Alessandro Veneziani

List of Publications by Citations

77 papers	2,694 citations	26 h-index	50 g-index
80 ext. papers	3,097 ext. citations	3.1 avg, IF	5.21 L-index

#	Paper	IF	Citations
77	Computational vascular fluid dynamics: problems, models and methods. *Computing and Visualization in Science*, **2000**, 2, 163-197	1	305
76	A framework for geometric analysis of vascular structures: application to cerebral aneurysms. *IEEE Transactions on Medical Imaging*, **2009**, 28, 1141-55	11.7	193
75	Multiscale modelling of the circulatory system: a preliminary analysis. *Computing and Visualization in Science*, **1999**, 2, 75-83	1	188
74	Analysis of a Geometrical Multiscale Model Based on the Coupling of ODE and PDE for Blood Flow Simulations. *Multiscale Modeling and Simulation*, **2003**, 1, 173-195	1.8	131
73	Numerical modeling of 1D arterial networks coupled with a lumped parameters description of the heart. *Computer Methods in Biomechanics and Biomedical Engineering*, **2006**, 9, 273-88	2.1	129
72	Factorization methods for the numerical approximation of Navier–Stokes equations. *Computer Methods in Applied Mechanics and Engineering*, **2000**, 188, 505-526	5.7	120
71	Coupling between lumped and distributed models for blood flow problems. *Computing and Visualization in Science*, **2001**, 4, 111-124	1	97
70	Mathematical and Numerical Modeling of Solute Dynamics in Blood Flow and Arterial Walls. *SIAM Journal on Numerical Analysis*, **2002**, 39, 1488-1511	2.4	82
69	A Case Study in Exploratory Functional Data Analysis: Geometrical Features of the Internal Carotid Artery. *Journal of the American Statistical Association*, **2009**, 104, 37-48	2.8	75
68	Simulating the spread of COVID-19 a spatially-resolved susceptible-exposed-infected-recovered-deceased (SEIRD) model with heterogeneous diffusion. *Applied Mathematics Letters*, **2021**, 111, 106617	3.5	74
67	Comparative finite element model analysis of ascending aortic flow in bicuspid and tricuspid aortic valve. *Artificial Organs*, **2010**, 34, 1114-20	2.6	65
66	High Coronary Shear Stress in Patients With Coronary Artery Disease Predicts Myocardial Infarction. *Journal of the American College of Cardiology*, **2018**, 72, 1926-1935	15.1	62
65	A 3D/1D geometrical multiscale model of cerebral vasculature. *Journal of Engineering Mathematics*, **2009**, 64, 319-330	1.2	51
64	A Variational Data Assimilation Procedure for the Incompressible Navier-Stokes Equations in Hemodynamics. *Journal of Scientific Computing*, **2012**, 52, 340-359	2.3	46
63	Analysis of the Yosida method for the incompressible Navier–Stokes equations. *Journal Des Mathematiques Pures Et Appliquees*, **1999**, 78, 473-503	1.7	43
62	A Variational Approach for Estimating the Compliance of the Cardiovascular Tissue: An Inverse Fluid-Structure Interaction Problem. *SIAM Journal of Scientific Computing*, **2011**, 33, 1181-1211	2.6	42
61	Geometry of the internal carotid artery and recurrent patterns in location, orientation, and rupture status of lateral aneurysms: an image-based computational study. *Neurosurgery*, **2011**, 68, 1270-85; discussion 1285	3.2	40

