Guillaume Houzeaux

List of Publications by Year
in descending order

116	2,336	218677	254184
papers	citations	26 h-index	43 g-index

123	123	123	1955
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Concomitant Respiratory Failure Can Impair Myocardial Oxygenation in Patients with Acute Cardiogenic Shock Supported by VA-ECMO. Journal of Cardiovascular Translational Research, 2022, 15, 217-226.	2.4	15
2	Computational modelling of an aerosol extraction device for use in COVID-19 surgical tracheotomy. Journal of Aerosol Science, 2022, 159, 105848.	3.8	5
3	Validation of tsunami numerical simulation models for an idealized coastal industrial site. Coastal Engineering Journal, 2022, 64, 302-343.	1.9	4
4	Dynamic resource allocation for efficient parallel CFD simulations. Computers and Fluids, 2022, 245, 105577.	2.5	3
5	Fluidâ€“structure interaction of human nasal valves under sniff conditions and transport of inhaled aerosols: A numerical study. Journal of Aerosol Science, 2022, 165, 106040.	3.8	0
6	Computational modelling of nasal respiratory flow. Computer Methods in Biomechanics and Biomedical Engineering, 2021, 24, 440-458.	1.6	14
7	A Review of Domain Decomposition Methods for Simulation of Fluid Flows: Concepts, Algorithms, and Applications. Archives of Computational Methods in Engineering, 2021, 28, 841-873.	10.2	24
8	A phase-field model for ductile fracture with shear bands: A parallel implementation. International Journal of Mechanical Sciences, 2021, 200, 106424.	6.7	25
9	Vortex induced vibrations of a pivoted finite height cylinder at low Reynolds number. Physics of Fluids, 2021, 33, .	4.0	6
10	Validations of the radiation transport module NEUTRO: A deterministic solver for the neutron transport equation. Fusion Engineering and Design, 2021, 169, 112497.	1.9	1
11	Large eddy simulation of cough jet dynamics, droplet transport, and inhalability over a ten minute exposure. Physics of Fluids, 2021, 33, 125122.	4.0	14
12	Wallâ€modeled largeâ€eddy simulation in a finite element framework. International Journal for Numerical Methods in Fluids, 2020, 92, 20-37.	1.6	20
13	Runtime mechanisms to survive new HPC architectures: A use case in human respiratory simulations. International Journal of High Performance Computing Applications, 2020, 34, 42-56.	3.7	15
14	Numerical Characterization of a Premixed Hydrogen Flame Under Conditions Close to Flashback. Flow, Turbulence and Combustion, 2020, 104, 479-507.	2.6	15
15	A Generic Performance Analysis Technique Applied to Different CFD Methods for HPC. International Journal of Computational Fluid Dynamics, 2020, 34, 508-528.	1.2	11
16	High Performance Computing Techniques in CFD. International Journal of Computational Fluid Dynamics, 2020, 34, 457-457.	1.2	2
17	Remoras pick where they stick on blue whales. Journal of Experimental Biology, 2020, 223, .	1.7	14
18	HPC compact quasi-Newton algorithm for interface problems. Journal of Fluids and Structures, 2020, 96, 103009.	3.4	10

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19	Dynamic Mode Decomposition Analysis of High-Fidelity CFD Simulations of the Sinus Ventilation. Flow, Turbulence and Combustion, 2020, 105, 699-713.	2.6	9
20	Impact of sleeping position, gravitational force & effective tissue stiffness on obstructive sleep apnoea. Journal of Biomechanics, 2020, 104, 109715.	2.1	12
21	Parallel Multiphysics Coupling: Algorithmic and Computational Performances. International Journal of Computational Fluid Dynamics, 2020, 34, 486-507.	1.2	1
22	Sensitivity analysis of a strongly-coupled human-based electromechanical cardiac model: Effect of mechanical parameters on physiologically relevant biomarkers. Computer Methods in Applied Mechanics and Engineering, 2020, 361, 112762.	6.6	52
23	Heterogeneous CPU/GPU co-execution of CFD simulations on the POWER9 architecture: Application to airplane aerodynamics. Future Generation Computer Systems, 2020, 107, 31-48.	7.5	23
24	On the formation of Taylor-GÃ¶rtler structures in the vortex induced vibration phenomenon. International Journal of Heat and Fluid Flow, 2020, 83, 108573.	2.4	4
25	Benchmarking of state-of-the-art HPC Clusters with a Production CFD Code. , 2020, , .		7
26	Wakes and Instabilities of Static and Freely Vibrating Cylinders. ERCOFTAC Series, 2020, , 49-59.	0.1	0
27	Large-Eddy Simulation of Primary Atomization Using an Entropy Stable Conservative Level Set. ERCOFTAC Series, 2020, , 207-213.	0.1	0
28	Nasal sprayed particle deposition in a human nasal cavity under different inhalation conditions. PLoS ONE, 2019, 14, e0221330.	2.5	52
29	On the extension of the integral length-scale approximation model to complex geometries. International Journal of Heat and Fluid Flow, 2019, 78, 108422.	2.4	6
30	MPI+X: task-based parallelisation and dynamic load balance of finite element assembly. International Journal of Computational Fluid Dynamics, 2019, 33, 115-136.	1.2	10
31	A low-dissipation finite element scheme for scale resolving simulations of turbulent flows. Journal of Computational Physics, 2019, 390, 51-65.	3.8	60
32	Modeling the damped dynamic behavior of a flexible pendulum. Journal of Strain Analysis for Engineering Design, 2019, 54, 116-129.	1.8	10
33	Parallel SFC-based mesh partitioning and load balancing. , 2019, , .		1
34	Numerical evaluation of aerosol exhalation through nose treatment. Journal of Aerosol Science, 2019, 128, 1-13.	3.8	8
35	A Parallel Implementation for Solving the Fluid and Rigid Body Interaction. Communications in Computer and Information Science, 2019, , 302-317.	0.5	0
36	Extension of the parallel Sparse Matrix Vector Product (SpMV) for the implicit coupling of PDEs on non-matching meshes. Computers and Fluids, 2018, 173, 216-225.	2.5	11

