Simone Deparis

List of Publications by Year
in descending order

48 papers	1,403 citations	304743 22 h-index	330143 37 g-index
48 all docs	48 docs citations	48 times ranked	1040 citing authors

#	Article	IF	Citations
1	Fluidâ€“structure interaction simulation of aortic blood flow. Computers and Fluids, 2011, 43, 46-57.	2.5	156
2	Physiological simulation of blood flow in the aorta: Comparison of hemodynamic indices as predicted by 3-D FSI, 3-D rigid wall and 1-D models. Medical Engineering and Physics, 2013, 35, 784-791.	1.7	137
3	Fluidâ€“structure algorithms based on Steklovâ€“PoincarÃ© operators. Computer Methods in Applied Mechanics and Engineering, 2006, 195, 5797-5812.	6.6	113
4	Parallel Algorithms for Fluid-Structure Interaction Problems in Haemodynamics. SIAM Journal of Scientific Computing, 2011, 33, 1598-1622.	2.8	92
5	â€œNatural normâ€•a posteriori error estimators for reduced basis approximations. Journal of Computational Physics, 2006, 217, 37-62.	3.8	79
6	Reduced basis method for multi-parameter-dependent steady Navierâ€“Stokes equations: Applications to natural convection in a cavity. Journal of Computational Physics, 2009, 228, 4359-4378.	3.8	68
7	Acceleration of a fixed point algorithm for fluid-structure interaction using transpiration conditions. ESAIM: Mathematical Modelling and Numerical Analysis, 2003, 37, 601-616.	1.9	67
8	Weighted ClÃ©ment operator and application to the finite element discretization of the axisymmetric Stokes problem. Numerische Mathematik, 2006, 105, 217-247.	1.9	49
9	Multiphysics Computational Modeling in $oldsymbol{mathcal{C}}mathbf{Heart}$. SIAM Journal of Scientific Computing, 2016, 38, C150-C178.	2.8	48
10	Reduced Basis Error Bound Computation of Parameter-Dependent Navierâ€“Stokes Equations by the Natural Norm Approach. SIAM Journal on Numerical Analysis, 2008, 46, 2039-2067.	2.3	47
11	FaCSI: A block parallel preconditioner for fluidâ€“structure interaction in hemodynamics. Journal of Computational Physics, 2016, 327, 700-718.	3.8	47
12	A Rescaled Localized Radial Basis Function Interpolation on Non-Cartesian and Nonconforming Grids. SIAM Journal of Scientific Computing, 2014, 36, A2745-A2762.	2.8	46
13	Comparisons between reduced order models and full 3D models for fluidâ€“structure interaction problems in haemodynamics. Journal of Computational and Applied Mathematics, 2014, 265, 120-138.	2.0	46
14	Numerical modeling of fluidâ€“structure interaction in arteries with anisotropic polyconvex hyperelastic and anisotropic viscoelastic material models at finite strains. International Journal for Numerical Methods in Biomedical Engineering, 2016, 32, e02756.	2.1	36
15	Implicit Coupling of One-Dimensional and Three-Dimensional Blood Flow Models with Compliant Vessels. Multiscale Modeling and Simulation, 2013, 11, 474-506.	1.6	32
16	Data driven approximation of parametrized PDEs by reduced basis and neural networks. Journal of Computational Physics, 2020, 416, 109550.	3.8	32
17	A two-level time step technique for the partitioned solution of one-dimensional arterial networks. Computer Methods in Applied Mechanics and Engineering, 2012, 237-240, 212-226.	6.6	27
18	Parameter estimates for the Relaxed Dimensional Factorization preconditioner and application to hemodynamics. Computer Methods in Applied Mechanics and Engineering, 2016, 300, 129-145.	6.6	26

