CURRICULUM VITAE

LORENZO TAMELLINI

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CV Last update: August 22, 2023

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1. Current position

January 1, 2023 - today Senior researcher ("Primo ricercatore"), Istituto di Matematica Applicata e Tecnologie Informatiche "Enrico Magenes" (IMATI), Pavia, Italy.
October 2022 - today: co-chair of the activity group GAMM-UQ.
August 31, 2018 - August 31, 2029: Abilitazione Fascia II Settore Concorsuale 01/A5 "Analisi Numerica".
July 2019 - today: SIMAI representative in the ECCOMAS Young Investigators Committee (EYIC).

2. Professional Experience

December 30, 2016 - December 31, 2022: Researcher, Istituto di Matematica Applicata e Tecnologie Informatiche "Enrico Magenes" (IMATI), Pavia, Italy.
February 15, 2016 - December 29, 2016: Researcher (non-permanent position), Istituto di Matematica Applicata e Tecnologie Informatiche "Enrico Magenes" (IMATI), Pavia, Italy.
May 2015 - February 14, 2016: Postdoctoral fellowship at Department of Mathematics, Università di Pavia, Italy, prof. G. Sangalli. Research theme "Isogeometric Method".
May 2012 - April 2015: Postdoctoral fellowship at the CSQI lab at École Polytechnique Fédérale de Lausanne, Switzerland, prof. F. Nobile, chair of "Scientific computing and Uncertainty Quantification".
January 2009 - March 2012: Ph.D. Student at the MOX lab at Department of Mathematics, Politecnico di Milano, Italy, prof. F. Nobile.

3. Education

March 26, 2012: Ph. D. "cum laude" at the Ph.D. school in "Mathematical Models and Methods in Engineering", Politecnico di Milano, with "Doctor Europaeus" certification. Thesis title: "Polynomial approximation of PDEs with stochastic coefficients". Advisor: prof. F. Nobile.
June 2010: Master of Science in Mathematical Engineering (110/110), at Politecnico di Torino, Academic Year 2009/2010.
June 2009: Alta Scuola Politecnica Diploma. Thesis title: "VICHEM - Virtual Chemistry". Advisors: E. Benfenati (Istituto Mario Negri), prof. G. Gini, prof. E. Vismara (Politecnico di Milano), prof. B. Montrucchio (Politecnico di Torino).
December 2008: Master of Science in Mathematical Engineering (110/110), at Politecnico di Milano, Academic Year 2007/2008. Thesis title: "A numerical model for scull floating". Advisor: prof. Luca Formaggia, co-advisor: Edie Miglio.

September 2006: Bachelor in Mathematical Engineering (110/110 cum laude), Politecnico di Milano, Academic Year 2005/2006. Thesis title: "An application of the Lattice Boltzmann Method to two-dimensional flow". Advisor: prof. Fausto Saleri.

July 2003: Scientific High School Diploma (98/100), Academic Year 2002/2003. Liceo Scientifico Sperimentazione P.N.I., "L.S.S. Girolamo Fracastoro", Verona.

4. Projects

1. **Start date TBA** : Italian PRIN 2022 PNRR project "Uncertainty Quantification of coupled models for water flow and contaminant transport"
   Role: P.I.; **Total funding:** 225K EUR; **CNR-IMATI funding:** 100K EUR.

2. **September 30, 2023 - August 31, 2025**: Italian PRIN 2022 project "Numerical approximation of uncertainty quantification problems for PDEs by multi-fidelity methods"
   Role: co P.I.; **Total funding:** 164K EUR; **CNR-IMATI funding:** 81K EUR

3. **October 1, 2022 - September 30, 2025** Italian PNRR project "Centro Nazionale HPC, Big Data & Quantum Computing, Spoke 6 - Multiscale Modelling & Engineering Applications"
   Role: participant (75 hours/person); **Total funding:** 320M EUR; **CNR-IMATI funding (Spoke 6):** 95K EUR

4. **October 1, 2022 - September 30, 2025** Italian PNRR project "Ecosistema Innovazione Liguria: Robotics and AI for Socio-economic Empowerment, Spoke 3 - Environmental caring and protection technologies, and towards a zero emission environment"
   Role: participant (176 hours/person); **Total funding:** 190M EUR; **CNR-IMATI funding (Spoke 3):** 558K EUR

5. **December 1, 2022 - November 30, 2026** Italian PNRR complementary project " Digital Driven Diagnostics, prognostics and therapeutics for sustainable Health care, Spoke 3 - Wearable technologies, sensors and biomarkers for care through Digital Twin approaches"
   Role: participant (882 hours/person) with personal budget; **Total funding:** 131M EUR; **Personal funding:** 211K EUR

6. **August 19, 2019 - August 18, 2022** : Italian PRIN 2017 project "Numerical Analysis for Full and Reduced Order Methods for the efficient and accurate solution of complex systems governed by Partial Differential Equations (NA-FROM-PDEs)"
   Role: CNR-IMATI unit leader; **Total funding:** 601K EUR; **CNR-IMATI funding:** 75K EUR.

7. **February 15, 2016 - August 31, 2018**: project Horizon 2020 "Computer Aided Technologies for Additive Manifacturing (CAxMan)"
   Role: participant (1400 hours/person) **Total funding:** 7.1M EUR; **CNR-IMATI funding:** 755K EUR.

8. **Annual GNCS projects:**

   - **January 30, 2023 - January 30, 2024**: P.I. Cesare Bracco
   - **May 24, 2022 - May 31, 2023**: P.I. Mattia Tani
   - **January 1, 2020 - December 31, 2021**: P.I. Lorenzo Tamellini
   - **January 1, 2019 - December 31, 2019**: P.I. Andrea Moiola
   - **January 1, 2018 - December 31, 2018**: P.I. Andreas Veeser
   - **January 1, 2017 - December 31, 2017**: P.I. Daniele Boffi

5. Post-doc supervision

Chiara Piazzola, March 1, 2020 - January 31, 2023.
Federico Marini, November 2, 2017 - October 31, 2018.

6. Prizes

February 3-21, 2020. Aerospace Engineering Visiting Scholar Program, University of Colorado Boulder

November 6, 2015. *Finanziamento Giovani Ricercatori GNCS 2015* (1000 EUR) for the project *Tecniche di Quantificazione dell'Incertezza e applicazione a problemi di compattazione geochimica.*

7. Scientific Interests

- Uncertainty Quantification
- Multi-fidelity methods
- Isogeometric Analysis
- Additive Manufacturing
- Computational Fluid Dynamics
- Computational Geophysics

8. Visiting

Universitat Politecnica de Catalunya, *Spain. Laboratori de Càlcul Numèric, Department of Civil and Environmental Engineering, Dr. M. Giacomini.* January 23 - June 30, September 4 - December 22, 2023.

Università di Firenze, *Italia. Dipartimento di Matematica e Informatica "U. Dini", prof. C. Giannelli.* November 24-25, 2022; January 10-11, 2023.

Università di Padova, *Italia. Dipartimento di Ingegneria Civile, Edile e Ambientale, prof. M. Ferronato.* September 22-23, 2022.

University of Colorado Boulder, *USA. Department of Aerospace Engineering Sciences, prof. A. Doostan and J. Evans.* February 3-21, 2020 (Aerospace Engineering Visiting Scholar Program); March 15-22, 2019; April 20-27, 2018.

Columbia University, *USA. Department of Applied Physics and Applied Mathematics, dr. A. Sagiv* February 24, 2020.

University of Nottingham, *UK. School of Mathematical Sciences, Matteo Icardi, Ph.D.* June 18-20, 2019.