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37	Large-eddy simulations of the vortex-induced vibration of a low mass ratio two-degree-of-freedom circular cylinder at subcritical Reynolds numbers. Computers and Fluids, 2018, 173, 118-132.	2.5	40
38	Parallel mesh partitioning based on space filling curves. Computers and Fluids, 2018, 173, 264-272.	2.5	34
39	The Effect of Partial Premixing and Heat Loss on the Reacting Flow Field Prediction of a Swirl Stabilized Gas Turbine Model Combustor. Flow, Turbulence and Combustion, 2018, 100, 503-534.	2.6	16
40	Subject-variability effects on micron particle deposition in human nasal cavities. Journal of Aerosol Science, 2018, 115, 12-28.	3.8	42
41	Fluid-Structure Interaction Based on HPC Multicode Coupling. SIAM Journal of Scientific Computing, 2018, 40, C677-C703.	2.8	17
42	Flow features and micro-particle deposition in a human respiratory system during sniffing. Journal of Aerosol Science, 2018, 123, 171-184.	3.8	36
43	New high performance computing software for multiphysics simulations of fusion reactors. Fusion Engineering and Design, 2018, 136, 639-644.	1.9	3
44	Left Ventricular Trabeculations Decrease the Wall Shear Stress and Increase the Intra-Ventricular Pressure Drop in CFD Simulations. Frontiers in Physiology, 2018, 9, 458.	2.8	29
45	Evaluating the roles of detailed endocardial structures on right ventricular haemodynamics by means of CFD simulations. International Journal for Numerical Methods in Biomedical Engineering, 2018, 34, e3115.	2.1	8
46	Heat loss prediction of a confined premixed jet flame using a conjugate heat transfer approach. International Journal of Heat and Mass Transfer, 2017, 107, 882-894.	4.8	18
47	ParaView + Alya + D8tree: Integrating High Performance Computing and High Performance Data Analytics. Procedia Computer Science, 2017, 108, 465-474.	2.0	2
48	Domain Decomposition Methods for Domain Composition Purpose: Chimera, Overset, Gluing and Sliding Mesh Methods. Archives of Computational Methods in Engineering, 2017, 24, 1033-1070.	10.2	23
49	Subdividing triangular and quadrilateral meshes in parallel to approximate curved geometries. Procedia Engineering, 2017, 203, 310-322.	1.2	5
50	Development of a dynamic model for natural ventilated photovoltaic components and of a data driven approach to validate and identify the model parameters. Solar Energy, 2016, 129, 310-331.	6.1	5
51	Dynamic load balance applied to particle transport in fluids. International Journal of Computational Fluid Dynamics, 2016, 30, 408-418.	1.2	20
52	A Review of Element-Based Galerkin Methods for Numerical Weather Prediction: Finite Elements, Spectral Elements, and Discontinuous Galerkin. Archives of Computational Methods in Engineering, 2016, 23, 673-722.	10.2	44
53	Alya: Multiphysics engineering simulation toward exascale. Journal of Computational Science, 2016, 14, 15-27.	2.9	144
54	Local preconditioning and variational multiscale stabilization for Euler compressible steady flow. Computer Methods in Applied Mechanics and Engineering, 2016, 305, 468-500.	6.6	5

