

# Raul F Tempone

## List of Publications by Citations

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122  
papers

4,578  
citations

28  
h-index

66  
g-index

138  
ext. papers

5,229  
ext. citations

2.9  
avg, IF

5.86  
L-index

#	Paper	IF	Citations
122	A Stochastic Collocation Method for Elliptic Partial Differential Equations with Random Input Data. <i>SIAM Journal on Numerical Analysis</i> , <b>2007</b> , 45, 1005-1034	2.4	740
121	A Sparse Grid Stochastic Collocation Method for Partial Differential Equations with Random Input Data. <i>SIAM Journal on Numerical Analysis</i> , <b>2008</b> , 46, 2309-2345	2.4	652
120	Galerkin Finite Element Approximations of Stochastic Elliptic Partial Differential Equations. <i>SIAM Journal on Numerical Analysis</i> , <b>2004</b> , 42, 800-825	2.4	603
119	An Anisotropic Sparse Grid Stochastic Collocation Method for Partial Differential Equations with Random Input Data. <i>SIAM Journal on Numerical Analysis</i> , <b>2008</b> , 46, 2411-2442	2.4	350
118	Solving elliptic boundary value problems with uncertain coefficients by the finite element method: the stochastic formulation. <i>Computer Methods in Applied Mechanics and Engineering</i> , <b>2005</b> , 194, 1251-1294	5.7	241
117	A Stochastic Collocation Method for Elliptic Partial Differential Equations with Random Input Data. <i>SIAM Review</i> , <b>2010</b> , 52, 317-355	7.4	211
116	ON THE OPTIMAL POLYNOMIAL APPROXIMATION OF STOCHASTIC PDES BY GALERKIN AND COLLOCATION METHODS. <i>Mathematical Models and Methods in Applied Sciences</i> , <b>2012</b> , 22, 1250023	3.5	87
115	Multi-index Monte Carlo: when sparsity meets sampling. <i>Numerische Mathematik</i> , <b>2016</b> , 132, 767-806	2.2	61
114	Fast estimation of expected information gains for Bayesian experimental designs based on Laplace approximations. <i>Computer Methods in Applied Mechanics and Engineering</i> , <b>2013</b> , 259, 24-39	5.7	61
113	Stochastic Spectral Galerkin and Collocation Methods for PDEs with Random Coefficients: A Numerical Comparison. <i>Lecture Notes in Computational Science and Engineering</i> , <b>2011</b> , 43-62	0.3	59
112	A continuation multilevel Monte Carlo algorithm. <i>BIT Numerical Mathematics</i> , <b>2015</b> , 55, 399-432	1.7	58
111	A systematic approach to model validation based on Bayesian updates and prediction related rejection criteria. <i>Computer Methods in Applied Mechanics and Engineering</i> , <b>2008</b> , 197, 2517-2539	5.7	55
110	A Stochastic Maximum Principle for Risk-Sensitive Mean-Field Type Control. <i>IEEE Transactions on Automatic Control</i> , <b>2015</b> , 60, 2640-2649	5.9	54
109	Approximation of Quantities of Interest in Stochastic PDEs by the Random Discrete $L^2$ Projection on Polynomial Spaces. <i>SIAM Journal of Scientific Computing</i> , <b>2013</b> , 35, A1440-A1460	2.6	51
108	Analysis and implementation issues for the numerical approximation of parabolic equations with random coefficients. <i>International Journal for Numerical Methods in Engineering</i> , <b>2009</b> , 80, 979-1006	2.4	51
107	Analysis of Discrete ( $L^2$ ) Projection on Polynomial Spaces with Random Evaluations. <i>Foundations of Computational Mathematics</i> , <b>2014</b> , 14, 419	2.7	47
106	Discrete least squares polynomial approximation with random evaluations [Application to parametric and stochastic elliptic PDEs]. <i>ESAIM: Mathematical Modelling and Numerical Analysis</i> , <b>2015</b> , 49, 815-837	1.8	47