60	A New Approach to Numerical Solution of Defective Boundary Value Problems in Incompressible Fluid Dynamics. *SIAM Journal on Numerical Analysis*, **2008**, 46, 2769-2794	2.4	40
59	Algebraic fractional-step schemes with spectral methods for the incompressible Navier₅tokes equations. *Journal of Computational Physics*, **2006**, 214, 347-365	4.1	40
58	Automatic neck plane detection and 3D geometric characterization of aneurysmal sacs. *Annals of Biomedical Engineering*, **2012**, 40, 2188-211	4.7	39
57	Hierarchical Local Model Reduction for Elliptic Problems: A Domain Decomposition Approach. *Multiscale Modeling and Simulation*, **2010**, 8, 1102-1127	1.8	35
56	An approximate method for solving incompressible Navier₅tokes problems with flow rate conditions. *Computer Methods in Applied Mechanics and Engineering*, **2007**, 196, 1685-1700	5.7	35
55	Diffusion-reaction compartmental models formulated in a continuum mechanics framework: application to COVID-19, mathematical analysis, and numerical study. *Computational Mechanics*, **2020**, 66, 1-22	4	32
54	Womersley number-based estimates of blood flow rate in Doppler analysis: in vivo validation by means of phase-contrast MRI. *IEEE Transactions on Biomedical Engineering*, **2010**, 57, 1807-15	5	30
53	Low Coronary Wall Shear Stress Is Associated With Severe Endothelial Dysfunction in Patients With Nonobstructive Coronary Artery Disease. *JACC: Cardiovascular Interventions*, **2018**, 11, 2072-2080	5	30
52	An Integrated Statistical Investigation of Internal Carotid Arteries of Patients Affected by Cerebral Aneurysms. *Cardiovascular Engineering and Technology*, **2012**, 3, 26-40	2.2	28
51	Patient-specific CFD modelling in the thoracic aorta with PC-MRI-based boundary conditions: A least-square three-element Windkessel approach. *International Journal for Numerical Methods in Biomedical Engineering*, **2018**, 34, e3134	2.6	26
50	Aortic hemodynamics after thoracic endovascular aortic repair, with particular attention to the bird-beak configuration. *Journal of Endovascular Therapy*, **2014**, 21, 791-802	2.5	26
49	Coupled Morphological-Hemodynamic Computational Analysis of Type B Aortic Dissection: A Longitudinal Study. *Annals of Biomedical Engineering*, **2018**, 46, 927-939	4.7	25
48	Flow rate boundary problems for an incompressible fluid in deformable domains: Formulations and solution methods. *Computer Methods in Applied Mechanics and Engineering*, **2010**, 199, 677-688	5.7	25
47	Reliable CFD-based estimation of flow rate in haemodynamics measures. *Ultrasound in Medicine and Biology*, **2006**, 32, 1545-55	3.5	24
46	Coupled Model and Grid Adaptivity in Hierarchical Reduction of Elliptic Problems. *Journal of Scientific Computing*, **2014**, 60, 505-536	2.3	23
45	A Domain Decomposition Method for Advection-Diffusion Processes with Application to Blood Solutes. *SIAM Journal of Scientific Computing*, **2002**, 23, 1959-1980	2.6	23
44	Vasomotor Function Comparative Assessment at 1 and 2 Years Following Implantation of the Absorb Everolimus-Eluting Bioresorbable Vascular Scaffold and the Xience V Everolimus-Eluting Metallic Stent in Porcine Coronary Arteries: Insights From In Vivo Angiography, Ex Vivo Assessment, and Gene Analysis at the Stented/Scaffolded Segments and the Proximal and Distal Edges. *JACC: Cardiovascular Interventions*, **2016**, 9, 728-4	5	23
43	Experimental validation of a variational data assimilation procedure for estimating space-dependent cardiac conductivities. *Computer Methods in Applied Mechanics and Engineering*, **2020**, 358, 112615	5.7	23

42	Efficient estimation of cardiac conductivities via POD-DEIM model order reduction. *Applied Numerical Mathematics*, **2017**, 115, 180-199	2.5	22
41	Numerical simulation of a susceptible-exposed-infectious space-continuous model for the spread of rabies in raccoons across a realistic landscape. *Journal of Biological Dynamics*, **2013**, 7 Suppl 1, 31-46	2.4	21
40	Biomechanics and inflammation in atherosclerotic plaque erosion and plaque rupture: implications for cardiovascular events in women. *PLoS ONE*, **2014**, 9, e111785	3.7	20
39	Treatment planning for a TCPC test case: a numerical investigation under rigid and moving wall assumptions. *International Journal for Numerical Methods in Biomedical Engineering*, **2013**, 29, 197-216	2.6	18
38	Reduced models of the cardiovascular system **2009**, 347-394		18
37	Surgical planning of the total cavopulmonary connection: robustness analysis. *Annals of Biomedical Engineering*, **2015**, 43, 1321-34	4.7	17
36	Analysis of Inlet Velocity Profiles in Numerical Assessment of Fontan Hemodynamics. *Annals of Biomedical Engineering*, **2019**, 47, 2258-2270	4.7	16
35	Computational Fluid Dynamics Simulations of Hemodynamics in Plaque Erosion. *Cardiovascular Engineering and Technology*, **2013**, 4, 464	2.2	16
34	Multiscale models of the vascular system **2009**, 395-446		16
33	ALADINS: An ALgebraic splitting time ADaptive solver for the Incompressible Navier-Stokes equations. *Journal of Computational Physics*, **2013**, 238, 359-375	4.1	15
32	A mixed formulation of the Bingham fluid flow problem: Analysis and numerical solution. *Computer Methods in Applied Mechanics and Engineering*, **2011**, 200, 2434-2446	5.7	15
31	A fast preconditioner for the incompressible Navier Stokes Equations. *Computing and Visualization in Science*, **2004**, 6, 105-112	1	15
30	Association of Wall Shear Stress with Coronary Plaque Progression and Transformation. *Interventional Cardiology Clinics*, **2015**, 4, 491-502	1.4	14
29	Efficient estimation of cardiac conductivities: A proper generalized decomposition approach. *Journal of Computational Physics*, **2020**, 423, 109810	4.1	13
28	A patient-specific follow up study of the impact of thoracic endovascular repair (TEVAR) on aortic anatomy and on post-operative hemodynamics.. *Computers and Fluids*, **2016**, 141, 54-61	2.8	13
27	The effect of respiration-driven flow waveforms on hemodynamic metrics used in Fontan surgical planning. *Journal of Biomechanics*, **2019**, 82, 87-95	2.9	13
26	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	5.7	13
25	Biomechanical assessment of fully bioresorbable devices. *JACC: Cardiovascular Interventions*, **2013**, 6, 760-1	5	12