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55	Fourier stability analysis and local Courant number of the preconditioned variational multiscale stabilization (P-VMS) for Euler compressible flow. Computer Methods in Applied Mechanics and Engineering, 2016, 301, 28-51.	6.6	4
56	Large-scale CFD simulations of the transitional and turbulent regime for the large human airways during rapid inhalation. Computers in Biology and Medicine, 2016, 69, 166-180.	7.0	89
57	Heat Transfer Effects on a Fully Premixed Methane Impinging Flame. Flow, Turbulence and Combustion, 2016, 97, 339-361.	2.6	9
58	Implementation of discrete adjoint method for parameter sensitivity analysis in chemically reacting flows. , 2016, , .		0
59	Turbulent Combustion Modelling of a Confined Premixed Methane/Air Jet Flame Using Tabulated Chemistry. Energy Procedia, 2015, 66, 313-316.	1.8	7
60	Broadcast-Enabled Massive Multicore Architectures: A Wireless RF Approach. IEEE Micro, 2015, 35, 52-61.	1.8	33
61	A gluing method for non-matching meshes. Computers and Fluids, 2015, 110, 159-168.	2.5	3
62	An XFEM/CZM implementation for massively parallel simulations of composites fracture. Composite Structures, 2015, 125, 542-557.	5.8	36
63	Alya: Computational Solid Mechanics for Supercomputers. Archives of Computational Methods in Engineering, 2015, 22, 557-576.	10.2	28
64	Parallel embedded boundary methods for fluid and rigid-body interaction. Computer Methods in Applied Mechanics and Engineering, 2015, 290, 387-419.	6.6	14
65	Dynamics of airflow in a short inhalation. Journal of the Royal Society Interface, 2015, 12, 20140880.	3.4	50
66	Turbulent combustion modelling of a confined premixed jet flame including heat loss effects using tabulated chemistry. Applied Energy, 2015, 156, 804-815.	10.1	29
67	Analysis of hemodynamics and wall mechanics at sites of cerebral aneurysm rupture. Journal of NeuroInterventional Surgery, 2015, 7, 530-536.	3.3	79
68	Alya Red CCM: HPC-Based Cardiac Computational Modelling. Environmental Science and Engineering, 2015, , 189-207.	0.2	6
69	Unveiling WARIS Code, a Parallel and Multi-purpose FDM Framework. Lecture Notes in Computational Science and Engineering, 2015, , 591-599.	0.3	0
70	GS3-4 Dynamic flow in the large airways during a rapid inhalation(GS3: Cardiovascular and) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 147 Tc Emerging Science and Technology in Biomechanics, 2015, 2015.8, 157.	0.0	0
71	Algebraic multigrid preconditioning within parallel finite-element solvers for 3-D electromagnetic modelling problems in geophysics. Geophysical Journal International, 2014, 197, 1442-1458.	2.4	29
72	A Chimera method for the incompressible Navierâ€“Stokes equations. International Journal for Numerical Methods in Fluids, 2014, 75, 155-183.	1.6	16

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73	Alya Multiphysics Simulations on Intelâ€™s Xeon Phi Accelerators. Communications in Computer and Information Science, 2014, , 248-254.	0.5	1
74	Simulations of moist convection by a variational multiscale stabilized finite element method. Journal of Computational Physics, 2013, 252, 195-218.	3.8	17
75	A Gluing Method for Non-matching Meshes. Procedia Engineering, 2013, 61, 258-263.	1.2	0
76	Parallel uniform mesh multiplication applied to a Navierâ€“Stokes solver. Computers and Fluids, 2013, 80, 142-151.	2.5	38
77	A parallel coupling strategy for the Chimera and domain decomposition methods in computational mechanics. Computers and Fluids, 2013, 80, 128-141.	2.5	12
78	A Parallel CFD Model for Wind Farms. Procedia Computer Science, 2013, 18, 2157-2166.	2.0	23
79	Recent ship hydrodynamics developments in the parallel two-fluid flow solver Alya. Computers and Fluids, 2013, 80, 168-177.	2.5	6
80	A variational multiscale stabilized finite element method for the solution of the Euler equations of nonhydrostatic stratified flows. Journal of Computational Physics, 2013, 236, 380-407.	3.8	23
81	Numerical analysis of the most appropriate heat transfer correlations for free ventilated double skin photovoltaic faÃ§ades. Applied Thermal Engineering, 2013, 57, 57-68.	6.0	19
82	Parallel Aspects of Fluid-structure Interaction. Procedia Engineering, 2013, 61, 117-121.	1.2	2
83	A parallel finite-element method for three-dimensional controlled-source electromagnetic forward modelling. Geophysical Journal International, 2013, 193, 678-693.	2.4	126
84	What a Difference in Biomechanics Cardiac Fiber Makes. Lecture Notes in Computer Science, 2013, , 253-260.	1.3	4
85	MAGNETIC FLUID EQUIPMENT FOR SORTING SECONDARY POLYOLEFINS FROM WASTE. Environmental Engineering and Management Journal, 2013, 12, 951-958.	0.6	13
86	An Implicit and Parallel Chimera Type Domain Decomposition Method. Lecture Notes in Computational Science and Engineering, 2013, , 577-584.	0.3	0
87	Two Fluids Level Set: High Performance Simulation and Post Processing. , 2012, , .		1
88	Assessing the Impact of Network Compression on Molecular Dynamics and Finite Element Methods. , 2012, , .		2
89	Real-space density functional theory and time dependent density functional theory using finite/infinite element methods. Computer Physics Communications, 2012, 183, 2581-2588.	7.5	2
90	Coupled electromechanical model of the heart: Parallel finite element formulation. International Journal for Numerical Methods in Biomedical Engineering, 2012, 28, 72-86.	2.1	80