École Polytechnique Fédérale de Lausanne, *Switzerland. CSQI (Calcul Scientifique et Quantification de l'Incertitude), prof. F. Nobile.* 4-8 October 2021; July 1-5 2019; April 11-15, 2016; August 17-22, 2015.

Simon Fraser University, *Canada. Department of Mathematics, prof. B. Adcock.* March 4-8, 2019; April 6-15, 2018.

King Abdullah University of Science and Technology, *Thuwal, Saudi Arabia. Applied Mathematics and Computational Science Department, prof. R. Tempone.* September 16-30, 2018; August 16-30, 2016; January 4-15, 2016; January 4-16, 2015; February 11-25, 2014; January 3-14, 2012; February 18-26, 2010; November 15-22, 2009.

Newton Institute for the Mathematical Sciences, *Cambridge, UK. Semester on Uncertainty quantification for complex systems: theory and methodologies.* Organizers P. Challenor, M. Gunzburger, C. Powell, H. Wynn, January 28, 2018 - February 18, 2018.

Banff International Research Station, *Canada. Workshop "Computational Uncertainty Quantification".* Organizers S. Prudhomme, R. Ghanem, M. Motamed, R. Tempone, October 8-13, 2017.

TU Chemnitz, *Germany. Mathematics Department, prof. O. Ernst.* June 22-24, 2016.

Université Laval, *Québec, Canada. Department of Mathematics and Statistics, dr. J. Urquiza.* May 9-13, 2016

University of Texas at Austin, *USA. ICES (Institute for Computational Engineering and Sciences), prof. R. Tempone.* June 28 - July 6, 2014; July 15-31, 2010; July 30 - August 14, 2009.

LIMSI-CNRS *(Laboratoire d'Informatique pour la Mécanique et les Sciences de l'Ingénieur) – Orsay, France, Dr. O. P. Le Maître.* December 2, 2010 - February 28, 2011.

9. Publications

Bibliometric data - updated August 22, 2023

- 23 Peer-reviewed scientific articles;
- 5 Peer-Reviewed Book Chapters;
- 3 Conference Proceedings;
- 2 Submitted / In review;
- 2 Technical Reports;
- 1 Software;
- 1 Dissemination Articles;

Google Scholar:	1301 Citations,	H-Index = 18
Scopus:	681 Citations,	H-Index = 14
Web of Science:	445 Citations,	H-Index = 13

Peer-reviewed Journal Articles

[1] C. Piazzola, L. Tamellini, R. Pellegrini, R. Broglia, A. Serani, and M. Diez. Comparing Multi-Index Stochastic Collocation and Multi-Fidelity Stochastic Radial Basis Functions for Forward Uncertainty Quantification of Ship Resistance. *Engineering with Computers*, 39:2209–2237, 2023

[2] M. Chiappetta, C. Piazzola, M. Carraturo, L. Tamellini, A. Reali, and F. Auricchio. Sparse-grids uncertainty quantification of part-scale additive manufacturing processes. *International Journal of Mechanical Sciences*, 256:108476, 2023

[3] E. Baker, S. Manenti, A. Reali, G. Sangalli, L. Tamellini, and S. Todeschini. Combining noisy well data and expert knowledge in a Bayesian calibration of a flow model under uncertainties: an application to solute transport in the Ticino basin. *GEM - International Journal on Geomathematics*, 14(8), 2023

[4] J. D. Jakeman, S. Friedman, M. Eldred, L. Tamellini, A.A. Gorodetsky, and D. Allaire. Adaptive experimental design for multi-fidelity surrogate modeling of multi-disciplinary systems. *International Journal for Numerical Methods in Engineering*, 123(12):2760–2790, 2022

[5] M. Eigel, O. G. Ernst, B. Sprungk, and L. Tamellini. On the convergence of adaptive stochastic collocation for elliptic partial differential equations with affine diffusion. *SIAM Journal on Numerical Analysis*, 60(2):659–687, 2022

[6] E. Baker, A. Cappato, S. Todeschini, L. Tamellini, G. Sangalli, A. Reali, and S. Manenti. Combining the morris method and multiple error metrics to assess aquifer characteristics and recharge in the lower ticino basin, in italy. *Journal of Hydrology*, 614:128536, 2022

[7] C. Piazzola, L. Tamellini, and R. Tempone. A note on tools for prediction under uncertainty and identifiability of SIR-like dynamical systems for epidemiology. *Mathematical Biosciences*, 332:108514, 2021

[8] L. Tamellini, M. Chiumenti, C. Altenhofen, M. Attene, O. Barrowclough, M. Livesu, F. Marini, M. Martinelli, and V. Skytt. Parametric Shape Optimization for Combined Additive–Subtractive Manufacturing. *JOM - The Journal of The Minerals, Metals & Materials Society*, 72:448–457, 2020

[9] S. Brugiapaglia, L. Tamellini, and M. Tani. Compressive isogeometric analysis. *Computers & Mathematics with Applications*, 80(12):3137 – 3155, 2020

[10] J. Beck, L. Tamellini, and R. Tempone. IGA-based Multi-Index Stochastic Collocation for random PDEs on arbitrary domains. *Computer Methods in Applied Mechanics and Engineering*, 351:330 – 350, 2019

[11] O. G. Ernst, B. Sprungk, and L. Tamellini. Convergence of Sparse Collocation for Functions of Countably Many Gaussian Random Variables (with Application to Lognormal Elliptic Diffusion Problems). *SIAM Journal on Numerical Analysis*, 56(2):877–905, 2018

[12] I. Colombo, F. Nobile, G. Porta, A. Scotti, and L. Tamellini. Uncertainty Quantification of geochemical and mechanical compaction in layered sedimentary basins. *Computer Methods in Applied Mechanics and Engineering*, 328:122–146, 2018

[13] J. Beck, G. Sangalli, and L. Tamellini. A sparse-grid isogeometric solver. *Computer Methods in Applied Mechanics and Engineering*, 335(–):128–151, 2018

[14] M. Montardini, G. Sangalli, and L. Tamellini. Optimal-order isogeometric collocation at Galerkin superconvergent points. *Computer Methods in Applied Mechanics and Engineering*, 316(–):741 – 757, 2017. Special Issue on Isogeometric Analysis: Progress and Challenges.

[15] F. Nobile, L. Tamellini, and R. Tempone. Convergence of quasi-optimal sparse-grid approximation of Hilbert-space-valued functions: application to random elliptic PDEs. *Numerische Mathematik*, 134(2):343–388, 2016

[16] A.-L. Haji-Ali, F. Nobile, L. Tamellini, and R. Tempone. Multi-Index Stochastic Collocation for random PDEs. *Computer Methods in Applied Mechanics and Engineering*, 306(–):95 – 122, 2016

[17] A.-L. Haji-Ali, F. Nobile, L. Tamellini, and R. Tempone. Multi-index Stochastic Collocation convergence rates for random PDEs with parametric regularity. *Foundations of Computational Mathematics*, 16(6):1555–1605, 2016

[18] L. Tamellini, O. Maître, and A. Nouy. Model reduction based on proper generalized decomposition for the stochastic steady incompressible Navier–Stokes equations. *SIAM Journal on Scientific Computing*, 36(3):A1089–A1117, 2014

[19] G. Porta, L. Tamellini, V. Lever, and M. Riva. Inverse modeling of geochemical and mechanical compaction in sedimentary basins through polynomial chaos expansion. *Water Resources Research*, 50(12):9414–9431, 2014

[20] J. Beck, F. Nobile, L. Tamellini, and R. Tempone. Convergence of quasi-optimal Stochastic Galerkin methods for a class of PDEs with random coefficients. *Computers & Mathematics with Applications*, 67(4):732 – 751, 2014

