Luca DedÃ¨

List of Publications by Year
in descending order

83 papers	2,509 citations	257101 24 h-index	223531 46 g-index
85 all docs	85 docs citations	85 times ranked	1612 citing authors

#	Article	IF	Citations
1	An isogeometric design-through-analysis methodology based on adaptive hierarchical refinement of NURBS, immersed boundary methods, and T-spline CAD surfaces. Computer Methods in Applied Mechanics and Engineering, 2012, 249-252, 116-150.	3.4	372
2	Isogeometric Analysis for Topology Optimization with a Phase Field Model. Archives of Computational Methods in Engineering, 2012, 19, 427-465.	6.0	220
3	A Comprehensive Deep Learning-Based Approach to Reduced Order Modeling of Nonlinear Time-Dependent Parametrized PDEs. Journal of Scientific Computing, 2021, 87, 1.	1.1	108
4	Isogeometric analysis of the advective Cahnâ€"Hilliard equation: Spinodal decomposition under shear flow. Journal of Computational Physics, 2013, 242, 321-350.	1.9	90
5	Isogeometric Analysis and error estimates for high order partial differential equations in fluid dynamics. Computers and Fluids, 2014, 102, 277-303.	1.3	81
6	Semi-implicit BDF time discretization of the Navierâ€"Stokes equations with VMS-LES modeling in a High Performance Computing framework. Computers and Fluids, 2015, 117, 168-182.	1.3	79
7	Isogeometric Analysis of high order Partial Differential Equations on surfaces. Computer Methods in Applied Mechanics and Engineering, 2015, 295, 446-469.	3.4	73
8	The Impact of Left Atrium Appendage Morphology on Stroke Risk Assessment in Atrial Fibrillation: A Computational Fluid Dynamics Study. Frontiers in Physiology, 2018, 9, 1938.	1.3	71
9	Machine learning for fast and reliable solution of time-dependent differential equations. Journal of Computational Physics, 2019, 397, 108852.	1.9	70
10	Modeling cardiac muscle fibers in ventricular and atrial electrophysiology simulations. Computer Methods in Applied Mechanics and Engineering, 2021, 373, 113468.	3.4	58
11	Isogeometric numerical dispersion analysis for two-dimensional elastic wave propagation. Computer Methods in Applied Mechanics and Engineering, 2015, 284, 320-348.	3.4	52
12	Reduced Basis Method and A Posteriori Error Estimation for Parametrized Linear-Quadratic Optimal Control Problems. SIAM Journal of Scientific Computing, 2010, 32, 997-1019.	1.3	41
13	A patient-specific aortic valve model based on moving resistive immersed implicit surfaces. Biomechanics and Modeling in Mechanobiology, 2017, 16, 1779-1803.	1.4	41
14	A Proof of Concept for Computational Fluid Dynamic Analysis of the Left Atrium in Atrial Fibrillation on a Patient-Specific Basis. Journal of Biomechanical Engineering, 2020, 142, .	0.6	41
15	Deep learning-based reduced order models in cardiac electrophysiology. PLoS ONE, 2020, 15, e0239416.	1.1	40
16	Machine learning of multiscale active force generation models for the efficient simulation of cardiac electromechanics. Computer Methods in Applied Mechanics and Engineering, 2020, 370, 113268.	3.4	39
17	Isogeometric Analysis for second order Partial Differential Equations on surfaces. Computer Methods in Applied Mechanics and Engineering, 2015, 284, 807-834.	3.4	37
18	Optimal control and numerical adaptivity for advectionâ€"diffusion equations. ESAIM: Mathematical Modelling and Numerical Analysis, 2005, 39, 1019-1040.	0.8	36

