Joaquim Peiro

List of Publications by Year
in descending order

100 papers	4,499 citations	136950 32 h-index	110387 64 g-index
104 all docs	104 docs citations	104 times ranked	2594 citing authors

#	Article	IF	Citations
1	Modelling the circle of Willis to assess the effects of anatomical variations and occlusions on cerebral flows. Journal of Biomechanics, 2007, 40, 1794-1805.	2.1	356
2	One-dimensional modelling of a vascular network in space-time variables. Journal of Engineering Mathematics, 2003, 47, 217-250.	1.2	348
3	Finite element Euler computations in three dimensions. International Journal for Numerical Methods in Engineering, 1988, 26, 2135-2159.	2.8	286
4	Pulse wave propagation in a model human arterial network: Assessment of 1-D visco-elastic simulations against in vitro measurements. Journal of Biomechanics, 2011, 44, 2250-2258.	2.1	277
5	Computational modelling of 1D blood flow with variable mechanical properties and its application to the simulation of wave propagation in the human arterial system. International Journal for Numerical Methods in Fluids, 2003, 43, 673-700.	1.6	246
6	Pulse wave propagation in a model human arterial network: Assessment of 1-D numerical simulations against in vitro measurements. Journal of Biomechanics, 2007, 40, 3476-3486.	2.1	223
7	A free-surface and blockage correction for tidal turbines. Journal of Fluid Mechanics, 2009, 624, 281-291.	3.4	181
8	Adaptive remeshing for three-dimensional compressible flow computations. Journal of Computational Physics, 1992, 103, 269-285.	3.8	154
9	Mesh generation in curvilinear domains using high-order elements. International Journal for Numerical Methods in Engineering, 2002, 53, 207-223.	2.8	130
10	Linear dispersionâ€“diffusion analysis and its application to under-resolved turbulence simulations using discontinuous Galerkin spectral/hp methods. Journal of Computational Physics, 2015, 298, 695-710.	3.8	117
11	On the eddy-resolving capability of high-order discontinuous Galerkin approaches to implicit LES / under-resolved DNS of Euler turbulence. Journal of Computational Physics, 2017, 330, 615-623.	3.8	105
12	Reduced modelling of blood flow in the cerebral circulation: Coupling 1â€Ð, 0â€Ð and cerebral autoâ€regulation models. International Journal for Numerical Methods in Fluids, 2008, 56, 1061-1067.	1.6	95
13	Analysing the pattern of pulse waves in arterial networks: a time-domain study. Journal of Engineering Mathematics, 2009, 64, 331-351.	1.2	88
14	On the influence of virtual camber effect on airfoil polars for use in simulations of Darrieus wind turbines. Energy Conversion and Management, 2015, 106, 373-384.	9.2	86
15	Nektar++: Enhancing the capability and application of high-fidelity spectral/<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline" id="d1e862" altimg="si5.svg"><mml:mrow><mml:mi>h</mml:mi><mml:mi>p</mml:mi></mml:mrow></mml:math> element methods. Computer Physics Communications, 2020, 249, 107110.	7.5	82
16	The Influence of Out-of-Plane Geometry on the Flow Within a Distal End-to-Side Anastomosis. Journal of Biomechanical Engineering, 2000, 122, 86-95.	1.3	79
17	On discontinuous Galerkin methods. International Journal for Numerical Methods in Engineering, 2003, 58, 1119-1148.	2.8	76
18	A 3D finite element multigrid solver for the Euler equations. , 1992, , .		69