[21] L. Formaggia, A. Guadagnini, I. Imperiali, V. Lever, G. Porta, M. Riva, A. Scotti, and L. Tamellini. Global sensitivity analysis through polynomial chaos expansion of a basin-scale geochemical compaction model. *Computational Geosciences*, 17(1):25–42, 2013

[22] L. Tamellini, L. Formaggia, E. Miglio, and A. Scotti. An Uzawa iterative scheme for the simulation of floating bodies. *Computers and Fluids*, 68:148–158, 2012

[23] J. Beck, F. Nobile, L. Tamellini, and R. Tempone. On the optimal polynomial approximation of stochastic PDEs by Galerkin and collocation methods. *Mathematical Models and Methods in Applied Sciences (M3AS)*, 22(9), 2012

Peer-Reviewed Book Chapters

[24] O. G. Ernst, B. Sprungk, and L. Tamellini. On Expansions and Nodes for Sparse Grid Collocation of Lognormal Elliptic PDEs. In H. J. Bungartz, J. Garcke, and D. Pflüger, editors, *Sparse Grids and Applications – Munich 2018*, volume 144 of *Lecture Notes in Computational Science and Engineering*, pages 1–31. Springer, Cham, 2021

[25] F. Nobile, L. Tamellini, F. Tesei, and R. Tempone. An adaptive sparse grid algorithm for elliptic PDEs with lognormal diffusion coefficient. In J. Garcke and D. Pflüger, editors, *Sparse Grids and Applications – Stuttgart 2014*, volume 109 of *Lecture Notes in Computational Science and Engineering*, pages 191–220. Springer International Publishing Switzerland, 2016

[26] F. Nobile, L. Tamellini, and R. Tempone. Comparison of Clenshaw–Curtis and Leja Quasi-Optimal Sparse Grids for the Approximation of Random PDEs. In R. M. Kirby, M. Berzins, and J. S. Hesthaven, editors, *Spectral and High Order Methods for Partial Differential Equations - ICOSAHOM '14*, volume 106 of *Lecture Notes in Computational Science and Engineering*, pages 475–482. Springer International Publishing, 2015

[27] J. Beck, F. Nobile, L. Tamellini, and R. Tempone. A quasi-optimal sparse grids procedure for groundwater flows. In M. Azaiez, H. El Fekih, and J. S. Hesthaven, editors, *Spectral and High Order Methods for Partial Differential Equations - ICOSAHOM 2012*, Lecture Notes in Computational Science and Engineering. Springer, 2014

[28] J. Bäck, F. Nobile, L. Tamellini, and R. Tempone. Stochastic spectral Galerkin and collocation methods for PDEs with random coefficients: a numerical comparison. In J.S. Hesthaven and E.M. Ronquist, editors, *Spectral and High Order Methods for Partial Differential Equations*, volume 76 of *Lecture Notes in Computational Science and Engineering*, pages 43–62. Springer, 2011

Conference Proceedings

[29] C. Piazzola, L. Tamellini, R. Pellegrini, R. Broglia, A. Serani, and M. Diez. Uncertainty Quantification of Ship Resistance via Multi-Index Stochastic Collocation and Radial Basis Function Surrogates: A Comparison. *Proceedings of the AIAA Aviation Forum 2020*, 2020. Non peer-reviewed, indexed in Scopus.

[30] J. Beck and L. Tamellini. Uncertainty Quantification for PDEs with random data using the Multi-Index Stochastic Collocation method. In A. Pollice, N. Salvati, and F. Schirripa Spagnolo, editors, *Book of Short Papers SIS 2020*, pages 334–339. Pearson, 2020. Non peer-reviewed.

[31] J. Beck, F. Nobile, L. Tamellini, and R. Tempone. Implementation of optimal Galerkin and Collocation approximations of PDEs with Random Coefficients. *ESAIM: Proc.*, 33, 2011. Proceedings of CANUM 2010 conference, peer-reviewed.

Submitted / In review

[32] C. Piazzola and L. Tamellini. The Sparse Grids Matlab kit - a Matlab implementation of sparse grids for high-dimensional function approximation and uncertainty quantification. *ArXiv*, (2203.09314), 2022

[33] G. Balduzzi, F. Bonizzoni, and L. Tamellini. Uncertainty quantification in timber-like beams using sparse grids: theory and examples with off-the-shelf software utilization. *ArXiv*, (2211.04735), 2022

Technical Reports

[34] C. Piazzola and L. Tamellini. *The Sparse Grids Matlab Kit user manual – v.23-5 Robert*, 2023. available at `https://sites.google.com/view/sparse-grids-kit`

[35] L. Seelinger, A. Reinarz, J. Benezech, M. B. Lykkegaard, L. Tamellini, and R. Scheichl. Lowering the Entry Bar to HPC-Scale Uncertainty Quantification. *ArXiv*, (2304.14087), 2023

Theses

[36] L. Tamellini. Polynomial approximation of PDEs with stochastic coefficients. PhD Thesis, Politecnico di Milano, 2012

[37] L. Tamellini. Un modello numerico per il galleggiamento di imbarcazioni. Master Thesis, Politecnico di Milano, 2008

[38] L. Bertagna and L. Tamellini. Il metodo Lattice Boltzmann ed una sua applicazione nella simulazione di flussi bidimensionali. Bachelor Thesis, Politecnico di Milano, 2006

Software

[39] L. Tamellini, C. Piazzola, F. Nobile, B. Sprungk, G. Porta, D. Guignard, and F. Tesei. *Sparse Grids Matlab kit* v.23-5 "Robert". `https://sites.google.com/view/sparse-grids-kit`, 2011-2022. Main developer and maintainer. Available free of charge under BSD-2 Clause Licence

Dissemination Articles

[40] R. Broglia, M. Diez, and L. Tamellini. Computational approaches for uncertainty quantification of naval engineering problems, 2020. ERCIM News 123. Special theme: Blue Growth. https://ercim-news.ercim.eu

10. Organization of conferences and minisymposia

Conferences

2024
1. Workshop MASCOT-NUM 2024, April 3-5, 2024, INRIA Sophia Antipolis. Member of the scientific committee
2. SIAM Conference on Uncertainty Quantification (SIAM UQ24), February 27 - March 1 2024, Trieste. Member of the scientific committee and GAMM-AG-UQ representative

2023
3. ECCOMAS Thematic conference IGA 2023. June 18-21, 2023. Lyon. Member of the scientific committee and organizer of the session on UQ.
4. ECCOMAS Thematic conference COUPLED 2023. June 5-7, 2023. Chania. Member of the scientific committee.

2022
5. GIMC SIMAI Young Workshop September 29-30, 2022. Pavia. Member of the local organizing committee and of the scientific committee.
6. Workshop Approximation of high-dimensional parametric PDEs in forward UQ. May 9-13, 2022. Vienna. Member of the scientific committee.
7. ECCOMAS Young Investigators Committee Career Forum 2022. June 5-9, 2022. Oslo Activity organized by the ECCOMAS Young Investigators Committee within the ECCOMAS congress 2022.

2021

8. ECCOMAS Young Investigators Committee Career Forum. July 6, 2021, online. Activity organized by the ECCOMAS Young Investigators Committee within the Young Investigators Conference (YIC) 2021.

9. VI ECCOMAS Young Investigators Conference (YIC) 2021. July 7-9, 2021. Valencia. Member of the scientific committee.

10. ECCOMAS Thematic conference COUPLED 2021. June 13-16, 2021. Chia Laguna. Member of the scientific committee.

11. ECCOMAS Young Investigators Committee Career Forum 2021. January 13, 2021, online. Activity organized by the ECCOMAS Young Investigators Committee within the WCCM-ECCOMAS congress 2021.

2020

12. UQ@DIITET/CNR - Workshop on Methods and applications of computational Uncertainty Quantification: experiences and perspectives within DIITET CNR. October 1-2, 2020, online workshop.

