

# Christian Vergara

## List of Publications by Year in descending order

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59  
papers

1,612  
citations

279798

23  
h-index

330143

37  
g-index

62  
all docs

62  
docs citations

62  
times ranked

1243  
citing authors

#	ARTICLE	IF	CITATIONS
1	Computational Fluid-Structure Interaction Study of a New Wave Membrane Blood Pump. <i>Cardiovascular Engineering and Technology</i> , 2022, 13, 373-392.	1.6	5
2	Prediction of myocardial blood flow under stress conditions by means of a computational model. <i>European Journal of Nuclear Medicine and Molecular Imaging</i> , 2022, 49, 1894-1905.	6.4	5
3	3D-4D closed-loop model for the simulation of cardiac biventricular electromechanics. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2022, 391, 114607.	6.6	23
4	Computational electrophysiology of the coronary sinus branches based on electro-anatomical mapping for the prediction of the latest activated region. <i>Medical and Biological Engineering and Computing</i> , 2022, 60, 2307-2319.	2.8	2
5	A computational model applied to myocardial perfusion in the human heart: From large coronaries to microvasculature. <i>Journal of Computational Physics</i> , 2021, 424, 109836.	3.8	23
6	Modeling cardiac muscle fibers in ventricular and atrial electrophysiology simulations. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2021, 373, 113468.	6.6	58
7	Modeling the cardiac response to hemodynamic changes associated with COVID-19: a computational study. <i>Mathematical Biosciences and Engineering</i> , 2021, 18, 3364-3383.	1.9	5
8	A surrogate model for plaque modeling in carotids based on Robin conditions calibrated by cine MRI data. <i>International Journal for Numerical Methods in Biomedical Engineering</i> , 2021, 37, e3447.	2.1	6
9	Extended finite element method for fluid-structure interaction in wave membrane blood pump. <i>International Journal for Numerical Methods in Biomedical Engineering</i> , 2021, 37, e3467.	2.1	7
10	A Computational Fluid-Structure Interaction Study for Carotids With Different Atherosclerotic Plaques. <i>Journal of Biomechanical Engineering</i> , 2021, 143, .	1.3	11
11	On the Choice of Interface Parameters in Robin-Robin Loosely Coupled Schemes for Fluid-Structure Interaction. <i>Fluids</i> , 2021, 6, 213.	1.7	3
12	Mathematical Modeling and Numerical Simulation of Atherosclerotic Plaque Progression Based on Fluid-Structure Interaction. <i>Journal of Mathematical Fluid Mechanics</i> , 2021, 23, 1.	1.0	3
13	On the stability of a loosely-coupled scheme based on a Robin interface condition for fluid-structure interaction. <i>Computers and Mathematics With Applications</i> , 2021, 96, 109-119.	2.7	5
14	Image-Based Computational Hemodynamics Analysis of Systolic Obstruction in Hypertrophic Cardiomyopathy. <i>Frontiers in Physiology</i> , 2021, 12, 787082.	2.8	12
15	Image-Based Displacements Analysis and Computational Blood Dynamics after Endovascular Aneurysm Repair. <i>Annals of Vascular Surgery</i> , 2020, 69, 400-412.	0.9	5
16	Integration of activation maps of epicardial veins in computational cardiac electrophysiology. <i>Computers in Biology and Medicine</i> , 2020, 127, 104047.	7.0	11
17	An image-based computational hemodynamics study of the Systolic Anterior Motion of the mitral valve. <i>Computers in Biology and Medicine</i> , 2020, 123, 103922.	7.0	26
18	Computational Analysis of Turbulent Hemodynamics in Radiocephalic Arteriovenous Fistulas to Determine the Best Anastomotic Angles. <i>Annals of Vascular Surgery</i> , 2020, 68, 451-459.	0.9	5