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19	A comparative study on polynomial dealiasing and split form discontinuous Galerkin schemes for under-resolved turbulence computations. Journal of Computational Physics, 2018, 372, 1-21.	3.8	69
20	The computation of three-dimensional flows using unstructured grids. Computer Methods in Applied Mechanics and Engineering, 1991, 87, 335-352.	6.6	68
21	Physical determining factors of the arterial pulse waveform: theoretical analysis and calculation using the 1-D formulation. Journal of Engineering Mathematics, 2012, 77, 19-37.	1.2	58
22	An isoparametric approach to high-order curvilinear boundary-layer meshing. Computer Methods in Applied Mechanics and Engineering, 2015, 283, 636-650.	6.6	56
23	Multigrid solution of the 3-D compressible euler equations on unstructured tetrahedral grids. International Journal for Numerical Methods in Engineering, 1993, 36, 1029-1044.	2.8	54
24	Simulating longitudinal ventilation flows in long tunnels: Comparison of full CFD and multi-scale modelling approaches in FDS6. Tunnelling and Underground Space Technology, 2016, 52, 119-126.	6.2	54
25	Eigensolution analysis of spectral/hp continuous Galerkin approximations to advectionâ€“diffusion problems: Insights into spectral vanishing viscosity. Journal of Computational Physics, 2016, 307, 401-422.	3.8	53
26	Long duration SPH simulations of sloshing in tanks with a low fill ratio and high stretching. Computers and Fluids, 2018, 174, 179-199.	2.5	52
27	High-order curvilinear meshing using a thermo-elastic analogy. CAD Computer Aided Design, 2016, 72, 130-139.	2.7	49
28	Local and Global Geometric Influence on Steady Flow in Distal Anastomoses of Peripheral Bypass Grafts. Journal of Biomechanical Engineering, 2005, 127, 1087-1098.	1.3	43
29	TVD algorithms for the solution of the compressible Euler equations on unstructured meshes. International Journal for Numerical Methods in Fluids, 1994, 19, 827-847.	1.6	39
30	Spatial eigensolution analysis of discontinuous Galerkin schemes with practical insights for under-resolved computations and implicit LES. Computers and Fluids, 2018, 169, 349-364.	2.5	39
31	Curvilinear mesh generation using a variational framework. CAD Computer Aided Design, 2018, 103, 73-91.	2.7	38
32	On 2D elliptic discontinuous Galerkin methods. International Journal for Numerical Methods in Engineering, 2006, 65, 752-784.	2.8	34
33	Nonlinear Particle Tracking for High-Order Elements. Journal of Computational Physics, 2001, 172, 356-386.	3.8	33
34	Camber effects in the dynamic aeroelasticity of compliant airfoils. Journal of Fluids and Structures, 2010, 26, 527-543.	3.4	33
35	An Experimental and Numerical Assessment of Airfoil Polars for Use in Darrieus Wind Turbinesâ€”Part I: Flow Curvature Effects. Journal of Engineering for Gas Turbines and Power, 2016, 138, .	1.1	33
36	A smoothed particle hydrodynamics numerical scheme with a consistent diffusion term for the continuity equation. Computers and Fluids, 2019, 179, 632-644.	2.5	30

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37	Automated classification of peripheral distal by-pass geometries reconstructed from medical data. Journal of Biomechanics, 2005, 38, 47-62.	2.1	27
38	Vortical Flow Structure Identification and Flow Transport in Arteries. Computer Methods in Biomechanics and Biomedical Engineering, 2002, 5, 261-273.	1.6	26
39	On the segmentation of vascular geometries from medical images. International Journal for Numerical Methods in Biomedical Engineering, 2010, 26, 3-34.	2.1	26
40	An assessment of some effects of the nonsmoothness of the Leishmanâ€“Beddoes dynamic stall model on the nonlinear dynamics of a typical aerofoil section. Journal of Fluids and Structures, 2008, 24, 151-163.	3.4	25
41	Reduced models of the cardiovascular system. , 2009, , 347-394.		25
42	Can the modified Allen's test always detect sufficient collateral flow in the hand? A computational study. Computer Methods in Biomechanics and Biomedical Engineering, 2006, 9, 353-361.	1.6	23
43	Modelling pulse wave propagation in the rabbit systemic circulation to assess the effects of altered nitric oxide synthesis. Journal of Biomechanics, 2009, 42, 2116-2123.	2.1	23
44	Combined MR imaging and numerical simulation of flow in realistic arterial bypass graft models. Biorheology, 2002, 39, 525-31.	0.4	23
45	A Thermo-elastic Analogy for High-order Curvilinear Meshing with Control of Mesh Validity and Quality. Procedia Engineering, 2014, 82, 127-135.	1.2	22
46	Spatial eigenanalysis of spectral/hp continuous Galerkin schemes and their stabilisation via DG-mimicking spectral vanishing viscosity for high Reynolds number flows. Journal of Computational Physics, 2020, 406, 109112.	3.8	22
47	An Experimental and Numerical Assessment of Airfoil Polars for Use in Darrieus Wind Turbinesâ€”Part II: Post-stall Data Extrapolation Methods. Journal of Engineering for Gas Turbines and Power, 2016, 138, .	1.1	21
48	Reconstruction of shape and its effect on flow in arterial conduits. International Journal for Numerical Methods in Fluids, 2008, 57, 495-517.	1.6	20
49	Smooth particle hydrodynamics simulations of long-duration violent three-dimensional sloshing in tanks. Ocean Engineering, 2021, 229, 108925.	4.3	20
50	High-order algorithms for vascular flow modelling. International Journal for Numerical Methods in Fluids, 2002, 40, 137-151.	1.6	19
51	Shape reconstruction from medical images and quality mesh generation via implicit surfaces. International Journal for Numerical Methods in Fluids, 2007, 53, 1339-1360.	1.6	18
52	Industry-Relevant Implicit Large-Eddy Simulation of a High-Performance Road Car via Spectral/hp Element Methods. SIAM Review, 2021, 63, 723-755.	9.5	18
53	Advancing Front Grid Generation. , 1998, , .		16
54	Blockage-tolerant wind tunnel measurements for a NACA 0012 at high angles of attack. Journal of Wind Engineering and Industrial Aerodynamics, 2015, 145, 209-218.	3.9	16