13. SIAM Conference on Uncertainty Quantification (SIAM UQ20) March 24-27, 2020. Munich. Member of the organizing committee and GAMM-AG-UQ representative (canceled due to COVID-19).

2019

14. FrontUQ 19 - Workshop on Frontiers of Uncertainty Quantification in Computational Fluid Dynamics. September 11-13, 2019, Pisa. Member of the local organizing committee and of the scientific committee.

15. UMI 2019 - XXI Congresso dell'Unione Matematica Italiana. September 2-7, 2019, Pavia. Member of the local organizing committee.

16. HOFEIM 19 - High-Order Finite Element and Isogeometric Methods. May 27-31, 2019, Pavia. Webmaster and head of the local organizing committee.

17. TiciNUM 2019 - Third Young Numerical Analysts Meeting in Lombardy. May 10, 2019, Pavia. Member of the scientific andet local organizing committee.

2018

18. FrontUQ 18 - Workshop on Frontiers of Uncertainty Quantification in Subsurface Environment. September 5-7, 2018, Pavia. Member of the local organizing committee and of the scientific committee.

2017

19. IGA 2017 - V International Conference on Isogeometric Analysis. September 11-13, 2017, Pavia. Member of the local organizing committee.

Minisymposia

2024

1. M. Giacomini, L. Tamellini, *Computational challenges in industry and sustainable development: sampling, surrogate and multi-fidelity models for inverse analysis, uncertainty quantification and optimisation*, ECCOMAS Congress, June 3-7, 2024, Lisbon.

2. M. Diez, M.V. Salvetti, L. Tamellini, *UQ and sensitivity in complex engineering simulations (title TBC)*, SIAM Conference on Uncertainty Quantification, February 27 - March 1 2024, Trieste.

3. K. Lux, L. Tamellini *S15 - session on Uncertainty Quantification*, GAMM Annual meeting, March 18-22, 2024, Magdeburg.

2023

4. C. Piazzola, B. Sprungk, L. Tamellini, *Uncertainty Quantification of differential equations with random parameters: methods and applications*, ECCOMAS Young Investigators Conference 2023, July 19-21, 2023, Porto (14 speakers).

5. J. Jakeman, L. Tamellini, I. Tezaur, C. Safta, *Machine learning and uncertainty quantification for coupled multi-physics, multi-scale and multi-fidelity modelling*, COUPLED 2023, June 5-7, 2023, Crete (10 speakers).

6. L. Tamellini, M. Diez, J. Jakeman, A. Gorodetsky *Multi-fidelity methods for uncertainty quantification and optimization*, SIAM Conference on Computational Science and Engineering, February 26,-March 3, 2023, Amsterdam (8 speakers).

2022

7. L. Tamellini, M. Diez, J. Jakeman, A. Gorodetsky *Multi-fidelity methods for uncertainty quantification and optimization*, ECCOMAS Congress, June 5-9, 2022, Oslo (16 speakers).

8. J. Beck, L. Tamellini, *IGA and Other Spline-Based Methods in UQ*, SIAM Conference on Uncertainty Quantification, April 12-15, 2022, Atlanta (hybrid conference) (11 speakers).

2021

9. F. Bonizzoni, A. Manzoni, L. Tamellini, *Trending topics in Uncertainty Quantification*, SIMAI Biannual meeting 2020, August 30,-September 3, 2021, Parma (18 speakers).

10. C. Schillings, B. Sprungk, L. Tamellini, *Uncertainty Quantification of differential equations with random parameters: methods and applications*, ECCOMAS Young Investigators Conference 2021, July 7-9, 2021, online (24 speakers).

11. D. Bolster, G. Porta, L. Tamellini, *Characterization of reactive transport processes under uncertainty*, SIAM Conference on Mathematical & Computational Issues in the Geosciences, June 21-24, 2021, online (9 speakers).

12. D. Allaire, A. Doostan, J. Jakeman, L. Tamellini, *Uncertainty quantification for coupled multi-physics, multi-scale and multi-fidelity modeling*, COUPLED 2021, June 13-16, 2021, online (10 speakers).

13. L. Mainini, M. Diez, L. Tamellini, *Active Learning and Information Fusion for Reliable Predictions*, SIAM Conference on Computational Science and Engineering, March 1-5, 2021, online (10 speakers).

2020

14. M. Diez, M.V. Salvetti, L. Tamellini, *UQ for complex fluid dynamics problems in realistic applications*, SIAM Conference on Uncertainty Quantification, March 24-27, 2020, Munich (8 speakers - canceled due to COVID-19).

2018

15. G. Sangalli, L. Tamellini, *High-order Isogeometric Solvers*, ICOSAHOM - International Conference on Spectral and High Order Methods, July 9-13, 2018, London (8 speakers).

16. J. Beck, L. Tamellini, *IGA and other spline-based methods in UQ and high-dimensional problems*, SIAM Conference on Uncertainty Quantification, April 16-19, 2018, Garden Grove, CA (8 speakers).

2016

17. G. Sangalli, L. Tamellini, *Isogeometric Methods: theoretical and computational aspects*, SIMAI Biannual meeting 2016, September 13-16, 2016, Milano (12 speakers).

18. A. Manzoni, L. Tamellini, *Large-scale and Data-driven PDE problems: Uncertainty Quantification & Reduced Order Modeling*, SIMAI Biannual meeting 2016, September 13-16, 2016, Milano (18 speakers).

19. A. Guadagnini, G. Porta, M. Riva, L. Tamellini, *Uncertainty Quantification in subsurface environments*, SIAM Conference on Uncertainty Quantification, April 5-8, 2016, Lausanne (11 speakers).

2014

20. C. Schwab, L. Tamellini, E. Ullmann, D. Xiu, *High Order Methods for High-Dimensional problems: Applications in UQ*, ICOSAHOM - International Conference on Spectral and High Order Methods, June 23-27, 2014, Salt Lake City (16 speakers).

2012

21. A. Manzoni, L. Tamellini, *Reduced and polynomial approximation strategies for parametrized and stochastic PDEs*, SIMAI Biannual meeting 2012, June 25-28, 2012, Torino (8 speakers).

11. Invited talks

2023

1. Round-table "Biological Digital Twins", part of the CNR-DIITET conference, June 22-23, 2023, Firenze

2. *The MISC method for uncertainty quantification in engineering problems*, **Keynote** in section S15 - Uncertainty Quanfication GAMM Annual meeting 2023, May 30 - June 2 2023, Dresden.

3. *A multi-fidelity method for uncertainty quantification in engineering problems*, **Plenary talk**, Mathematical and Statistical Methods for Metrology 2023, May 30-31, 2023, Torino.

4. *Combining noisy well data and expert knowledge in a Bayesian calibration of a flow model under uncertainties: an application to solute transport in the Ticino basin*, Workshop Stochastic Numerics and Statistical Learning: Theory and Applications, KAUST, May 21 - June 1 2023, KAUST (talk online).

2022

5. *Multi-index stochastic collocation: a multi-fidelity method for UQ problems*, Workshop Stochastic Numerics and Statistical Learning: Theory and Applications, KAUST, May 15-28, 2022, Online.

6. *Multi-Index Stochastic Collocation for forward UQ of single- and multi-disciplinary systems*, Workshop Approximation of high-dimensional parametric PDEs in forward UQ, May 9-13, 2022, Erwin Schroedinger Institute, Vienna. Within the Thematic Programme "Computational Uncertainty Quantification: Mathematical Foundations, Methodology & Data".