105	Convergence of quasi-optimal Stochastic Galerkin methods for a class of PDES with random coefficients. <i>Computers and Mathematics With Applications</i> , <b>2014</b> , 67, 732-751	2.7	43
104	SOLVING STOCHASTIC PARTIAL DIFFERENTIAL EQUATIONS BASED ON THE EXPERIMENTAL DATA. <i>Mathematical Models and Methods in Applied Sciences</i> , <b>2003</b> , 13, 415-444	3.5	43
103	Multilevel sequential Monte Carlo samplers. <i>Stochastic Processes and Their Applications</i> , <b>2017</b> , 127, 1417-1440	1.4	42
102	Theory and methodology for estimation and control of errors due to modeling, approximation, and uncertainty. <i>Computer Methods in Applied Mechanics and Engineering</i> , <b>2005</b> , 194, 195-204	5.7	42
101	Adaptive weak approximation of stochastic differential equations. <i>Communications on Pure and Applied Mathematics</i> , <b>2001</b> , 54, 1169-1214	2.5	42
100	Multilevel ensemble Kalman filtering. <i>SIAM Journal on Numerical Analysis</i> , <b>2016</b> , 54, 1813-1839	2.4	40
99	Reliability of computational science. <i>Numerical Methods for Partial Differential Equations</i> , <b>2007</b> , 23, 753-784	1.4	37
98	A stochastic collocation method for the second order wave equation with a discontinuous random speed. <i>Numerische Mathematik</i> , <b>2013</b> , 123, 493-536	2.2	34
97	Validation Challenge Workshop. <i>Computer Methods in Applied Mechanics and Engineering</i> , <b>2008</b> , 197, 2375-2380	5.7	33
96	Bayesian inference and model comparison for metallic fatigue data. <i>Computer Methods in Applied Mechanics and Engineering</i> , <b>2016</b> , 304, 171-196	5.7	30
95	Multi-Index Stochastic Collocation for random PDEs. <i>Computer Methods in Applied Mechanics and Engineering</i> , <b>2016</b> , 306, 95-122	5.7	30
94	Analytic regularity and collocation approximation for elliptic PDEs with random domain deformations. <i>Computers and Mathematics With Applications</i> , <b>2016</b> , 71, 1173-1197	2.7	27
93	Deterministic Mean-Field Ensemble Kalman Filtering. <i>SIAM Journal of Scientific Computing</i> , <b>2016</b> , 38, A1251-A1279	2.6	26
92	Fast Bayesian experimental design: Laplace-based importance sampling for the expected information gain. <i>Computer Methods in Applied Mechanics and Engineering</i> , <b>2018</b> , 334, 523-553	5.7	25
91	Convergence of quasi-optimal sparse-grid approximation of Hilbert-space-valued functions: application to random elliptic PDEs. <i>Numerische Mathematik</i> , <b>2016</b> , 134, 343-388	2.2	25
90	Cost effective policies for alternative distributions of stochastic water pollution. <i>Journal of Environmental Management</i> , <b>2002</b> , 66, 145-57	7.9	24
89	Worst case scenario analysis for elliptic problems with uncertainty. <i>Numerische Mathematik</i> , <b>2005</b> , 101, 185-219	2.2	23
88	Implementation and analysis of an adaptive multilevel Monte Carlo algorithm. <i>Monte Carlo Methods and Applications</i> , <b>2014</b> , 20, 1-41	0.4	22

