Simone Scacchi

List of Publications by Year
in descending order

65 papers	1,354 citations	361413 20 h-index	345221 36 g-index
68 all docs	68 docs citations	68 times ranked	677 citing authors

#	Article	IF	Citations
1	Cardiac electro-mechanical activity in a deforming human cardiac tissue: modeling, existenceâ€“uniqueness, finite element computation and application to multiple ischemic disease. Journal of Mathematical Biology, 2022, 84, 17.	1.9	1
2	Robust and scalable adaptive BDDC preconditioners for virtual element discretizations of elliptic partial differential equations in mixed form. Computer Methods in Applied Mechanics and Engineering, 2022, 391, 114620.	6.6	5
3	Role of Scar and Border Zone Geometry on the Genesis and Maintenance of Re-Entrant Ventricular Tachycardia in Patients With Previous Myocardial Infarction. Frontiers in Physiology, 2022, 13, 834747.	2.8	0
4	Parallel Newton--Krylov BDDC and FETI-DP Deluxe Solvers for Implicit Time discretizations of the Cardiac Bidomain Equations. SIAM Journal of Scientific Computing, 2022, 44, B224-B249.	2.8	6
5	Prevention and control of OQDS (olive quick decline syndrome) outbreaks caused by Xylella fastidiosa.. Journal of Theoretical Biology, 2022, 542, 111118.	1.7	2
6	BDDC Preconditioners for Divergence Free Virtual Element Discretizations of the Stokes Equations. Journal of Scientific Computing, 2022, 92, .	2.3	3
7	Controlling the Spatial Spread of a Xylella Epidemic. Bulletin of Mathematical Biology, 2021, 83, 32.	1.9	6
8	Block FETIâ€“DP/BDDC preconditioners for mixed isogeometric discretizations of three-dimensional almost incompressible elasticity. Mathematics of Computation, 2021, 90, 1773-1797.	2.1	7
9	Regional Control for Spatially Structured Mosquito Borne Epidemics. Vietnam Journal of Mathematics, 2021, 49, 189-206.	0.8	1
10	Overlapping Additive Schwarz preconditioners for isogeometric collocation discretizations of linear elasticity. Computers and Mathematics With Applications, 2021, 93, 66-77.	2.7	6
11	A clinical-in silico study on the effectiveness of multipoint bicathodic and cathodic-anodal pacing in cardiac resynchronization therapy. Computers in Biology and Medicine, 2021, 136, 104661.	7.0	1
12	A review on arbitrarily regular conforming virtual element methods for second- and higher-order elliptic partial differential equations. Mathematical Models and Methods in Applied Sciences, 2021, 31, 2825-2853.	3.3	15
13	Parallel solvers for virtual element discretizations of elliptic equations in mixed form. Computers and Mathematics With Applications, 2020, 79, 1972-1989.	2.7	9
14	Numerical evaluation of cardiac mechanical markers as estimators of the electrical activation time. International Journal for Numerical Methods in Biomedical Engineering, 2020, 37, e3285.	2.1	1
15	Parallel block preconditioners for three-dimensional virtual element discretizations of saddle-point problems. Computer Methods in Applied Mechanics and Engineering, 2020, 372, 113424.	6.6	10
16	Role of infarct scar dimensions, border zone repolarization properties and anisotropy in the origin and maintenance of cardiac reentry. Mathematical Biosciences, 2019, 315, 108228.	1.9	15
17	Electro-Mechanical Modeling and Simulation of Reentry Phenomena in the Presence of Myocardial Infarction. SEMA SIMAI Springer Series, 2018, , 41-73.	0.7	0
18	A Numerical Study of Scalable Cardiac Electro-Mechanical Solvers on HPC Architectures. Frontiers in Physiology, 2018, 9, 268.	2.8	18