7. *Comparing Multi-Index Stochastic Collocation and Multi-Fidelity Stochastic Radial Basis Functions for Forward Uncertainty Quantification of Ship Resistance*, Workshop Multilevel and multi-fidelity sampling methods in UQ for PDEs, May 2-6, 2022, Erwin Schroedinger Institute, Vienna. Within the Thematic Programme "Computational Uncertainty Quantification: Mathematical Foundations, Methodology & Data".

8. *A multi-fidelity method for uncertainty quantification in engineering problems*, Workshop Calcolo scientifico e modelli matematici: alla ricerca delle cose nascoste attraverso le cose manifeste, April 6-8, 2022, Roma.

2021

9. *Forward and inverse uncertainty quantification for PDE/ODE with random coefficients*, Department of Mathematics of the Birla Institute of Technology and Science, India, September 11, 2021, online.

10. *A comparison of Multi-Index Stochastic Collocation and Stochastic Radial Basis Function Surrogates for Ship Performance Assessment*, Sandia UQ Seminar Series, July 14, 2021, online.

11. *Forward and Inverse uncertainty quantification for PDE/ODE with random coefficients*, SISSA Trieste SIAM Chapter Colloquia 2021, July 5, 2021, online.

12. *Uncertainty Quantification: dealing with uncertainties in computational science and engineering*, Computational Mechanics & Advanced Materials Group, Department of Civil Engineering and Architecture, Università di Pavia March 12, 2021, online.

13. *Parametric shape optimization for combined additive-subtractive manufacturing*, INdAM Workshop on Mathematical Methods for Objects Reconstruction: from 3D Vision to 3D Printing, February 8-12, 2021, online.

2020

14. *Uncertainty quantification and identifiability of SIR-like dynamical systems for epidemiology*, UQ hybrid seminar, chair of Mathematics for Uncertainty Quantification at RWTH Aachen University, November 3, 2020, online.

15. *IMATI and INM joint study: Uncertainty quantification for ship hydrodynamics via multi-fidelity methods with multi-grid RANS computations*, CNR-INM, July 10, 2020, online.

16. *Sparse-grids-based Uncertainty Quantification of geochemical compaction of sedimentary basins*, Applied Mathematics Colloquium, Columbia University New York, February 24, 2020

17. *Sparse-grids-based Uncertainty Quantification of geochemical compaction of sedimentary basins*, FSM Seminar, University of Colorado Boulder, February 19, 2020

2019

18. *IGA-based Multi-Index Stochastic Collocation (MISC) for Elliptic PDEs with random data*, LIA COPDESC and Lions Magenes Days, November 4-7, 2019, Laboratoire Jacques-Louis Lions, Paris.

19. *IGA-based Multi-Index Stochastic Collocation (MISC) for Elliptic PDEs with random data*, October 17, 2019, Consiglio delle Ricerche, Institute of Marine Engineering (CNR-INM), Roma.

20. *Metodi numerici per la quantificazione dell'incertezza di PDE con parametri aleatori*, One-day meeting for Ph.D. students on Uncertainty Quantification in Modern Sciences Theory, University of Pisa, September 10, 2019 (2 hours).

21. *Uncertainty Quantification of PDEs with random coefficients I: introduction and theoretical foundations + Uncertainty Quantification of PDEs with random coefficients II: IGA-based Multi-Index Stochastic Collocation (MISC) for Elliptic PDEs with random data*, "Industrial and Applied Mathematics" and "Scientific Computing" seminars, University of Nottingham, June 19, 2019 (2 hours).

22. *Sparse grids technologies for UQ in subsurface environments*, International Workshop on Nonlinear Problems and Uncertainty Quantification, March 26-28, 2019, NORCE (Norwegian Research Centre).

23. *Computational techniques for uncertainty quantification of partial differential equations with random parameters*, Conferenza DIITET-CNR Area Strategica Matematica Applicata, January 21, 2019, Roma.

2018

24. *Sparse-grids-based Uncertainty Quantification of geochemical compaction of sedimentary basins*, AMCS Seminars, September 18, 2018, King Abdullah University of Science and Technology.

25. *Metodi numerici per Quantificazione dell'Incertezza di PDE con parametri aleatori*, seminars University of Bologna, May 24, 2018 (2 hours).

26. *Isogeometric-analysis-based Multi-Index Stochastic Collocation for Elliptic PDEs with random data*, MOX seminars, March 20, 2018, Department of Mathematics, Politecnico di Milano.

27. *Multi-Index Stochastic Collocation (MISC) for Elliptic PDEs with random data*, Workshop Surrogate models for UQ in complex systems February 5-9, 2018, Isaac Newton Institute for Mathematical Sciences, Cambridge.

2017

28. *Multi-Index Stochastic Collocation (MISC) for Elliptic PDEs*, Workshop Uncertainty Modeling for Engineering Applications (UMEMA 2017) November 23-24, 2017, Torino.

29. *Uncertainty Quantification of geochemical and mechanical compaction in layered sedimentary basins*, Workshop Computational Uncertainty Quantification October 8-13, 2017, Banff International Research Station.

30. *Sparse grid approximation of elliptic PDEs with lognormal diffusion coefficient*, Workshop Quantification of Uncertainty: Improving Efficiency and Technology (QUIET 2017) July 18-21, 2017, SISSA, Trieste.

2016

31. *Sparse grids and Multi-Index Stochastic Collocation for random PDEs*, Applied Mathematics Seminars of the Department of Mathematics of the Technische Universität Chemnitz, June 24, 2016, Chemnitz.

32. *Quasi optimal and adaptive sparse grids with control variates for PDEs with random diffusion coefficient*, SRI-UQ Annual Workshop 2016, January 5-10, 2016, King Abdullah University of Science and Technology, Saudi Arabia.

2015

33. *Polynomial approximation of PDEs with stochastic coefficients*, Applied Mathematics Seminars of the Department of Mathematics of Pavia University, April 21, 2015, Pavia.

2011

34. *Polynomial approximation of elliptic PDEs with stochastic coefficients*, Journées Lions-Magenes, December 14-15, 2011, Laboratoire Jacques-Louis Lions, Université Pierre et Marie Curie - Paris VI.

35. *Optimal sparse grids for linear elliptic PDEs with random coefficients*, Workshop Sparse grids and applications, May 16-20, 2011, HIM - Hausdorff Research Institute for Mathematics, Universität Bonn.

Invited talks in minisymposia

2023

1. *Multi-Index Stochastic Collocation: un metodo multi-fedeltà per quantificazione dell'incertezza in problemi di ingegneria*, Congresso Unione Matematica Italiana, September 4-8, 2023, Pisa.
Minisymposium: Sezione Metodi Numerici per le PDE, organized by S. Bertoluzza, P. Zunino

2. *Multi-Index Stochastic Collocation for UQ of naval engineering problems*, Conference USNCCM 17, July 23-27, 2023, Albuquerque.
Minisymposium: Data-enhanced modeling and uncertainty quantification of systems with multiple fidelities, organized by A. Gorodetsky, G. Geraci, J. Jakeman, M. Eldred

3. *Parametric shape optimization for combined additive-subtractive manufacturing*, Conference EC-COMAS Young Investigators Conference 2023, June 19-21, 2023, Porto.
Minisymposium: Numerical methods for Additive Manufacturing, organized by M. Carraturo, S. Morganti

4. *Combining the Sparse Grids Matlab Kit and Umbridge for Forward Uncertainty Quantification of a Naval Engineering Problem*, SIAM Conference on Computational Science and Engineering, February 26,-March 3, 2023, Amsterdam.
Minisymposium: Advanced UQ with Challenging Models - Software and Methods, organized by A. Reinarz, L. Seelinger

2022

5. *Uncertainty quantification and identifiability of SIR-like dynamical systems for epidemiology*, ECCOMAS22 Congress, June 5-9, 2022, Oslo.
Minisymposium: Mathematical and Numerical Modelling of COVID-19 Epidemic, organized by Luca Dedè, Nicola Parolini, Christian Vergara

2021

6. *IGA-based Multi-Index Stochastic Collocation for random PDEs on arbitrary domains*, Conference ECCOMAS Young Investigators Conference 2021, June 14-16, 2021, online.
Minisymposium: Isogeometric and Non-standard Discretization Schemes for Computational Structural and Solid Mechanics, organized by B. Oesterle, O. Weeger, R. Bouclier, W. Dornisch, S. Morganti, P. Antolin, F. Zwicke, S. Eisenträger

7. *Parametric Shape Optimization for combined Additive–Subtractive manufacturing*, Conference Coupled 2021, June 14-16, 2021, online.
Minisymposium: Optimal Design of Structures and Metamaterials: Innovative Techniques for Engineering Applications, organized by S. Perotto, N.Ferro, R. Ferrante

8. *A comparison of Multi-Index Stochastic Collocation and Stochastic Radial Basis Function Surrogates for Ship Performance Assessment*, Conference Marine 2021, June 2-4, 2021, online.