87	Adaptive Weak Approximation of Diffusions with Jumps. <i>SIAM Journal on Numerical Analysis</i> , <b>2008</b> , 46, 1732-1768	2.4	21
86	Convergence Rates for Adaptive Weak Approximation of Stochastic Differential Equations. <i>Stochastic Analysis and Applications</i> , <b>2005</b> , 23, 511-558	1.1	21
85	Fast Bayesian optimal experimental design for seismic source inversion. <i>Computer Methods in Applied Mechanics and Engineering</i> , <b>2015</b> , 291, 123-145	5.7	18
84	Hybrid Chernoff Tau-Leap. <i>Multiscale Modeling and Simulation</i> , <b>2014</b> , 12, 581-615	1.8	18
83	A Unified Moment-Based Approach for the Evaluation of the Outage Probability With Noise and Interference. <i>IEEE Transactions on Wireless Communications</i> , <b>2017</b> , 16, 1012-1023	9.6	15
82	Unified Importance Sampling Schemes for Efficient Simulation of Outage Capacity Over Generalized Fading Channels. <i>IEEE Journal on Selected Topics in Signal Processing</i> , <b>2016</b> , 10, 376-388	7.5	15
81	A Laplace method for under-determined Bayesian optimal experimental designs. <i>Computer Methods in Applied Mechanics and Engineering</i> , <b>2015</b> , 285, 849-876	5.7	15
80	Multilevel hybrid Chernoff tau-leap. <i>BIT Numerical Mathematics</i> , <b>2016</b> , 56, 189-239	1.7	14
79	On the Fast and Precise Evaluation of the Outage Probability of Diversity Receivers Over $\alpha$ - $\mu$ , $\kappa$ - $\mu$ , and $\eta$ - $\mu$ Fading Channels. <i>IEEE Transactions on Wireless Communications</i> , <b>2018</b> , 17, 1255-1268	9.6	14
78	On the predictivity of pore-scale simulations: Estimating uncertainties with multilevel Monte Carlo. <i>Advances in Water Resources</i> , <b>2016</b> , 95, 46-60	4.7	14
77	Multi-index Stochastic Collocation Convergence Rates for Random PDEs with Parametric Regularity. <i>Foundations of Computational Mathematics</i> , <b>2016</b> , 16, 1555-1605	2.7	14
76	On NonAsymptotic Optimal Stopping Criteria in Monte Carlo Simulations. <i>SIAM Journal of Scientific Computing</i> , <b>2014</b> , 36, A869-A885	2.6	13
75	Adaptive Multilevel Monte Carlo Simulation. <i>Lecture Notes in Computational Science and Engineering</i> , <b>2012</b> , 217-234	0.3	13
74	Nesterov-aided stochastic gradient methods using Laplace approximation for Bayesian design optimization. <i>Computer Methods in Applied Mechanics and Engineering</i> , <b>2020</b> , 363, 112909	5.7	12
73	Optimal Bayesian Experimental Design for Priors of Compact Support with Application to Shock-Tube Experiments for Combustion Kinetics. <i>International Journal for Numerical Methods in Engineering</i> , <b>2016</b> , 108, 136-155	2.4	12
72	An Adaptive Sparse Grid Algorithm for Elliptic PDEs with Lognormal Diffusion Coefficient. <i>Lecture Notes in Computational Science and Engineering</i> , <b>2016</b> , 191-220	0.3	12
71	Bayesian inferences of the thermal properties of a wall using temperature and heat flux measurements. <i>International Journal of Heat and Mass Transfer</i> , <b>2018</b> , 116, 417-431	4.9	11
70	A stochastic multiscale method for the elastodynamic wave equation arising from fiber composites. <i>Computer Methods in Applied Mechanics and Engineering</i> , <b>2014</b> , 276, 190-211	5.7	11