#	Article	IF	Citations
19	Electromechanical effects of concentric hypertrophy on the left ventricle: A simulation study. Computers in Biology and Medicine, 2018, 99, 236-256.	7.0	9
20	Isogeometric BDDC deluxe preconditioners for linear elasticity. Mathematical Models and Methods in Applied Sciences, 2018, 28, 1337-1370.	3.3	9
21	Cardiac kinematic parameters computed from video of in situ beating heart. Scientific Reports, 2017, 7, 46143.	3.3	13
22	Effects of mechanical feedback on the stability of cardiac scroll waves: A bidomain electro-mechanical simulation study. Chaos, 2017, 27, 093905.	2.5	23
23	Adaptive Selection of Primal Constraints for Isogeometric BDDC Deluxe Preconditioners. SIAM Journal of Scientific Computing, 2017, 39, A281-A302.	2.8	35
24	On the virtual element method for topology optimization on polygonal meshes: A numerical study. Computers and Mathematics With Applications, 2017, 74, 1091-1109.	2.7	47
25	Computational modeling of the electromechanical response of a ventricular fiber affected by eccentric hypertrophy. Communications in Applied and Industrial Mathematics, 2017, 8, 185-209.	0.3	0
26	Joint influence of transmural heterogeneities and wall deformation on cardiac bioelectrical activity: A simulation study. Mathematical Biosciences, 2016, 280, 71-86.	1.9	13
27	A C^1 Virtual Element Method for the Cahn--Hilliard Equation with Polygonal Meshes. SIAM Journal on Numerical Analysis, 2016, 54, 34-56.	2.3	171
28	Bioelectrical effects of mechanical feedbacks in a strongly coupled cardiac electro-mechanical model. Mathematical Models and Methods in Applied Sciences, 2016, 26, 27-57.	3.3	31
29	Newtonâ€“Krylov-BDDC solvers for nonlinear cardiac mechanics. Computer Methods in Applied Mechanics and Engineering, 2015, 295, 562-580.	6.6	24
30	Parallel multilevel solvers for the cardiac electro-mechanical coupling. Applied Numerical Mathematics, 2015, 95, 140-153.	2.1	31
31	BPX preconditioners for the Bidomain model of electrocardiology. Journal of Computational and Applied Mathematics, 2015, 285, 151-168.	2.0	4
32	Effects of premature anodal stimulations on cardiac transmembrane potential and intracellular calcium distributions computed by anisotropic Bidomain models. Europace, 2014, 16, 736-742.	1.7	1
33	Mathematical Cardiac Electrophysiology. Modeling, Simulation and Applications, 2014, , .	1.3	120
34	Isogeometric BDDC Preconditioners with Deluxe Scaling. SIAM Journal of Scientific Computing, 2014, 36, A1118-A1139.	2.8	66
35	Overlapping Schwarz preconditioners for isogeometric collocation methods. Computer Methods in Applied Mechanics and Engineering, 2014, 278, 239-253.	6.6	16
36	Simulation Studies of Cardiac Bioelectrical Activity. Modeling, Simulation and Applications, 2014, , 249-360.	1.3	0

