Fabio Nobile

List of Publications by Year
in descending order

98 papers	6,696 citations	101543 36 h-index	60623 81 g-index
99 all docs	99 docs citations	99 times ranked	3307 citing authors

#	ARTICLE	IF	CITATIONS
1	A Stochastic Collocation Method for Elliptic Partial Differential Equations with Random Input Data. SIAM Journal on Numerical Analysis, 2007, 45, 1005-1034.	2.3	922
2	A Sparse Grid Stochastic Collocation Method for Partial Differential Equations with Random Input Data. SIAM Journal on Numerical Analysis, 2008, 46, 2309-2345.	2.3	819
3	Added-mass effect in the design of partitioned algorithms for fluid–structure problems. Computer Methods in Applied Mechanics and Engineering, 2005, 194, 4506-4527.	6.6	635
4	On the coupling of 3D and 1D Navier–Stokes equations for flow problems in compliant vessels. Computer Methods in Applied Mechanics and Engineering, 2001, 191, 561-582.	6.6	454
5	An Anisotropic Sparse Grid Stochastic Collocation Method for Partial Differential Equations with Random Input Data. SIAM Journal on Numerical Analysis, 2008, 46, 2411-2442.	2.3	426
6	A Stochastic Collocation Method for Elliptic Partial Differential Equations with Random Input Data. SIAM Review, 2010, 52, 317-355.	9.5	268
7	Multiscale modelling of the circulatory system: a preliminary analysis. Computing and Visualization in Science, 1999, 2, 75-83.	1.2	230
8	Fluid–structure partitioned procedures based on Robin transmission conditions. Journal of Computational Physics, 2008, 227, 7027-7051.	3.8	212
9	Numerical Treatment of Defective Boundary Conditions for the Navier--Stokes Equations. SIAM Journal on Numerical Analysis, 2002, 40, 376-401.	2.3	172
10	An Effective Fluid-Structure Interaction Formulation for Vascular Dynamics by Generalized Robin Conditions. SIAM Journal of Scientific Computing, 2008, 30, 731-763.	2.8	157
11	Stability analysis of second-order time accurate schemes for ALE–FEM. Computer Methods in Applied Mechanics and Engineering, 2004, 193, 4097-4116.	6.6	115
12	ON THE OPTIMAL POLYNOMIAL APPROXIMATION OF STOCHASTIC PDES BY GALERKIN AND COLLOCATION METHODS. Mathematical Models and Methods in Applied Sciences, 2012, 22, .	3.3	99
13	Robin–Robin preconditioned Krylov methods for fluid–structure interaction problems. Computer Methods in Applied Mechanics and Engineering, 2009, 198, 2768-2784.	6.6	88
14	Electromechanical Coupling in Cardiac Dynamics: The Active Strain Approach. SIAM Journal on Applied Mathematics, 2011, 71, 605-621.	1.8	82
15	Multi-index Monte Carlo: when sparsity meets sampling. Numerische Mathematik, 2016, 132, 767-806.	1.9	82
16	On uncertainty quantification in hydrogeology and hydrogeophysics. Advances in Water Resources, 2017, 110, 166-181.	3.8	82
17	Stochastic Spectral Galerkin and Collocation Methods for PDEs with Random Coefficients: A Numerical Comparison. Lecture Notes in Computational Science and Engineering, 2011, , 43-62.	0.3	77
18	A continuation multilevel Monte Carlo algorithm. BIT Numerical Mathematics, 2015, 55, 399-432.	2.0	73