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55	A Variational Framework for High-order Mesh Generation. Procedia Engineering, 2016, 163, 340-352.	1.2	16
56	Nektar++: Design and implementation of an implicit, spectral/<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline" id="d1e2298" altimg="si5.svg"><mml:mrow><mml:mi>h</mml:mi><mml:mi>p</mml:mi></mml:mrow></mml:math> element, compressible flow solver using a Jacobian-free Newton Krylov approach. Computers and Mathematics With Applications, 2021, 81, 351-372.	2.7	15
57	Automatic reconstruction of a patient-specific high-order surface representation and its application to mesh generation for CFD calculations. Medical and Biological Engineering and Computing, 2008, 46, 1069-1083.	2.8	14
58	A comparison of the shared-memory parallel programming models OpenMP, OpenACC and Kokkos in the context of implicit solvers for high-order FEM. Computer Physics Communications, 2020, 255, 107245.	7.5	14
59	Three-dimensional reconstruction of autologous vein bypass graft distal anastomoses imaged with magnetic resonance: clinical and research applications. Journal of Vascular Surgery, 2003, 38, 621-625.	1.1	13
60	Assessment of added mass effects on flutter boundaries using the Leishmanâ€“Beddoes dynamic stall model. Journal of Fluids and Structures, 2010, 26, 814-840.	3.4	12
61	Applications of an adaptive unstructured solution algorithm to the analysis of high speed flows. , 1990, , .		11
62	Optimisation of aerodynamic and coupled aerodynamic-structural design using parallel Genetic Algorithms. , 1996, , .		11
63	A p-adaptation method for compressible flow problems using a goal-based error indicator. Computers and Structures, 2017, 181, 55-69.	4.4	11
64	The geometry of unstented and stented pig common carotid artery bypass grafts. Biorheology, 2002, 39, 507-12.	0.4	11
65	Design optimisation using distributed evolutionary methods. , 1999, , .		10
66	A Reparameterisation Based Approach to Geodesic Constrained Solvers for Curve Matching. International Journal of Computer Vision, 2012, 99, 103-121.	15.6	9
67	An Experimental and Numerical Assessment of Airfoil Polars for Use in Darrieus Wind Turbines: Part 1 â€” Flow Curvature Effects. , 2015, , .		9
68	Accelerating high-order mesh optimisation with an architecture-independent programming model. Computer Physics Communications, 2018, 229, 36-53.	7.5	9
69	A framework for the generation of high-order curvilinear hybrid meshes for CFD simulations. Procedia Engineering, 2017, 203, 206-218.	1.2	8
70	Adaptive mesh refinement for faceted shells. Communications in Applied Numerical Methods, 1992, 8, 319-329.	0.5	7
71	Surface Grid Generation. , 1998, , .		7
72	An LES Setting for DG-Based Implicit LES with Insights on Dissipation and Robustness. Lecture Notes in Computational Science and Engineering, 2017, , 161-173.	0.3	7