Minisymposium: Machine Learning and Artificial Intelligence in Marine Engineering, organized by A. Cesta, M. Diez, T. C. Fu, L. Mainini, J. Wackers

9. *Uncertainty Quantification of Ship Resistance via Multi-Index Stochastic Collocation and Radial Basis Function Surrogates: A Comparison*, SIAM Conference on Computational Science and Engineering, March 1-5, 2021, online.
   Minisymposium: Multilevel and Multifidelity approaches for forward and inverse UQ, optimization and control – Algorithms and Applications, organized by A. Gorodetsky, G. Geraci, T. Portone, J. Jakeman, M. Eldred

10. *A comparison of multi-index/multi-fidelity approaches for forward uncertainty quantification of marine applications* WCCM 14 - ECCOMAS 2020 Congress, January 1-5, 2021, online.
    Minisymposium: Multilevel/Multifidelty strategies for uncertainty quantification, control and design under uncertainty of expensive computational systems, organized by G. Geraci, A. Gorodetsky, M. Eldred, J. Jakeman.

2020

11. *Uncertainty Quantification for PDEs with random data using the Multi-Index Stochastic Collocation method*, 50th Scientific Meeting of the Italian Statistical Society, June 22-24, 2020, Pisa.
    Minisymposium: Data Science: when different expertise meet, organized by F. Ruggeri.
    Conference cancelled due to COVID-19.

12. *Recent Advances on IGA-based Multi-Index Stochastic Collocation*, SIAM Conference on Uncertainty Quantification, March 24-27, 2020, Munich.
    Minisymposium: Multilevel and Multifidelity approaches for forward/inverse Uncertainty Quantification and optimization under uncertainty, organized by P. Tsilifis, G. Geraci, A. Gorodetsky, J. Jakeman, J. P. Madrigal Cianci, M. Eldred.
    Conference cancelled due to COVID-19.

2019

13. *CossIGA: using compressive sensing to solve PDEs with isogeometric analysis*, International Conference on Isogeometric Analysis 2019, September 19-20, 2019, Munich.
    Minisymposium: Efficient Algorithms and Large Scale IGA Applications, organized by G. Sangalli, V. Calo

14. *Metodo "multi-index stochastic collocation" con solutore isogeometrico per EDP ellittiche con dati aleatori*, Congresso Unione Matematica Italiana 2019, September 2-7, 2019, Pavia.
    Minisymposium: Teoria dell'approssimazione ed applicazioni, organized by G. Sangalli, H. Speleers

15. *IGA-based Multi-Index Stochastic Collocation for random PDEs on arbitrary domains*, International Congress on Industrial and Applied Mathematics, July 15-19, 2019, Valencia.
    Minisymposium: Multifidelity methods for uncertainty quantification, optimization, and control of complex systems, organized by A. Gorodetsky, M. Eldred, G. Geraci, J. Jakeman

16. *Sparse grid approximation of elliptic PDEs with lognormal diffusion coefficient*, SIAM Conference on Computational Issues in the Geosciences, March 11-14, 2019, Houston.
    Minisymposium: Advanced Models and Methods for Underground Flows in Complex Geometries with Applications, organized by A. Fumagalli, A. Scotti, S.Scialò

17. *Sparse grid approximation of elliptic PDEs with lognormal diffusion coefficient*, SIAM Conference on Computational Science and Engineering, February 25, 2019 - March 1, 2019, Spokane.
    Minisymposium: Model Reduction, Adaptivity, and High Dimensionality in Uncertainty Quantification, organized by A. Narayan, J. D. Jakeman

2018

18. *A new procedure for solving PDEs on trimmed surfaces and its application to shape optimization (keynote talk)*, Conference ECCM-ECFD 2018 June 11-15, 2018, Glasgow.
    Minisymposium: Mathematical aspects of Isogeometric Analysis, organized by C. Manni, H. Speleers

2017

19. *A Sparse-grid version of IGA methods*, Conference ENUMATH 2017 September 25-29, 2017, Voss.
    Minisymposium: Numerical methods for PDEs: Theory and Computation, organized by R. Nochetto, A. Veeser

20. *Multi-Index Stochastic Collocation (MISC) for Elliptic PDEs*, Conference Marine 2017, May 15-17, 2017, Nantes.
    Minisymposium: Deterministic and stochastic simulation-based design analysis and optimization in marine engineering organized by C. Hirsch, M. Diez

12. Other talks

2022

1. *The Sparse Grids Matlab Kit*, Software for Approximation, February 3-4, 2022, Torino.

2. *Recent Advances on IGA-Based Multi-Index Stochastic Collocation*, SIAM Conference on Uncertainty Quantification, April 12-15, 2022, Atlanta.

2021

3. *Uncertainty quantification and identifiability of SIR-like dynamical systems for epidemiology*, SIMAI 2020-2021, August 30,-September 3, 2021, Parma.

4. *Uncertainty Quantification of Geochemical and Mechanical Compaction in Layered Sedimentary Basins* SIAM Conference on Mathematical & Computational Issues in the Geosciences (GS21) June 21-24, 2021, online workshop.

2020

5. *The Multi-index Stochastic Collocation method for uncertainty quantification of partial differential equations with random parameters*, Workshop on methods and applications of computational Uncertainty Quantification: experiences and perspectives within DIITET CNR, October 1-2, 2020, online workshop.

2018

6. *Sparse Grids Matlab Kit*, 5th Workshop on Sparse Grids and Application, July 23-27, 2018, Munich.

7. *Dealing with discontinuities in Uncertainty Quantification of layered sedimentary basins compaction*, 5th Workshop on Sparse Grids and Application, July 23-27, 2018, Munich.

8. *Combining Isogeometric solvers and sparse grids technology*, ICOSAHOM 2018, July 9-13, 2018, London.

9. *Isogeometric Analysis and Coating Optimization for 3D Printing*, PLM Conference, July 2-4, 2018, Torino.

10. *CAxMan - Computer Aided technologies for Additive Manufacturing*, April 25, 2018. University of Colorado Boulder.

11. *IGA-Based Multi-Index Stochastic Collocation*, SIAM Conference on Uncertainty Quantification, April 16-19, 2018, Garden Grove (California).

12. *Uncertainty Quantification of geochemical and mechanical compaction in layered sedimentary basins*, Semester program Uncertainty Quantification for complex systems: theory and methodologies. February 14, 2018, Isaac Newton Institute for Mathematical Sciences, Cambridge.

2017

13. *A sparse-grid version of IGA methods*, YIC 2017 - IV ECCOMAS Young Investigator Conference, September 13-15, 2017, Politecnico di Milano.