69	Analysis and computation of the elastic wave equation with random coefficients. <i>Computers and Mathematics With Applications</i> , <b>2015</b> , 70, 2454-2473	2.7	11
68	Adaptive weak approximation of reflected and stopped diffusions. <i>Monte Carlo Methods and Applications</i> , <b>2010</b> , 16, 1-67	0.4	11
67	Convergence rates for adaptive approximation of ordinary differential equations. <i>Numerische Mathematik</i> , <b>2003</b> , 96, 99-129	2.2	11
66	Optimization of mesh hierarchies in multilevel Monte Carlo samplers. <i>Stochastics and Partial Differential Equations: Analysis and Computations</i> , <b>2016</b> , 4, 76-112	0.9	10
65	Convergence estimates in probability and in expectation for discrete least squares with noisy evaluations at random points. <i>Journal of Multivariate Analysis</i> , <b>2015</b> , 142, 167-182	1.4	10
64	Smoothing the payoff for efficient computation of Basket option prices. <i>Quantitative Finance</i> , <b>2018</b> , 18, 491-505	1.6	10
63	Formulation of the static frame problem. <i>Computer Methods in Applied Mechanics and Engineering</i> , <b>2008</b> , 197, 2496-2499	5.7	9
62	A Hierarchical Bayesian Setting for an Inverse Problem in Linear Parabolic PDEs with Noisy Boundary Conditions. <i>Bayesian Analysis</i> , <b>2017</b> , 12,	2.3	8
61	IGA-based multi-index stochastic collocation for random PDEs on arbitrary domains. <i>Computer Methods in Applied Mechanics and Engineering</i> , <b>2019</b> , 351, 330-350	5.7	8
60	Convergence Rates for an Adaptive Dual Weighted Residual Finite Element Algorithm. <i>BIT Numerical Mathematics</i> , <b>2006</b> , 46, 367-407	1.7	8
59	Adaptive Monte Carlo Algorithms for Stopped Diffusion. <i>Lecture Notes in Computational Science and Engineering</i> , <b>2005</b> , 59-88	0.3	8
58	Mean-field games for marriage. <i>PLoS ONE</i> , <b>2014</b> , 9, e94933	3.7	8
57	A note on tools for prediction under uncertainty and identifiability of SIR-like dynamical systems for epidemiology. <i>Mathematical Biosciences</i> , <b>2021</b> , 332, 108514	3.9	8
56	Multilevel and Multi-index Monte Carlo methods for the McKean-Vlasov equation. <i>Statistics and Computing</i> , <b>2018</b> , 28, 923-935	1.8	7
55	On the efficient simulation of the left-tail of the sum of correlated log-normal variates. <i>Monte Carlo Methods and Applications</i> , <b>2018</b> , 24, 101-115	0.4	7
54	Towards automatic global error control: Computable weak error expansion for the tau-leap method. <i>Monte Carlo Methods and Applications</i> , <b>2011</b> , 17,	0.4	7
53	A variational principle for adaptive approximation of ordinary differential equations. <i>Numerische Mathematik</i> , <b>2003</b> , 96, 131-152	2.2	7
52	Computation of Electromagnetic Fields Scattered From Objects With Uncertain Shapes Using Multilevel Monte Carlo Method. <i>IEEE Journal on Multiscale and Multiphysics Computational Techniques</i> , <b>2019</b> , 4, 37-50	1.5	7