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73	Effect of differential compression on in-plane permeability tensor of heterogeneous multilayer carbon fibre preforms. Plastics, Rubber and Composites, 2009, 38, 1-9.	2.0	6
74	rpâ€adaptation for compressible flows. International Journal for Numerical Methods in Engineering, 2020, 121, 5405-5425.	2.8	6
75	Remarks on the nonlinear dynamics of a typical aerofoil section in dynamic stall. Aeronautical Journal, 2007, 111, 731-739.	1.6	5
76	AUTOMATIC GENERATION OF 3D UNSTRUCTURED HIGH-ORDER CURVILINEAR MESHE. , 2016, , .		5
77	On the treatment of transient area variation in 1D discontinuous Galerkin simulations of trainâ€induced pressure waves in tunnels. International Journal for Numerical Methods in Fluids, 2013, 71, 151-174.	1.6	4
78	Curvilinear Mesh Generation for Boundary Layer Problems. Notes on Numerical Fluid Mechanics and Multidisciplinary Design, 2015, , 41-64.	0.3	4
79	High-Order Visualization with ElVis. Notes on Numerical Fluid Mechanics and Multidisciplinary Design, 2015, , 521-534.	0.3	4
80	On the Generation of Curvilinear Meshes Through Subdivision of Isoparametric Elements. SEMA SIMAI Springer Series, 2015, , 203-215.	0.7	4
81	Poststall Airfoil Performance and Vertical-Axis Wind Turbines. Journal of Propulsion and Power, 2017, 33, 1053-1062.	2.2	4
82	A high resolution PDE approach to quadrilateral mesh generation. Journal of Computational Physics, 2019, 399, 108918.	3.8	4
83	Modified Equation Analysis for the Discontinuous Galerkin Formulation. Lecture Notes in Computational Science and Engineering, 2015, , 375-383.	0.3	4
84	Unsteady near wall residence times and shear exposure in model distal arterial bypass grafts. Biorheology, 2002, 39, 365-71.	0.4	4
85	FINITE-ELEMENT MULTIGRID SCHEME FOR THE NAVIER-STOKES SOLUTIONS, PART I: NEW UNSTRUCTURED MESH GENERATION BASED ON CONTOURS REFINEMENT. Numerical Heat Transfer, Part B: Fundamentals, 1998, 34, 61-80.	0.9	3
86	Computational haemodynamics: geometry and non-newtonian modelling using spectral/hp element methods. Computing and Visualization in Science, 2000, 3, 77-83.	1.2	3
87	Towards p-Adaptive Spectral/hp Element Methods for Modelling Industrial Flows. Lecture Notes in Computational Science and Engineering, 2017, , 63-79.	0.3	3
88	Distributed evolutionary computational methods for multiobjective and multidisciplinary optimization. , 1998, , .		3
89	From image data to computational domains. , 2009, , 123-175.		2
90	Impact of the Fibre Bed on Resin Viscosity in Liquid Composite Moulding Simulations. Applied Composite Materials, 2012, 19, 669-688.	2.5	2

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91	High-order curvilinear hybrid mesh generation for CFD simulations. , 2018, , .		2
92	A semi-structured approach to curvilinear mesh generation around streamlined bodies. , 2019, , .		2
93	Unexpected Oscillations in Fire Modelling Inside a Long Tunnel. Fire Technology, 2020, 56, 1937-1941.	3.0	2
94	FINITE-ELEMENT MULTIGRID SCHEME FOR THE NAVIER-STOKES SOLUTIONS, PART II: FORMULATION AND VALIDATION. Numerical Heat Transfer, Part B: Fundamentals, 1998, 34, 81-101.	0.9	1
95	Reducing errors caused by geometrical inaccuracy to solve partial differential equations with moving frames on curvilinear domain. Computer Methods in Applied Mechanics and Engineering, 2022, 398, 115261.	6.6	1
96	A Level Set Method for the Construction of Boundary Conforming Voronoi Regions and Delaunay Triangulations Governed by a Spatial Distribution of Metrics. Journal of Computing and Information Science in Engineering, 2014, 14, .	2.7	0
97	Vertical-Axis Wind Turbine Start-Up Modelled with a High-Order Numerical Solver. Springer Tracts in Mechanical Engineering, 2015, , 37-48.	0.3	0
98	Towards a performance-portable high-order implicit flow solver. , 2019, , .		0
99	Supervised Evolutionary Methods in Aerodynamic Design Optimisation. Lecture Notes in Computer Science, 2000, , 360-369.	1.3	0
100	The Computation of Aerodynamic Flows Using Unstructured Meshes. , 1991, , 452-464.		0