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19	Biophysically detailed mathematical models of multiscale cardiac active mechanics. PLoS Computational Biology, 2020, 16, e1008294.	1.5	36
20	A monolithic algorithm for the simulation of cardiac electromechanics in the human left ventricle. Mathematics in Engineering, 2018, 1, 1-37.	0.5	36
21	Isogeometric rotation-free analysis of planar extensible-elastica for static and dynamic applications. Nonlinear Dynamics, 2015, 81, 77-96.	2.7	28
22	Isogeometric approximation of cardiac electrophysiology models on surfaces: An accuracy study with application to the human left atrium. Computer Methods in Applied Mechanics and Engineering, 2017, 317, 248-273.	3.4	28
23	Hemodynamics of the heartâ€™s left atrium based on a Variational Multiscale-LES numerical method. European Journal of Mechanics, B/Fluids, 2021, 89, 380-400.	1.2	27
24	An image-based computational hemodynamics study of the Systolic Anterior Motion of the mitral valve. Computers in Biology and Medicine, 2020, 123, 103922.	3.9	26
25	Electromechanical modeling of human ventricles with ischemic cardiomyopathy: numerical simulations in sinus rhythm and under arrhythmia. Computers in Biology and Medicine, 2021, 136, 104674.	3.9	26
26	Optimal flow control for Navierâ€“Stokes equations: drag minimization. International Journal for Numerical Methods in Fluids, 2007, 55, 347-366.	0.9	25
27	Well-Posedness, Regularity, and Convergence Analysis of the Finite Element Approximation of a Generalized Robin Boundary Value Problem. SIAM Journal on Numerical Analysis, 2015, 53, 105-126.	1.1	24
28	Isogeometric analysis and proper orthogonal decomposition for parabolic problems. Numerische Mathematik, 2017, 135, 333-370.	0.9	24
29	Fluid dynamics of an idealized left ventricle: the extended Nitsche's method for the treatment of heart valves as mixed time varying boundary conditions. International Journal for Numerical Methods in Fluids, 2017, 85, 135-164.	0.9	24
30	Active contraction of cardiac cells: a reduced model for sarcomere dynamics with cooperative interactions. Biomechanics and Modeling in Mechanobiology, 2018, 17, 1663-1686.	1.4	24
31	Multipatch Isogeometric Analysis for electrophysiology: Simulation in a human heart. Computer Methods in Applied Mechanics and Engineering, 2021, 376, 113666.	3.4	23
32	3Dâ€“0D closed-loop model for the simulation of cardiac biventricular electromechanics. Computer Methods in Applied Mechanics and Engineering, 2022, 391, 114607.	3.4	23
33	A Heleâ€“Shawâ€“Cahnâ€“Hilliard Model for Incompressible Two-Phase Flows with Different Densities. Journal of Mathematical Fluid Mechanics, 2018, 20, 531-567.	0.4	22
34	A geometric multiscale model for the numerical simulation of blood flow in the human left heart. Discrete and Continuous Dynamical Systems - Series S, 2022, 15, 2391.	0.6	22
35	Isogeometric Analysis of the electrophysiology in the human heart: Numerical simulation of the bidomain equations on the atria. Computer Methods in Applied Mechanics and Engineering, 2019, 343, 52-73.	3.4	21
36	<tt>SUIHTER</tt> : a new mathematical model for COVID-19. Application to the analysis of the second epidemic outbreak in Italy. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2021, 477, 20210027.	1.0	21

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37	The role of mechano-electric feedbacks and hemodynamic coupling in scar-related ventricular tachycardia. Computers in Biology and Medicine, 2022, 142, 105203.	3.9	21
38	Reduced Basis Method and Error Estimation for Parametrized Optimal Control Problems with Control Constraints. Journal of Scientific Computing, 2012, 50, 287-305.	1.1	20
39	Outer loop and isthmus in ventricular tachycardia circuits: Characteristics and implications. Heart Rhythm, 2020, 17, 1719-1728.	0.3	20
40	A Patient-Specific Computational Fluid Dynamics Model of the Left Atrium in Atrial Fibrillation: Development and Initial Evaluation. Lecture Notes in Computer Science, 2017, , 392-400.	1.0	20
41	B-spline goal-oriented error estimators for geometrically nonlinear rods. Computational Mechanics, 2012, 49, 35-52.	2.2	19
42	POD-Enhanced Deep Learning-Based Reduced Order Models for the Real-Time Simulation of Cardiac Electrophysiology in the Left Atrium. Frontiers in Physiology, 2021, 12, 679076.	1.3	19
43	IGS: An IsoGeometric approach for smoothing on surfaces. Computer Methods in Applied Mechanics and Engineering, 2016, 302, 70-89.	3.4	18
44	Complex blood flow patterns in an idealized left ventricle: A numerical study. Chaos, 2017, 27, 093939.	1.0	18
45	Slow Conduction Corridors and Pivot Sites Characterize the Electrical Remodeling in Atrial Fibrillation. JACC: Clinical Electrophysiology, 2022, 8, 561-577.	1.3	18
46	Anisotropic error control for environmental applications. Applied Numerical Mathematics, 2008, 58, 1320-1339.	1.2	17
47	A numerical study of isotropic and anisotropic constitutive models with relevance to healthy and unhealthy cerebral arterial tissues. International Journal of Engineering Science, 2016, 101, 126-155.	2.7	17
48	Isogeometric analysis and proper orthogonal decomposition for the acoustic wave equation. ESAIM: Mathematical Modelling and Numerical Analysis, 2017, 51, 1197-1221.	0.8	17
49	Active Force Generation in Cardiac Muscle Cells: Mathematical Modeling and Numerical Simulation of the Actin-Myosin Interaction. Vietnam Journal of Mathematics, 2021, 49, 87-118.	0.4	17
50	Non intrusive reduced order modeling of parametrized PDEs by kernel POD and neural networks. Computers and Mathematics With Applications, 2021, 104, 1-13.	1.4	17
51	An intergrid transfer operator using radial basis functions with application to cardiac electromechanics. Computational Mechanics, 2020, 66, 491-511.	2.2	16
52	Fluid-structure interaction simulations of cerebral arteries modeled by isotropic and anisotropic constitutive laws. Computational Mechanics, 2015, 55, 479-498.	2.2	15
53	Numerical approximation of the electromechanical coupling in the left ventricle with inclusion of the Purkinje network. International Journal for Numerical Methods in Biomedical Engineering, 2018, 34, e2984.	1.0	15
54	Computational fluid dynamics of blood flow in an idealized left human heart. International Journal for Numerical Methods in Biomedical Engineering, 2021, 37, e3287.	1.0	13