51	Implied stopping rules for American basket options from Markovian projection. <i>Quantitative Finance</i> , <b>2019</b> , 19, 371-390	1.6	7
50	Multilevel hybrid split-step implicit tau-leap. <i>Numerical Algorithms</i> , <b>2017</b> , 74, 527-560	2.1	6
49	On the Efficient Simulation of the Distribution of the Sum of Gamma Variates With Application to the Outage Probability Evaluation Over Fading Channels. <i>IEEE Transactions on Communications</i> , <b>2017</b> , 65, 1839-1848	6.9	6
48	Hierarchical adaptive sparse grids and quasi-Monte Carlo for option pricing under the rough Bergomi model. <i>Quantitative Finance</i> , <b>2020</b> , 20, 1457-1473	1.6	6
47	Pricing American options by exercise rate optimization. <i>Quantitative Finance</i> , <b>2020</b> , 20, 1749-1760	1.6	6
46	A Quasi-optimal Sparse Grids Procedure for Groundwater Flows. <i>Lecture Notes in Computational Science and Engineering</i> , <b>2014</b> , 1-16	0.3	6
45	A fast simulation method for the Log-normal sum distribution using a hazard rate twisting technique <b>2015</b> ,		5
44	Solution of the 3D density-driven groundwater flow problem with uncertain porosity and permeability. <i>GEM - International Journal on Geomathematics</i> , <b>2020</b> , 11, 1	2.7	5
43	Comparison of Clenshaw-Curtis and Leja Quasi-Optimal Sparse Grids for the Approximation of Random PDEs. <i>Lecture Notes in Computational Science and Engineering</i> , <b>2015</b> , 475-482	0.3	5
42	Spatial Poisson processes for fatigue crack initiation. <i>Computer Methods in Applied Mechanics and Engineering</i> , <b>2019</b> , 345, 454-475	5.7	5
41	On the Efficient Simulation of Outage Probability in a Log-Normal Fading Environment. <i>IEEE Transactions on Communications</i> , <b>2017</b> , 65, 2583-2593	6.9	4
40	Multilevel Monte Carlo in approximate Bayesian computation. <i>Stochastic Analysis and Applications</i> , <b>2019</b> , 37, 346-360	1.1	4
39	Multilevel double loop Monte Carlo and stochastic collocation methods with importance sampling for Bayesian optimal experimental design. <i>International Journal for Numerical Methods in Engineering</i> , <b>2020</b> , 121, 3482-3503	2.4	4
38	Multilevel Monte Carlo acceleration of seismic wave propagation under uncertainty. <i>GEM - International Journal on Geomathematics</i> , <b>2019</b> , 10, 1	2.7	4
37	A Multilevel Adaptive Reaction-splitting Simulation Method for Stochastic Reaction Networks. <i>SIAM Journal of Scientific Computing</i> , <b>2016</b> , 38, A2091-A2117	2.6	4
36	. <i>IEEE Transactions on Wireless Communications</i> , <b>2018</b> , 17, 7801-7813	9.6	4
35	An Improved Hazard Rate Twisting Approach for the Statistic of the Sum of Subexponential Variates. <i>IEEE Communications Letters</i> , <b>2015</b> , 19, 14-17	3.8	3
34	Multilevel weighted least squares polynomial approximation. <i>ESAIM: Mathematical Modelling and Numerical Analysis</i> , <b>2020</b> , 54, 649-677	1.8	3

33	Sparse approximation of multilinear problems with applications to kernel-based methods in UQ. <i>Numerische Mathematik</i> , <b>2018</b> , 139, 247-280	2.2	3
32	A stochastic maximum principle for risk-sensitive mean-field-type control <b>2014</b> ,		3
31	Diffusion approximation of Lévy processes with a view towards finance. <i>Monte Carlo Methods and Applications</i> , <b>2011</b> , 17,	0.4	3
30	Static frame challenge problem: Summary. <i>Computer Methods in Applied Mechanics and Engineering</i> , <b>2008</b> , 197, 2572-2577	5.7	3
29	Generalized parallel tempering on Bayesian inverse problems. <i>Statistics and Computing</i> , <b>2021</b> , 31, 1	1.8	3
28	An efficient forward–reverse expectation-maximization algorithm for statistical inference in stochastic reaction networks. <i>Stochastic Analysis and Applications</i> , <b>2016</b> , 34, 193-231	1.1	2
27	Ensemble-marginalized Kalman filter for linear time-dependent PDEs with noisy boundary conditions: application to heat transfer in building walls. <i>Inverse Problems</i> , <b>2018</b> , 34, 075008	2.3	2
26	Multiscale Modeling of Wear Degradation in Cylinder Liners. <i>Multiscale Modeling and Simulation</i> , <b>2014</b> , 12, 396-409	1.8	2
25	Mean-field learning for satisfactory solutions <b>2013</b> ,		2
24	Hyperbolic Differential Equations and Adaptive Numerics. <i>Universitext</i> , <b>2001</b> , 231-280	0.2	2
23	A Sparse Stochastic Collocation Technique for High-Frequency Wave Propagation with Uncertainty. <i>SIAM-ASA Journal on Uncertainty Quantification</i> , <b>2016</b> , 4, 1084-1110	1.8	2
22	Fast Outage Probability Simulation for FSO Links with a Generalized Pointing Error Model <b>2016</b> ,		2
21	Computable Error Estimates for Finite Element Approximations of Elliptic Partial Differential Equations with Rough Stochastic Data. <i>SIAM Journal of Scientific Computing</i> , <b>2016</b> , 38, A3773-A3807	2.6	2
20	Multilevel ensemble Kalman filtering for spatio-temporal processes. <i>Numerische Mathematik</i> , <b>2021</b> , 147, 71-125	2.2	2
19	On the generalization of the hazard rate twisting-based simulation approach. <i>Statistics and Computing</i> , <b>2018</b> , 28, 61-75	1.8	2
18	Statistical learning for fluid flows: Sparse Fourier divergence-free approximations. <i>Physics of Fluids</i> , <b>2021</b> , 33, 097108	4.4	2
17	Monte Carlo Euler approximations of HJM term structure financial models. <i>BIT Numerical Mathematics</i> , <b>2012</b> , 53, 341	1.7	1
16	Smolyak’s Algorithm: A Powerful Black Box for the Acceleration of Scientific Computations. <i>Lecture Notes in Computational Science and Engineering</i> , <b>2018</b> , 201-228	0.3	1