14. *IGA-based multi-level and multi-index methods for Uncertainty Quantification*, V International Conference on Isogeometric Analysis - IGA 2017, September 11-13, 2017, Pavia.

15. *On Isogeometric Analysis and Control Variates in Multi-level methods for Uncertainty Quantification*, INdAM Workshop on Innovative Mathematical Models and Methods for Industrial Applications, May 15-19, 2017, Roma.

2016

16. *A sparse-grid version of IGA methods*, USACM Conference on Isogeometric analysis and Mesh-free methods, October 10-12, 2016, La Jolla (California).

17. *A sparse-grid version of IGA methods*, 4th Workshop on Sparse Grids and Applications, October 4-7, 2016, Miami.

18. *A sparse-grid version of IGA methods*, SIMAI 2016, September 13-16, 2016, Politecnico di Milano.

19. *Multi-Index Stochastic Collocation (MISC) for random elliptic PDEs*, SIMAI 2016, September 13-16, 2016, Politecnico di Milano.

20. *An Adaptive Sparse Grid Algorithm for Darcy Problems with Log-normal Permeability*, SIAM Conference on Uncertainty Quantification, April 5-8, 2016, EPFL campus, Lausanne.

2015

21. *An adaptive sparse grid algorithm for elliptic PDEs with lognormal diffusion coefficient*, Swiss Numerical Analysis Day 2015, April 17, 2015, Geneva.

22. *Quasi Optimal Sparse-Grid Approximation of Random Elliptic PDEs*, SIAM Conference on Computational Science and Engineering, March 14-18, 2015, Salt Lake City.

2014

23. *Quasi-optimal sparse grid approximations for elliptic PDES with stochastic coefficients*, SIAM Annual Meeting, July 7-11, 2014, Chicago.

24. *Quasi-optimal sparse grid approximations for elliptic PDES with stochastic coefficients*, International Conference on Spectral and High-Order Methods – ICOSAHOM'14, June 23-27, 2014, Salt Lake City.

25. *Proper Generalized Decomposition for Stochastic Navier–Stokes Equations*, Workshop on Uncertainty Quantification in Computational Fluid Dynamics, May 26-27, 2014, Università di Pisa.

2013

26. *Quasi-optimal polynomial approximation for elliptic PDEs with random coefficients*, ENUMATH 2013, August 26-30, 2013, EPFL Campus, Lausanne.

27. *Convergence of quasi-optimal Stochastic Galerkin methods for a class of PDEs with random coefficients*, Swiss numerics colloquium 2013, April 6, 2013, EPFL Campus, Lausanne.

2012

28. *Proper Generalized Decomposition for Stochastic Navier–Stokes Equations*, WCCM 2012, July 8-13, 2012, São Paulo (Brazil).

29. *Polynomial approximation of Stochastic PDEs*, SIMAI Biannual meeting 2012, June 25-28, 2012, Torino.

30. *Uncertainty analysis of basin scale compaction processes*, European Geosciences Union General Assembly 2012, April 24, 2012, Vienna.

31. *Proper Generalized Decomposition for Stochastic Navier–Stokes equations*, SIAM Conference on Uncertainty Quantification, April 2-5, 2012, Raleigh (NC) USA.

2011

32. *Approssimazione polinomiale di EDP ellittiche con coefficienti stocastici*, XIX Congresso dell'Unione Matematica Italiana, September 12-17, 2011, Bologna.

33. *Strategies for optimal polynomial approximation of elliptic PDEs with stochastic coefficients*, US-NCCM - United States National Congress on Computational Mechanics, July 25-28, 2011, Minneapolis.

34. *Polynomial approximation for stochastic subsurface flow models*, European Geosciences Union General Assembly 2011, April 2-8, 2011, Vienna.

35. *Strategies for optimal polynomial approximation of stochastic elliptic PDEs*, workshop Reduction Strategies for the Simulation of Complex Problems, January 19-21, 2011, Politecnico di Milano.

2010

36. *Stochastic Galerkin and Collocation methods for PDEs with random coefficients: a numerical comparison*, ECCM 2010 - IV European Conference on Computational Mechanics, May 16-22, 2010, Paris.

37. *A Numerical Comparison between Stochastic Galerkin and Collocation techniques for elliptic equations with uniform and lognormal random variables*, Workshop Numerical Solution of Stochastic Partial Differential Equations, May 10-13, 2010 Politecnico di Torino.

13. Editorial activity

Editor activity

- Member of the editorial board of "Journal of Approximation software" (JAS), University of Torino.
- Member of the editorial board of "Advances in Continuous and Discrete Models: Theory and Modern Applications" (ACDM), Springer Open.
- Member of the editorial board of "Communications in Applied and Industrial Mathematics" (CAIM), De Gruyter.
- Co-editor with D. Bolster and G. Porta of a topical collection on "Characterization of Solute Transport Processes under Uncertainty" for the journal *GEM - International Journal on Geomathematics*, Springer.
- Co-editor with M. Diez and M.V. Salvetti of the special issue on "Methods and Applications of Uncertainty Quantification in Engineering and Science" for the journal *Algorithm*, MDPI.
- Co-editor with O. Ernst and G. Porta of a topical collection on "Uncertainty Quantification in Subsurface Environments" for the journal *GEM - International Journal on Geomathematics*, Springer.

Referee activity

1. VQR 2015-2019
2. Advances in Computational Mathematics (ACOM)
3. Advances in Water Resources (AWR)
4. Annali di Matematica Pura ed Applicata (AMPA)
5. Applied Mathematical Modeling (APM)
6. BMJ Open
7. Computational Geosciences (CG)
8. Computer & Mathematics with Applications (CAMWA)
9. Computer Methods in Applied Mathematics and Engineering (CMAME)
10. Computer and Fluids (CAF)
11. Communications in Computational Physics (CICP)
12. Engineering Applications of Computational Fluid Mechanics (TCFM)
13. Environmental Modeling and Software (EMS)
14. Flow, Turbulence and Combustion (FTC)
15. International Journal for Uncertainty Quantification (IJUQ)
16. International Conference on Geometric Modeling and processing (GMP)

17. International Journal for Numerical Methods in Engineering (IJNME)
18. International Journal of Greenhouse Gas Control (JGGC)
19. Journal of Scientific Computing (JOMP)
20. Journal of Algorithms and Computational Technology (JACT)
21. Journal of Computational Physics (JCP)
22. ESAIM: Mathematical Modelling and Numerical Analysis (M2AN)
23. Mathematics and Computers in Simulation (MATCOM)
24. Numerical Algorithms (NUMA)
25. Quantitative Finance (QF)
26. SIAM Journal on Control and Optimization (SICON)
27. SIAM Journal of Numerical Analysis (SINUM)
28. SIAM Journal on Scientific Computing (SISC)
29. SIAM Journal on Uncertainty Quantification (JUQ)
30. Statistics, Optimization & Information Computing (SOIC)
31. Stochastic Partial Differential Equations: Analysis and Computations (SPDE)
32. Stochastic Environmental Research and Risk Assessment (SERR)
33. Vietnam Journal of Mathematics (VJM)
34. Water Resources Research (WRR)

14. Teaching

Semester classes

1. *Uncertainty Quantification of Partial and Ordinary Differential Equations with random coefficients*
   28 hours, joint PhD Program in Mathematics of Università di Milano Bicocca and Pavia, spring
   semester 2021, course held in English.
2. *Applied Mathematics:* 6 CFU, 45 hours, part of the Master of Science program "Civil Engineering
   for mitigation of risk from natural hazards". Fall semesters 2018, 2019, 2020, 2021. Department
   of Civil Engineering and Architecture, Università di Pavia, course held in English.