24	Numerical sensitivity analysis of a variational data assimilation procedure for cardiac conductivities. *Chaos*, **2017**, 27, 093930	3.3	12
23	Original Research: Sickle cell anemia and pediatric strokes: Computational fluid dynamics analysis in the middle cerebral artery. *Experimental Biology and Medicine*, **2016**, 241, 755-65	3.7	11
22	Hierarchical model reduction for incompressible fluids in pipes. *International Journal for Numerical Methods in Engineering*, **2018**, 114, 469-500	2.4	11
21	HiMod Reduction of Advection Diffusion Reaction Problems with General Boundary Conditions. *Journal of Scientific Computing*, **2018**, 76, 89-119	2.3	11
20	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	2.6	10
19	Novel 3-Dimensional Vessel and Scaffold Reconstruction Methodology for the Assessment of Strut-Level Wall Shear Stress After Deployment of Bioresorbable Vascular Scaffolds From the ABSORB III Imaging Substudy. *JACC: Cardiovascular Interventions*, **2016**, 9, 501-3	5	10
18	Assisted Fontan procedure: animal and in vitro models and computational fluid dynamics study. *Interactive Cardiovascular and Thoracic Surgery*, **2010**, 10, 679-84	1.8	10
17	Womersley number-based estimation of flow rate with Doppler ultrasound: sensitivity analysis and first clinical application. *Computer Methods and Programs in Biomedicine*, **2010**, 98, 151-60	6.9	10
16	Fluid-Structure Interaction Simulation of an Intra-Atrial Fontan Connection. *Biology*, **2020**, 9,	4.9	8
15	Platform and algorithm effects on computational fluid dynamics applications in life sciences. *Future Generation Computer Systems*, **2017**, 67, 382-396	7.5	7
14	A locally anisotropic fluid structure interaction remeshing strategy for thin structures with application to a hinged rigid leaflet. *International Journal for Numerical Methods in Engineering*, **2016**, 107, 155-180	2.4	7
13	Computational fluid dynamics applied to virtually deployed drug-eluting coronary bioresorbable scaffolds: Clinical translations derived from a proof-of-concept. *Global Cardiology Science & Practice*, **2014**, 2014, 428-36	0.7	5
12	Experiences with Target-Platform Heterogeneity in Clouds, Grids, and On-Premises Resources **2012** ,		5
11	Expression templates implementation of continuous and discontinuous Galerkin methods. *Computing and Visualization in Science*, **2009**, 12, 421-436	1	5
10	Corrosion detection in a 2D domain with a polygonal boundary. *Journal of Inverse and Ill-Posed Problems*, **2010**, 18, 281-305	1.3	3
9	Assessment of a Black-Box Approach for a Parallel Finite Elements Solver in Computational Hemodynamics **2015**,		2
8	Global Sensitivity Analysis for Patient-Specific Aortic Simulations: The Role of Geometry, Boundary Condition and Large Eddy Simulation Modeling Parameters. *Journal of Biomechanical Engineering*, **2021**, 143,	2.1	2
7	Numerical methods for polyline-to-point-cloud registration with applications to patient-specific stent reconstruction. *International Journal for Numerical Methods in Biomedical Engineering*, **2018**, 34, e2934	2.6	2

6	One-Dimensional Surrogate Models for Advection-Diffusion Problems. *Lecture Notes in Computational Science and Engineering*, **2015**, 447-455	0.3	1
5	Experimental Optimization of Parallel 3D Overlapping Domain Decomposition Schemes. *Lecture Notes in Computer Science*, **2016**, 138-149	0.9	1
4	Deconvolution-based stabilization of the incompressible Navier–Stokes equations. *Journal of Computational Physics*, **2019**, 391, 226-242	4.1	1
3	Mathematical and numerical modeling of focal cerebral ischemia. *Proceedings in Applied Mathematics and Mechanics*, **2007**, 7, 2120003-2120004	0.2	
2	A geometrical multiscale approach to the evaluation of hemodynamic risk factors for internal carotid artery aneurysm development.. *Proceedings in Applied Mathematics and Mechanics*, **2007**, 7, 2120013-2120014	0.2	
1	A multi-domain shear-stress dependent diffusive model of cell transport-aided dialysis: analysis and simulation. *Mathematical Biosciences and Engineering*, **2021**, 18, 8188-8200	2.1	