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19	On the stability of the coupling of 3D and 1D fluid-structure interaction models for blood flow simulations. ESAIM: Mathematical Modelling and Numerical Analysis, 2007, 41, 743-769.	1.9	71
20	An active strain electromechanical model for cardiac tissue. International Journal for Numerical Methods in Biomedical Engineering, 2012, 28, 52-71.	2.1	69
21	Analysis and implementation issues for the numerical approximation of parabolic equations with random coefficients. International Journal for Numerical Methods in Engineering, 2009, 80, 979-1006.	2.8	65
22	A systematic approach to model validation based on Bayesian updates and prediction related rejection criteria. Computer Methods in Applied Mechanics and Engineering, 2008, 197, 2517-2539.	6.6	63
23	Discrete least squares polynomial approximation with random evaluations â˜ application to parametric and stochastic elliptic PDEs. ESAIM: Mathematical Modelling and Numerical Analysis, 2015, 49, 815-837.	1.9	60
24	Analysis of Discrete $$L^2$$ L 2 Projection on Polynomial Spaces with Random Evaluations. Foundations of Computational Mathematics, 2014, 14, 419.	2.5	58
25	Analysis and Optimization of Robinâ€"Robin Partitioned Procedures in Fluid-Structure Interaction Problems. SIAM Journal on Numerical Analysis, 2010, 48, 2091-2116.	2.3	56
26	Approximation of Quantities of Interest in Stochastic PDEs by the Random Discrete L^2 Projection on Polynomial Spaces. SIAM Journal of Scientific Computing, 2013, 35, A1440-A1460.	2.8	54
27	Theory and methodology for estimation and control of errors due to modeling, approximation, and uncertainty. Computer Methods in Applied Mechanics and Engineering, 2005, 194, 195-204.	6.6	53
28	A model-based block-triangular preconditioner for the Bidomain system in electrocardiology. Journal of Computational Physics, 2009, 228, 3625-3639.	3.8	52
29	Error Analysis of the Dynamically Orthogonal Approximation of Time Dependent Random PDEs. SIAM Journal of Scientific Computing, 2015, 37, A776-A810.	2.8	48
30	A stochastic collocation method for the second order wave equation with a discontinuous random speed. Numerische Mathematik, 2013, 123, 493-536.	1.9	47
31	Convergence of quasi-optimal Stochastic Galerkin methods for a class of PDES with random coefficients. Computers and Mathematics With Applications, 2014, 67, 732-751.	2.7	47
32	Reliability of computational science. Numerical Methods for Partial Differential Equations, 2007, 23, 753-784.	3.6	44
33	Patient-specific generation of the Purkinje network driven by clinical measurements of a normal propagation. Medical and Biological Engineering and Computing, 2014, 52, 813-826.	2.8	44
34	Worst case scenario analysis for elliptic problems with uncertainty. Numerische Mathematik, 2005, 101, 185-219.	1.9	41
35	Multi-Index Stochastic Collocation for random PDEs. Computer Methods in Applied Mechanics and Engineering, 2016, 306, 95-122.	6.6	40
36	Time accurate partitioned algorithms for the solution of fluidâ€"structure interaction problems in haemodynamics. Computers and Fluids, 2013, 86, 470-482.	2.5	38

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37	A One Dimensional Model for Blood Flow: Application to Vascular Prosthesis. Lecture Notes in Computational Science and Engineering, 2002, , 137-153.	0.3	38
38	Analytic regularity and collocation approximation for elliptic PDEs with random domain deformations. Computers and Mathematics With Applications, 2016, 71, 1173-1197.	2.7	36
39	Inexact accurate partitioned algorithms for fluidâ€"structure interaction problems with finite elasticity in haemodynamics. Journal of Computational Physics, 2014, 273, 598-617.	3.8	31
40	An effective algorithm for the generation of patient-specific Purkinje networks in computational electrocardiology. Journal of Computational Physics, 2015, 283, 495-517.	3.8	30
41	Coupling strategies for the numerical simulation of blood flow in deformable arteries by 3D and 1D models. Mathematical and Computer Modelling, 2009, 49, 2152-2160.	2.0	29
42	Partitioned Algorithms for Fluid-Structure Interaction Problems in Haemodynamics. Milan Journal of Mathematics, 2012, 80, 443-467.	1.1	28
43	Blood Flow Velocity Field Estimation Via Spatial Regression With PDE Penalization. Journal of the American Statistical Association, 2015, 110, 1057-1071.	3.1	28
44	Analysis of discrete least squares on multivariate polynomial spaces with evaluations at low-discrepancy point sets. Journal of Complexity, 2015, 31, 517-542.	1.3	27
45	Analysis of a subdomain-based error estimator for finite element approximations of elliptic problems. Numerical Methods for Partial Differential Equations, 2004, 20, 165-192.	3.6	25
46	Dual Dynamically Orthogonal approximation of incompressible Navier Stokes equations with random boundary conditions. Journal of Computational Physics, 2018, 354, 135-162.	3.8	24
47	Computational generation of the Purkinje network driven by clinical measurements: The case of pathological propagations. International Journal for Numerical Methods in Biomedical Engineering, 2014, 30, 1558-1577.	2.1	23
48	A Multi Level Monte Carlo method with control variate for elliptic PDEs with log-normal coefficients. Stochastics and Partial Differential Equations: Analysis and Computations, 2015, 3, 398-444.	0.9	22
49	Mixed Finite Elements for Spatial Regression with PDE Penalization. SIAM-ASA Journal on Uncertainty Quantification, 2014, 2, 305-335.	2.0	18
50	Analysis and computation of the elastic wave equation with random coefficients. Computers and Mathematics With Applications, 2015, 70, 2454-2473.	2.7	18
51	Uncertainty Quantification of geochemical and mechanical compaction in layered sedimentary basins. Computer Methods in Applied Mechanics and Engineering, 2018, 328, 122-146.	6.6	18
52	Modeling spatially dependent functional data via regression with differential regularization. Journal of Multivariate Analysis, 2019, 170, 275-295.	1.0	18
53	Multi-index Stochastic Collocation Convergence Rates for Random PDEs with Parametric Regularity. Foundations of Computational Mathematics, 2016, 16, 1555-1605.	2.5	17
54	A Posteriori Error Estimation for the Stochastic Collocation Finite Element Method. SIAM Journal on Numerical Analysis, 2018, 56, 3121-3143.	2.3	17