Short courses

1. *Uncertainty quantification: From basics to high-performance computing:* Short course (8 hours),
   in collaboration with L. Seelinger. Part of a summer school organized by Karlsruhe Institute of
   Technology graduate school on Computational and Data Science (KCDS). September 18-20, 2023,
   course held in English.
2. *Uncertainty Quantification of PDEs with random coefficients:* Short course (6 hours), part of the
   PhD course "Parameter estimation in biology" February 13-14, 2023, Università di Trento, course
   held in English.
3. *Uncertainty Quantification of PDEs with random coefficients:* Short course (6 hours), within the
   "Primer on Data Science 2019" Summer school. September 9, 2019, Università di Trento, course
   held in English.
4. *Uncertainty Quantification of PDEs with random coefficients:* Short course (4 hours), within the
   PIMS Collaborative Reseach Group initiative "High Dimensional Data Analysis". March 4-5,
   2019, Simon Fraser University, course held in English.
5. *Numerical techniques for Uncertainty Quantification in random PDEs*: Lecture (3 hours), part of
   the PhD course "Computational Mechanics for scientific problems'.' December 11-15, 2017,
   Department of Mathematics, Università di Pavia, course held in Italian.
6. *Numerical techniques for Uncertainty Quantification in random PDEs:* Short course (8 hours) as a
   part of the workshop "Applications and New Frontiers For the Finite Element Method", Université
   Laval, Québec, May 9-13, 2016, course held in English.

7. *Numerical techniques for Uncertainty Quantification in random PDEs*: Lecture (2 hours) as a part of the course "Propagation of Uncertainty" (10 hours), within the Louis Bachelier Excellence Lab Thematic Semester on "Monte–Carlo: Uncertainty Quantification, particle methods, stochastic algorithms for Big Data". October 16, 2015, Institut Henri Poincaré, Paris, course held in English .

Teaching assistance

1. "Analysis II for Building Engineers" (Università di Pavia), fall semester 2016 (5 hours). Dott.ssa L. Spinolo. Bachelor level, course held in Italian.
2. "The Finite Elements Method and applications" (Università di Pavia), fall semester 2016 (12 hours). Prof. G. Sangalli. Master level, course held in Italian.
3. "The Finite Elements Method and applications" (Università di Pavia), fall semester 2015 (12 hours). Prof. G. Sangalli. Master level, course held in Italian.
4. Lab assistant (9 hours) as a part of the course *Mathematical and Algorithmic Aspects of Uncertainty Quantification*, (Politecnico di Milano), June 3-10, 2015, Prof. F. Nobile, course held in English
5. Teaching Assistant in "Computational finance" (École Polytechnique Fédérale de Lausanne), fall semester 2014, Proff. F. Nobile, D. Kressner, doct. S. Pulido. Master level, course held in English
6. Teaching Assistant in "Numerical analysis" (École Polytechnique Fédérale de Lausanne), fall semester 2013, Prof. F. Nobile. Bachelor level, course held in French.
7. Teaching Assistant in "Numerical analysis of Partial Differential Equations" (École Polytechnique Fédérale de Lausanne), fall semester 2012, Prof. F. Nobile. Master level, course held in English.
8. Teaching Assistant in "Numerical analysis of Partial Differential Equations" (École Polytechnique Fédérale de Lausanne), spring semester 2012, Prof. F. Nobile. Master level, course held in English
9. Teaching Assistant in "Numerical analysis" (Politecnico di Milano), spring semester 2011, Prof. S. Micheletti. Bachelor level, course held in Italian.
10. Teaching Assistant in "Numerical analysis" (Politecnico di Milano), spring semester 2010, Prof. A. Quarteroni. Bachelor level, course held in Italian.
11. Teaching Assistant in "Numerical analysis" (Politecnico di Milano), spring semester 2009, Prof. S. Perotto. Bachelor level, course held in Italian.

15. Theses supervision

Coadvisor of the following students:

- *Master Students*: G. Chiantella (2024, Università di Pavia), M. Chiappetta (2022, Università di Pavia), F. Abbadini (2017, Università di Milano), M. Montardini (2016, Università di Pavia), R. Wang (2012, École Polytechnique Fédérale de Lausanne), F. Tesei, (2011, Politecnico di Milano), F. Franchi (2010, Politecnico di Milano);
- *Bachelor Students*: M. Aletti (2011, Politecnico di Milano);
- *Semester Projects (École Polytechnique Fédérale de Lausanne)*: M. Gambara (2014, M.Sc.), L. Feuilloy (2014, B.Sc.), B. Jollien (2014, M.Sc.), N. Gaon (2015, B. Sc.).

16. Boards, committees

1. Member of the CNR-IMATI institute council (2021-today)
2. Member of the board of the joint PhD program in Mathematics of Universities of Milano Bicocca and Pavia (2021-today). Since 2023, member of the committee for yearly evaluation of PhD students

3. Member of the hiring committee for the call 400.12.IMATI.PNRR for a researcher position on the topic "Numerical methods for physics-based and data driiven assessment of slope stability", Spoke 3 PNRR RAISE project

4. External Examiner of the M.Phil. committee of J. Couch (2022, University of Nottingham)
5. Reviewer and member of the Ph.D. committee of S. Patani (2022, Politecnico di Milano)
6. Member of the PostDoc hiring committee for the call number IMATI-009-2021-PV, "Analisi Matematica e Modellistica" e "Analisi Numerica e Matematica Computazionale"
7. Member of the PostDoc hiring committee for the call number IMATI-007-2020-PV, "PRIN 2017 - Numerical Analysis for Full and Reduced Order Methods for the efficient and accurate solution of complex systems governed by Partial Differential Equations (NA-FROM-PDEs)" e "Analisi Numerica e Calcolo Scientifico"
8. Member of the PostDoc hiring committee for the call number IMATI-013-2019-PV, "PRIN 2017 - Numerical Analysis for Full and Reduced Order Methods for the efficient and accurate solution of complex systems governed by Partial Differential Equations (NA-FROM-PDEs)" e "Analysis-based design for 3d printing applications"
9. Member of the PostDoc hiring committee for the call number IMATI-002-2019-PV, "Analisi Numerica e Calcolo Scientifico" e "Analysis-based design for 3D printing applications".
10. Member of the PostDoc hiring committee for the call number IMATI-008-2017-PV, "CAxMan Computer Aided Technologies for Additive Manufacturing"
11. Member of the PostDoc hiring committee for the call number 34, April 5, 2017, "Analisi Isogeometrica (Isogeometric Analysis)", dip. Matematica, Università di Pavia, prof. G. Sangalli
12. Member of the Ph.D. committee of A. Benvenuti (2017, Università di Pavia)
13. Member of the PostDoc hiring committee for the call number IMATI-007-2016-PV, "Development of isogeometric methods and the related software for non linear mechanics, with applications to rubber problems."

17. Duties in Professional Societies and Activity Groups

- SIAM Activity Group on Uncertainty Quantification (SIAG-UQ): running for secretary in the board renewal elections in 2020
- Società Italiana Matematica Applicata e Industriale (SIMAI): representative in the ECCOMAS Young Investigators Committee, since 2019
- GAMM Activity Group on Uncertainty Quantification (GAMM-UQ): co-chair of the group since October 2022; representative in the organizing committee of SIAM Conference on UQ 2020 and 2024

18. Languages

- English: advanced level:
  - Computer – Based TOEFL, 267/300 (autumn 2004);
  - First Certificate of English, grade A (December 2002).
- French: intermediate level.
- Spanish: basic knowledge.
- Italian: mother-tongue.

19. Computer skills

Operative Systems: Unix/Linux, Windows.
Programming Language: Matlab, C/C++, Fortran90, R, FreeFem, Python, Bash;
Software: LaTeX, Microsoft Office - OpenOffice, SVN, GIT.