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19	Wall Shear Stress Topological Skeleton Independently Predicts Long-Term Restenosis After Carotid Bifurcation Endarterectomy. <i>Annals of Biomedical Engineering</i> , 2020, 48, 2936-2949.	2.5	27
20	Optimized Schwarz Methods for Spherical Interfaces With Application to Fluid-Structure Interaction. <i>SIAM Journal of Scientific Computing</i> , 2020, 42, A751-A770.	2.8	7
21	Prediction of Long Term Restenosis Risk After Surgery in the Carotid Bifurcation by Hemodynamic and Geometric Analysis. <i>Annals of Biomedical Engineering</i> , 2019, 47, 1129-1140.	2.5	21
22	Numerical solution of fluid-structure interaction problems by means of a high order Discontinuous Galerkin method on polygonal grids. <i>Finite Elements in Analysis and Design</i> , 2019, 159, 1-14.	3.2	21
23	Assessing the Disturbed Flow and the Transition to Turbulence in the Arteriovenous Fistula. <i>Journal of Biomechanical Engineering</i> , 2019, 141, .	1.3	17
24	Computational fluid dynamic comparison between patch-based and primary closure techniques after carotid endarterectomy. <i>Journal of Vascular Surgery</i> , 2018, 67, 887-897.	1.1	19
25	An Unfitted Formulation for the Interaction of an Incompressible Fluid with a Thick Structure via an XFEM/DG Approach. <i>SIAM Journal of Scientific Computing</i> , 2018, 40, B59-B84.	2.8	20
26	Computational Comparison Between Newtonian and Non-Newtonian Blood Rheologies in Stenotic Vessels. <i>Lecture Notes in Applied and Computational Mechanics</i> , 2018, , 169-183.	2.2	20
27	Extended Finite Elements Method for Fluid-Structure Interaction with an Immersed Thick Non-linear Structure. <i>SEMA SIMAI Springer Series</i> , 2018, , 209-243.	0.7	1
28	Defective Boundary Conditions for PDEs with Applications in Haemodynamics. <i>SEMA SIMAI Springer Series</i> , 2018, , 285-312.	0.7	0
29	Numerical approximation of the electromechanical coupling in the left ventricle with inclusion of the Purkinje network. <i>International Journal for Numerical Methods in Biomedical Engineering</i> , 2018, 34, e2984.	2.1	15
30	Large eddy simulations for blood dynamics in realistic stenotic carotids. <i>International Journal for Numerical Methods in Biomedical Engineering</i> , 2017, 33, e2868.	2.1	34
31	Computational Fluid-Dynamic Analysis after Carotid Endarterectomy: Patch Graft versus Direct Suture Closure. <i>Annals of Vascular Surgery</i> , 2017, 44, 325-335.	0.9	13
32	Shear stress alterations in the celiac trunk of patients with a continuous-flow left ventricular assist device as shown by in-silico and in-vitro flow analyses. <i>Journal of Heart and Lung Transplantation</i> , 2017, 36, 906-913.	0.6	26
33	A computational fluid-structure interaction analysis of coronary Y-grafts. <i>Medical Engineering and Physics</i> , 2017, 47, 117-127.	1.7	21
34	Large eddy simulations of blood dynamics in abdominal aortic aneurysms. <i>Medical Engineering and Physics</i> , 2017, 47, 38-46.	1.7	37
35	Computational study of the risk of restenosis in coronary bypasses. <i>Biomechanics and Modeling in Mechanobiology</i> , 2017, 16, 313-332.	2.8	15
36	Regarding "Closure technique after carotid endarterectomy influences local hemodynamics". <i>Journal of Vascular Surgery</i> , 2016, 63, 1409.	1.1	1