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55	Complexity Analysis of stochastic gradient methods for PDE-constrained optimal Control Problems with uncertain parameters. ESAIM: Mathematical Modelling and Numerical Analysis, 2021, 55, 1599-1633.	1.9	16
56	An Adaptive Sparse Grid Algorithm for Elliptic PDEs with Lognormal Diffusion Coefficient. Lecture Notes in Computational Science and Engineering, 2016, , 191-220.	0.3	16
57	Sparse Polynomial Chaos expansions using variational relevance vector machines. Journal of Computational Physics, 2020, 416, 109498.	3.8	14
58	An a posteriori error estimator for model adaptivity in electrocardiology. Computer Methods in Applied Mechanics and Engineering, 2011, 200, 2727-2737.	6.6	13
59	Perturbation Analysis for the Darcy Problem with Log-Normal Permeability. SIAM-ASA Journal on Uncertainty Quantification, 2014, 2, 223-244.	2.0	13
60	Convergence estimates in probability and in expectation for discrete least squares with noisy evaluations at random points. Journal of Multivariate Analysis, 2015, 142, 167-182.	1.0	13
61	Optimization of mesh hierarchies in multilevel Monte Carlo samplers. Stochastics and Partial Differential Equations: Analysis and Computations, 2016, 4, 76-112.	0.9	13
62	Formulation of the static frame problem. Computer Methods in Applied Mechanics and Engineering, 2008, 197, 2496-2499.	6.6	12
63	A theoretical study of COmpRessed SolvING for advection-diffusion-reaction problems. Mathematics of Computation, 2017, 87, 1-38.	2.1	12
64	Moment equations for the mixed formulation of the Hodge Laplacian with stochastic loading term. IMA Journal of Numerical Analysis, 2014, 34, 1328-1360.	2.9	11
65	A posteriori error estimation for elliptic partial differential equations with small uncertainties. Numerical Methods for Partial Differential Equations, 2016, 32, 175-212.	3.6	11
66	Integration of activation maps of epicardial veins in computational cardiac electrophysiology. Computers in Biology and Medicine, 2020, 127, 104047.	7.0	11
67	Low-Rank Tensor Approximation for High-Order Correlation Functions of Gaussian Random Fields. SIAM-ASA Journal on Uncertainty Quantification, 2015, 3, 393-416.	2.0	10
68	Function integration, reconstruction and approximation using rank-1 lattices. Mathematics of Computation, 2021, 90, 1861-1897.	2.1	10
69	Symplectic dynamical low rank approximation of wave equations with random parameters. BIT Numerical Mathematics, 2020, 60, 1153-1201.	2.0	9
70	A posteriori error estimation for the steady Navier–Stokes equations in random domains. Computer Methods in Applied Mechanics and Engineering, 2017, 313, 483-511.	6.6	8
71	Discrete Least-Squares Approximations over Optimized Downward Closed Polynomial Spaces in Arbitrary Dimension. Constructive Approximation, 2017, 45, 497-519.	3.0	8
72	Convergence analysis of Padé approximations for Helmholtz frequency response problems. ESAIM: Mathematical Modelling and Numerical Analysis, 2018, 52, 1261-1284.	1.9	8