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55	Mathematical analysis and numerical approximation of a general linearized poro-hyperelastic model. Computers and Mathematics With Applications, 2021, 91, 202-228.	1.4	12
56	Modelling the COVID-19 epidemic and the vaccination campaign in Italy by the SUIHTER model. Infectious Disease Modelling, 2022, 7, 45-63.	1.2	11
57	Isogeometric Analysis of geometric Partial Differential Equations. Computer Methods in Applied Mechanics and Engineering, 2016, 311, 625-647.	3.4	10
58	A transmurally heterogeneous orthotropic activation model for ventricular contraction and its numerical validation. International Journal for Numerical Methods in Biomedical Engineering, 2018, 34, e3137.	1.0	10
59	A Computational Comparison Between Isogeometric Analysis and Spectral Element Methods: Accuracy and Spectral Properties. Journal of Scientific Computing, 2020, 83, 1.	1.1	9
60	Biomembrane modeling with isogeometric analysis. Computer Methods in Applied Mechanics and Engineering, 2019, 347, 103-119.	3.4	8
61	Data integration for the numerical simulation of cardiac electrophysiology. PACE - Pacing and Clinical Electrophysiology, 2021, 44, 726-736.	0.5	8
62	A mathematical dashboard for the analysis of Italian <scp>COVID</scp>â€19 epidemic data. International Journal for Numerical Methods in Biomedical Engineering, 2021, 37, e3513.	1.0	8
63	Reduced Basis Method for Parametrized Elliptic Advection-Reaction Problems. Journal of Computational Mathematics, 2010, 28, 122-148.	0.2	7
64	Effect of fibre orientation and bulk modulus on the electromechanical modelling of human ventricles. Mathematics in Engineering, 2020, 2, 614-638.	0.5	7
65	A machine learning approach to enhance the SUPG stabilization method for advection-dominated differential problems. Mathematics in Engineering, 2022, 5, 1-26.	0.5	7
66	A Computational Study of the Electrophysiological Substrate in Patients Suffering From Atrial Fibrillation. Frontiers in Physiology, 2021, 12, 673612.	1.3	6
67	Segregated Algorithms for the Numerical Simulation of Cardiac Electromechanics in the Left Human Ventricle. Lecture Notes in Mathematics, 2020, , 81-116.	0.1	6
68	Modeling the cardiac response to hemodynamic changes associated with COVID-19: a computational study. Mathematical Biosciences and Engineering, 2021, 18, 3364-3383.	1.0	5
69	Numerical Approximation of a Control Problem for Advection-Diffusion Processes. , 2005, , 261-273.		4
70	Development of a Computational Fluid Dynamics Model of the Left Atrium in Atrial Fibrillation on a Patient Specific Basis. , 0, , .		4
71	Modeling the cardiac electromechanical function: A mathematical journey. Bulletin of the American Mathematical Society, 2022, 59, 371-403.	0.8	4
72	Nitscheâ€™s method for parabolic partial differential equations with mixed time varying boundary conditions. ESAIM: Mathematical Modelling and Numerical Analysis, 2016, 50, 541-563.	0.8	3

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73	Isogeometric Analysis of a Phase Field Model for Darcy Flows with Discontinuous Data. Chinese Annals of Mathematics Series B, 2018, 39, 487-512.	0.2	3
74	Mathematical and numerical models for the cardiac electromechanical function. Atti Della Accademia Nazionale Dei Lincei, Classe Di Scienze Fisiche, Matematiche E Naturali, Rendiconti Lincei Matematica E Applicazioni, 2021, 32, 233-272.	0.3	3
75	Simulation of the Hemodynamic Effects of the Left Atrial Appendage Occlusion in Atrial Fibrillation: Preliminary Results. , 0, , .		2
76	Electro-Mechanical Coupling in Human Atrial Cardiomyocytes: Model Development and Analysis of Inotropic Interventions. , 2021, , .		2
77	Characterization of cardiac electrogram signals in atrial arrhythmias. Minerva Cardiology and Angiology, 2021, 69, 70-80.	0.4	1
78	Basic facts about quantitative physiology. , 2019, , 3-9.		0
79	Modelling blood flow. , 2019, , 25-76.		0
80	Modelling the heart. , 2019, , 102-152.		0
81	Parameter estimation from clinical data. , 2019, , 178-202.		0
82	Accounting for uncertainty. , 2019, , 203-224.		0
83	Reduced-order modelling. , 2019, , 225-234.		0