#	Article	IF	Citations
19	Algorithms for the partitioned solution of weakly coupled fluid models for cardiovascular flows. International Journal for Numerical Methods in Biomedical Engineering, 2011, 27, 2035-2057.	2.1	25
20	Parallel preconditioners for the unsteady Navierâ€"Stokes equations and applications to hemodynamics simulations. Computers and Fluids, 2014, 92, 253-273.	2.5	24
21	INTERNODES: an accurate interpolation-based method for coupling the Galerkin solutions of PDEs on subdomains featuring non-conforming interfaces. Computers and Fluids, 2016, 141, 22-41.	2.5	24
22	Numerical simulation of left ventricular assist device implantations: Comparing the ascending and the descending aorta cannulations. Medical Engineering and Physics, 2013, 35, 1465-1475.	1.7	23
23	A Monolithic Approach to Fluidâ€"Composite Structure Interaction. Journal of Scientific Computing, 2017, 72, 396-421.	2.3	16
24	Fluid-structure interaction simulations of cerebral arteries modeled by isotropic and anisotropic constitutive laws. Computational Mechanics, 2015, 55, 479-498.	4.0	15
25	Model order reduction of flow based on a modular geometrical approximation of blood vessels. Computer Methods in Applied Mechanics and Engineering, 2021, 380, 113762.	6.6	15
26	A TRUNCATED FOURIER/FINITE ELEMENT DISCRETIZATION OF THE STOKES EQUATIONS IN AN AXISYMMETRIC DOMAIN. Mathematical Models and Methods in Applied Sciences, 2006, 16, 233-263.	3.3	12
27	Stabilized Reduced Basis Approximation of Incompressible Three-Dimensional Navier-Stokes Equations in Parametrized Deformed Domains. Journal of Scientific Computing, 2012, 50, 198-212.	2.3	12
28	On the continuity of mean total normal stress in geometrical multiscale cardiovascular problems. Journal of Computational Physics, 2013, 251, 136-155.	3.8	11
29	Analysis of morphological and hemodynamical indexes in abdominal aortic aneurysms as preliminary indicators of intraluminal thrombus deposition. Biomechanics and Modeling in Mechanobiology, 2020, 19, 1035-1053.	2.8	9
30	Superhedging Strategies and Balayage in Discrete Time. , 2004, , 205-219.		9
31	Multi Space Reduced Basis Preconditioners for Large-Scale Parametrized PDEs. SIAM Journal of Scientific Computing, 2018, 40, A954-A983.	2.8	8
32	A Fluidâ€"Structure Interaction Algorithm Using Radial Basis Function Interpolation Between Non-Conforming Interfaces. Modeling and Simulation in Science, Engineering and Technology, 2016, , 439-450.	0.6	7
33	A Domain Decomposition Framework for Fluid-Structure Interaction Problems. , 2006, , 41-58.		7
34	Reduced Numerical Approximation of Reduced Fluid-Structure Interaction Problems With Applications in Hemodynamics. Frontiers in Applied Mathematics and Statistics, 2018, 4, .	1.3	6
35	Gender, prior knowledge, and the impact of a flipped linear algebra course for engineers over multiple years. Journal of Engineering Education, 2022, 111, 554-574.	3.0	6
36	An Efficient Discretization of the Navierâ€"Stokes Equations in an Axisymmetric Domain. Part 1: The Discrete Problem and its Numerical Analysis. Journal of Scientific Computing, 2006, 27, 97-110.	2.3	5

#	Article	IF	Citations
37	Coupling non-conforming discretizations of PDEs by spectral approximation of the Lagrange multiplier space. ESAIM: Mathematical Modelling and Numerical Analysis, 2019, 53, 1667-1694.	1.9	4
38	PDE-Aware Deep Learning for Inverse Problems in Cardiac Electrophysiology. SIAM Journal of Scientific Computing, 2022, 44, B605-B639.	2.8	4
39	Application of the Rosenbrock methods to the solution of unsteady 3D incompressible Navier-Stokes equations. Computers and Fluids, 2019, 179, 112-122.	2.5	3
40	Heterogeneous Domain Decomposition Methods for Fluid-Structure Interaction Problems. , 2007, , 41-52.		3
41	Connecting Ventricular Assist Devices to the Aorta: A Numerical Model. , 2012, , 211-224.		2
42	Implementation and Calibration of a Deep Neural Network to Predict Parameters of Left Ventricular Systolic Function Based on Pulmonary and Systemic Arterial Pressure Signals. Frontiers in Physiology, 2020, 11, 1086.	2.8	2
43	Deep Neural Network to Accurately Predict Left Ventricular Systolic Function Under Mechanical Assistance. Frontiers in Cardiovascular Medicine, 2021, 8, 752088.	2.4	2
44	Conservation of Forces and Total Work at the Interface Using the Internodes Method. Vietnam Journal of Mathematics, 2022, 50, 901-928.	0.8	1
45	Modified fixed point algorithm in fluidâ€“structure interaction. Comptes Rendus - Mecanique, 2003, 331, 525-530.	2.1	0
46	Efficient Solution of Fluid-Structure Interaction Problems in Computational Hemodynamics. , 2010, , .		0
47	Parallel subdomain solver strategies for the algebraic additive Schwarz preconditioner. Parallel Computing, 2016, 57, 137-153.	2.1	0
48	7. Fluid-structure interaction for vascular flows: From supercomputers to laptops. , 2017, , 237-282.		0