#	Article	IF	Citations
37	Anisotropic Cardiac Sources. Modeling, Simulation and Applications, 2014, , 149-173.	1.3	0
38	Basic Cardiac Anatomy and Electrocardiology. Modeling, Simulation and Applications, 2014, , 1-19.	1.3	0
39	Parallel Solvers for the Bidomain System. Modeling, Simulation and Applications, 2014, , 207-248.	1.3	1
40	Numerical Methods for the Bidomain and Reduced Models. Modeling, Simulation and Applications, 2014, , 191-206.	1.3	0
41	The Inverse Problem of Electrocardiology. Modeling, Simulation and Applications, 2014, , 175-190.	1.3	0
42	Mathematical Models of Cellular Bioelectrical Activity. Modeling, Simulation and Applications, 2014, , 21-75.	1.3	0
43	Isogeometric Schwarz preconditioners for linear elasticity systems. Computer Methods in Applied Mechanics and Engineering, 2013, 253, 439-454.	6.6	40
44	BDDC PRECONDITIONERS FOR ISOGEOMETRIC ANALYSIS. Mathematical Models and Methods in Applied Sciences, 2013, 23, 1099-1142.	3.3	74
45	A comparison of coupled and uncoupled solvers for the cardiac Bidomain model. ESAIM: Mathematical Modelling and Numerical Analysis, 2013, 47, 1017-1035.	1.9	9
46	Overlapping Schwarz Methods for Isogeometric Analysis. SIAM Journal on Numerical Analysis, 2012, 50, 1394-1416.	2.3	76
47	Cardiac excitation mechanisms, wavefront dynamics and strengthâ€“interval curves predicted by 3D orthotropic bidomain simulations. Mathematical Biosciences, 2012, 235, 66-84.	1.9	19
48	Mathematical and numerical methods for reaction-diffusion models in electrocardiology. Modeling, Simulation and Applications, 2012, , 107-141.	1.3	5
49	Parallel Multilevel Schwarz and Block Preconditioners for the Bidomain Parabolic-Parabolic and Parabolic-Elliptic Formulations. SIAM Journal of Scientific Computing, 2011, 33, 1897-1919.	2.8	33
50	Exploring anodal and cathodal make and break cardiac excitation mechanisms in a 3D anisotropic bidomain model. Mathematical Biosciences, 2011, 230, 96-114.	1.9	27
51	A multilevel hybrid Newtonâ€“Krylovâ€“Schwarz method for the Bidomain model of electrocardiology. Computer Methods in Applied Mechanics and Engineering, 2011, 200, 717-725.	6.6	31
52	Anode Make and Break Excitation Mechanisms and Strength-Interval Curves: Bidomain Simulations in 3D Rotational Anisotropy. Lecture Notes in Computer Science, 2011, , 1-10.	1.3	1
53	COMPUTING CARDIAC RECOVERY MAPS FROM ELECTROGRAMS AND MONOPHASIC ACTION POTENTIALS UNDER HETEROGENEOUS AND ISCHEMIC CONDITIONS. Mathematical Models and Methods in Applied Sciences, 2010, 20, 1089-1127.	3.3	17
54	A Two-Level Newtonâ€“Krylovâ€“Schwarz Method for the Bidomain Model of Electrocardiology. , 2010, , 683-691.		0

#	Article	IF	Citations
55	A Bidomain Numerical Validation for Assessing Times of Fast and Ending Repolarization from Monophasic Action Potentials. Mathematics in Industry, 2010, , 355-361.	0.3	0
56	A reliability analysis of cardiac repolarization time markers. Mathematical Biosciences, 2009, 219, 113-128.	1.9	24
57	A Scalable Newtonâ€“Krylovâ€“Schwarz Method for the Bidomain Reaction-Diffusion System. SIAM Journal of Scientific Computing, 2009, 31, 3861-3883.	2.8	50
58	A hybrid multilevel Schwarz method for the bidomain model. Computer Methods in Applied Mechanics and Engineering, 2008, 197, 4051-4061.	6.6	57
59	Modeling ventricular repolarization: Effects of transmural and apex-to-base heterogeneities in action potential durations. Mathematical Biosciences, 2008, 214, 140-152.	1.9	32
60	Multilevel Additive Schwarz Preconditioners for the Bidomain Reaction-Diffusion System. SIAM Journal of Scientific Computing, 2008, 31, 420-443.	2.8	82
61	Performance evaluation of cardiac repolarization markers derived from unipolar electrograms and monophasic action potentials: A simulation study. , 2008, , .		0
62	Multilevel Schwarz and Multigrid Preconditioners for the Bidomain System. Lecture Notes in Computational Science and Engineering, 2008, , 631-638.	0.3	10
63	DYNAMICAL EFFECTS OF MYOCARDIAL ISCHEMIA IN ANISOTROPIC CARDIAC MODELS IN THREE DIMENSIONS. Mathematical Models and Methods in Applied Sciences, 2007, 17, 1965-2008.	3.3	20
64	Monophasic action potentials generated by bidomain modeling as a tool for detecting cardiac repolarization times. American Journal of Physiology - Heart and Circulatory Physiology, 2007, 293, H2771-H2785.	3.2	21
65	Determining Recovery Times from Transmembrane Action Potentials and Unipolar Electrograms in Normal Heart Tissue. , 2007, , 139-149.		6