, 2018, 68, e146.	0.6	0
102	Novel Understanding on Thoracic Aortic Diseases from Bioengineering Concepts. , 2019, , 141-148.		0
103	Reply to Marrocco-Trischitta and Romarowski. European Journal of Cardio-thoracic Surgery, 2020, 57, 197-198.	0.6	0
104	Flow dynamics, false lumens and implications for endografting. Journal of Vascular Surgery, 2020, 71, 2119-2120.	0.6	0
105	Assessing the methodology used to study the ascending aorta haemodynamics in bicuspid aortic valve. European Heart Journal Digital Health, 2021, 2, 271-278.	0.7	0
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	A Framework for Fluid-Solid-Growth Modeling and its Application to Understanding the Enlargement of a Fusiform Aneurysm. , 2008, , .		0
108	Hemodynamic Alterations Associated with Coronary and Cerebral Arterial Remodeling Following a Surgically-Induced Aortic Coarctation. , 2013, , 203-216.		0