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37	Computational study of the fluid-dynamics in carotids before and after endarterectomy. <i>Journal of Biomechanics</i> , 2016, 49, 26-38.	2.1	31
38	A coupled 3D-1D numerical monodomain solver for cardiac electrical activation in the myocardium with detailed Purkinje network. <i>Journal of Computational Physics</i> , 2016, 308, 218-238.	3.8	29
39	Analysis and optimization of the generalized Schwarz method for elliptic problems with application to fluid-structure interaction. <i>Numerische Mathematik</i> , 2015, 131, 369-404.	1.9	13
40	Computational generation of the Purkinje network driven by clinical measurements: The case of pathological propagations. <i>International Journal for Numerical Methods in Biomedical Engineering</i> , 2014, 30, 1558-1577.	2.1	23
41	Patient-specific generation of the Purkinje network driven by clinical measurements of a normal propagation. <i>Medical and Biological Engineering and Computing</i> , 2014, 52, 813-826.	2.8	44
42	Inexact accurate partitioned algorithms for fluid-structure interaction problems with finite elasticity in haemodynamics. <i>Journal of Computational Physics</i> , 2014, 273, 598-617.	3.8	31
43	Impact of hemodynamics on lumen boundary displacements in abdominal aortic aneurysms by means of dynamic computed tomography and computational fluid dynamics. <i>Biomechanics and Modeling in Mechanobiology</i> , 2013, 12, 1263-1276.	2.8	23
44	Time accurate partitioned algorithms for the solution of fluid-structure interaction problems in haemodynamics. <i>Computers and Fluids</i> , 2013, 86, 470-482.	2.5	38
45	Helical flows and asymmetry of blood jet in dilated ascending aorta with normally functioning bicuspid valve. <i>Biomechanics and Modeling in Mechanobiology</i> , 2013, 12, 801-813.	2.8	52
46	Prescription of General Defective Boundary Conditions in Fluid-Dynamics. <i>Milan Journal of Mathematics</i> , 2012, 80, 333-350.	1.1	17
47	Partitioned Algorithms for Fluid-Structure Interaction Problems in Haemodynamics. <i>Milan Journal of Mathematics</i> , 2012, 80, 443-467.	1.1	28
48	Influence of Bicuspid Valve Geometry on Ascending Aortic Fluid Dynamics: A Parametric Study. <i>Artificial Organs</i> , 2012, 36, 368-378.	1.9	53
49	A Variational Approach for Estimating the Compliance of the Cardiovascular Tissue: An Inverse Fluid-Structure Interaction Problem. <i>SIAM Journal of Scientific Computing</i> , 2011, 33, 1181-1211.	2.8	49
50	Nitsche's Method for Defective Boundary Value Problems in Incompressible Fluid-dynamics. <i>Journal of Scientific Computing</i> , 2011, 46, 100-123.	2.3	20
51	Womersley Number-Based Estimates of Blood Flow Rate in Doppler Analysis: In Vivo Validation by Means of Phase-Contrast MRI. <i>IEEE Transactions on Biomedical Engineering</i> , 2010, 57, 1807-1815.	4.2	41
52	Womersley number-based estimation of flow rate with Doppler ultrasound: Sensitivity analysis and first clinical application. <i>Computer Methods and Programs in Biomedicine</i> , 2010, 98, 151-160.	4.7	12
53	Comparative Finite Element Model Analysis of Ascending Aortic Flow in Bicuspid and Tricuspid Aortic Valve. <i>Artificial Organs</i> , 2010, 34, 1114-1120.	1.9	78
54	Analysis and Optimization of Robin-Robin Partitioned Procedures in Fluid-Structure Interaction Problems. <i>SIAM Journal on Numerical Analysis</i> , 2010, 48, 2091-2116.	2.3	56

#	ARTICLE	IF	CITATIONS
55	Robin-Robin preconditioned Krylov methods for fluid-structure interaction problems. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2009, 198, 2768-2784.	6.6	88
56	Fluid-structure partitioned procedures based on Robin transmission conditions. <i>Journal of Computational Physics</i> , 2008, 227, 7027-7051.	3.8	212
57	Multiscale Boundary Conditions for Drug Release from Cardiovascular Stents. <i>Multiscale Modeling and Simulation</i> , 2008, 7, 565-588.	1.6	31
58	A New Approach to Numerical Solution of Defective Boundary Value Problems in Incompressible Fluid Dynamics. <i>SIAM Journal on Numerical Analysis</i> , 2008, 46, 2769-2794.	2.3	40
59	Reliable CFD-based estimation of flow rate in haemodynamics measures. <i>Ultrasound in Medicine and Biology</i> , 2006, 32, 1545-1555.	1.5	29