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91	Some Useful Strategies for Unstructured Edge-Based Solvers on Shared Memory Machines. , 2011, , .		3
92	Extensions of a Surface Remeshing Approach. , 2011, , .		0
93	Extension of fractional step techniques for incompressible flows: The preconditioned Orthomin(1) for the pressure Schur complement. Computers and Fluids, 2011, 44, 297-313.	2.5	48
94	Deflated preconditioned conjugate gradient solvers for the pressureâ€Poisson equation: Extensions and improvements. International Journal for Numerical Methods in Engineering, 2011, 87, 2-14.	2.8	43
95	Some useful strategies for unstructured edgeâ€based solvers on shared memory machines. International Journal for Numerical Methods in Engineering, 2011, 85, 537-561.	2.8	14
96	A surface remeshing approach. International Journal for Numerical Methods in Engineering, 2011, 85, 1475-1498.	2.8	19
97	A massively parallel computational electrophysiology model of the heart. International Journal for Numerical Methods in Biomedical Engineering, 2011, 27, 1911-1929.	2.1	32
98	Deflated Preconditioned Conjugate Gradient Solvers: Extensions and Improvements. , 2010, , .		1
99	A Surface Remeshing Approach. , 2010, , .		1
100	Application of a Galerkin Finite Element Scheme to Atmospheric Buoyant and Gravity Driven Flows. , 2010, , .		1
101	An Unstructured CFD Approach for Numerical Weather Prediction. , 2010, , .		4
102	Hybrid MPI-OpenMP performance in massively parallel computational fluid dynamics. Lecture Notes in Computational Science and Engineering, 2010, , 293-297.	0.3	0
103	A variational multiscale model for the advectionâ€“diffusionâ€“reaction equation. Communications in Numerical Methods in Engineering, 2009, 25, 787-809.	1.3	15
104	The fixed-mesh ALE approach for the numerical approximation of flows in moving domains. Journal of Computational Physics, 2009, 228, 1591-1611.	3.8	65
105	A massively parallel fractional step solver for incompressible flows. Journal of Computational Physics, 2009, 228, 6316-6332.	3.8	78
106	A variational subgrid scale model for transient incompressible flows. International Journal of Computational Fluid Dynamics, 2008, 22, 135-152.	1.2	38
107	A finite element method for the solution of rotary pumps. Computers and Fluids, 2007, 36, 667-679.	2.5	64
108	Numerical approximation of the heat transfer between domains separated by thin walls. International Journal for Numerical Methods in Fluids, 2006, 52, 963-986.	1.6	2

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109	Finite element modeling of the lost foam casting process tackling backâ€pressure effects. International Journal of Numerical Methods for Heat and Fluid Flow, 2006, 16, 573-589.	2.8	3
110	A finite element model for the simulation of lost foam casting. International Journal for Numerical Methods in Fluids, 2004, 46, 203-226.	1.6	18
111	A Dirichlet/Neumann domain decomposition method for incompressible turbulent flows on overlapping subdomains. Computers and Fluids, 2004, 33, 771-782.	2.5	6
112	A Chimera method based on a Dirichlet/Neumann(Robin) coupling for the Navierâ€“Stokes equations. Computer Methods in Applied Mechanics and Engineering, 2003, 192, 3343-3377.	6.6	70
113	An iteration-by-subdomain overlapping Dirichlet/Robin domain decomposition method for advectionâ€“diffusion problems. Journal of Computational and Applied Mathematics, 2003, 158, 243-276.	2.0	18
114	SimulaciÃ³n numÃ©rica de flujo sanguÃneo: una herramienta Ãºtil en cirugÃa vascular. Angiologia, 2003, 55, 55-63.	0.0	0
115	Transmission conditions with constraints in finite element domain decomposition methods for flow problems. Communications in Numerical Methods in Engineering, 2001, 17, 179-190.	1.3	16
116	High-Performance Computing: Dos and Donâ€™ts. , 0, , .		6