15	Importance sampling for a robust and efficient multilevel Monte Carlo estimator for stochastic reaction networks. <i>Statistics and Computing</i> , <b>2020</b> , 30, 1665-1689	1.8	1
14	A hybrid collocation-perturbation approach for PDEs with random domains. <i>Advances in Computational Mathematics</i> , <b>2021</b> , 47, 1	1.6	1
13	An Error Estimate for Symplectic Euler Approximation of Optimal Control Problems. <i>SIAM Journal of Scientific Computing</i> , <b>2015</b> , 37, A946-A969	2.6	0
12	Efficient importance sampling for large sums of independent and identically distributed random variables. <i>Statistics and Computing</i> , <b>2021</b> , 31, 1	1.8	0
11	A Universal Splitting Estimator for the Performance Evaluation of Wireless Communications Systems. <i>IEEE Transactions on Wireless Communications</i> , <b>2020</b> , 19, 4353-4362	9.6	0
10	An Accurate Sample Rejection Estimator of the Outage Probability With Equal Gain Combining. <i>IEEE Open Journal of the Communications Society</i> , <b>2020</b> , 1, 1022-1034	6.7	0
9	Quantifying uncertainty with a derivative tracking SDE model and application to wind power forecast data. <i>Statistics and Computing</i> , <b>2021</b> , 31, 1	1.8	0
8	Construction of a Mean Square Error Adaptive Euler-Maruyama Method With Applications in Multilevel Monte Carlo. <i>Springer Proceedings in Mathematics and Statistics</i> , <b>2016</b> , 29-86	0.2	
7	Computable error estimates of a finite difference scheme for option pricing in exponential Lévy models. <i>BIT Numerical Mathematics</i> , <b>2014</b> , 54, 1023-1065	1.7	
6	Efficient Simulation of the Outage Probability of Multihop Systems. <i>IEEE Photonics Journal</i> , <b>2017</b> , 9, 1-8	1.8	
5	Wind field reconstruction with adaptive random Fourier features.. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , <b>2021</b> , 477, 20210236	2.4	
4	Efficient Importance Sampling for the Left Tail of Positive Gaussian Quadratic Forms. <i>IEEE Wireless Communications Letters</i> , <b>2021</b> , 10, 527-531	5.9	
3	Efficient Simulations for Contamination of Groundwater Aquifers under Uncertainties. <i>Proceedings in Applied Mathematics and Mechanics</i> , <b>2019</b> , 19, e201900023	0.2	
2	MLMC method to estimate propagation of uncertainties in electromagnetic fields scattered from objects of uncertain shapes. <i>Proceedings in Applied Mathematics and Mechanics</i> , <b>2021</b> , 20, e202000064	0.2	
1	Propagation of Uncertainties in Density-Driven Flow. <i>Lecture Notes in Computational Science and Engineering</i> , <b>2021</b> , 101-126	0.3	