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73	Continuation Multilevel Monte Carlo Evolutionary Algorithm for Robust Aerodynamic Shape Design. Journal of Aircraft, 2019, 56, 771-786.	2.4	8
74	Least-Squares Padé approximation of parametric and stochastic Helmholtz maps. Advances in Computational Mathematics, 2020, 46, 1.	1.6	7
75	Fast Least-Squares Padé approximation of problems with normal operators and meromorphic structure. Mathematics of Computation, 2020, 89, 1229-1257.	2.1	7
76	Multilevel ensemble Kalman filtering for spatio-temporal processes. Numerische Mathematik, 2021, 147, 71-125.	1.9	7
77	PDE-Constrained Optimal Control Problems with Uncertain Parameters using SAGA. SIAM-ASA Journal on Uncertainty Quantification, 2021, 9, 979-1012.	2.0	7
78	A Quasi-optimal Sparse Grids Procedure for Groundwater Flows. Lecture Notes in Computational Science and Engineering, 2014, , 1-16.	0.3	7
79	Comparison of Clenshaw–Curtis and Leja Quasi-Optimal Sparse Grids for the Approximation of Random PDEs. Lecture Notes in Computational Science and Engineering, 2015, , 475-482.	0.3	7
80	Stable high-order randomized cubature formulae in arbitrary dimension. Journal of Approximation Theory, 2022, 275, 105706.	0.8	7
81	Regularity and sparse approximation of the recursive first moment equations for the lognormal Darcy problem. Computers and Mathematics With Applications, 2020, 80, 2925-2947.	2.7	5
82	Multilevel weighted least squares polynomial approximation. ESAIM: Mathematical Modelling and Numerical Analysis, 2020, 54, 649-677.	1.9	5
83	Stability properties of a projector-splitting scheme for dynamical low rank approximation of random parabolic equations. Numerische Mathematik, 2021, 149, 973-1024.	1.9	5
84	Sparse approximation of multilinear problems with applications to kernel-based methods in UQ. Numerische Mathematik, 2018, 139, 247-280.	1.9	4
85	A hybrid collocation-perturbation approach for PDEs with random domains. Advances in Computational Mathematics, 2021, 47, 1.	1.6	4
86	Existence of dynamical low rank approximations for random semi-linear evolutionary equations on the maximal interval. Stochastics and Partial Differential Equations: Analysis and Computations, 2021, 9, 603-629.	0.9	3
87	Non-intrusive double-greedy parametric model reduction by interpolation of frequency-domain rational surrogates. ESAIM: Mathematical Modelling and Numerical Analysis, 2021, 55, 1895-1920.	1.9	3
88	Efficient algorithms for the solution of fluid-structure interaction problems in haemodynamic applications. , 2012, , 355-362.		3
89	Fast approximation by periodic kernel-based lattice-point interpolation with application in uncertainty quantification. Numerische Mathematik, 2022, 150, 33-77.	1.9	3
90	Continuation Multi-level Monte Carlo. Notes on Numerical Fluid Mechanics and Multidisciplinary Design, 2019, , 305-325.	0.3	2

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91	Computational electrophysiology of the coronary sinus branches based on electro-anatomical mapping for the prediction of the latest activated region. Medical and Biological Engineering and Computing, 2022, 60, 2307-2319.	2.8	2
92	Trends in biomedical engineering: focus on Patient Specific Modeling and Life Support Systems. Journal of Applied Biomaterials and Biomechanics, 2011, 9, 109-117.	0.4	1
93	Numerical methods for random and stochastic partial differential equations. Stochastics and Partial Differential Equations: Analysis and Computations, 2016, 4, 1-2.	0.9	1
94	Modified fixed point algorithm in fluid–structure interaction. Comptes Rendus - Mecanique, 2003, 331, 525-530.	2.1	0
95	EDITORIAL PREFACE: NUMERICAL METHODS FOR UNCERTAINTY QUANTIFICATION. , 2015, 5, vii-viii.		0
96	Analysis and Computation of Hyperbolic PDEs with Random Data. , 2015, , 51-58.		0
97	Robust Design with MLMC. Notes on Numerical Fluid Mechanics and Multidisciplinary Design, 2019, , 529-540.	0.3	0
98	A Posteriori Error Estimation for the Stochastic Collocation Finite Element Approximation of the Heat Equation with Random Coefficients. Lecture Notes in Computational Science and Engineering, 2021, , 127-159.	0.3	0