Giovanni Rabitti

Curriculum Vitae

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Current Position

October 2025 –	**Assistant Professor (RTT) in Mathematical Methods for Actuarial and Financial Science**, *Department of Economics, Business, Mathematics and Statistics Università di Trieste.*
April 2023 – September 2025	**Assistant Professor in Actuarial Science and Statistics (permanent position)**, *Department of Actuarial Mathematics and Statistics Heriot-Watt University, Edinburgh.*
June 2020 – April 2023	**Research Associate**, *Department of Actuarial Mathematics and Statistics Heriot-Watt University, Edinburgh.* Winner of the Bicentennial Fellowship in Actuarial Science.

Research interests

- Sensitivity analysis of machine learning models
- Insurance data science and analytics
- Financial instruments for climate-change risks

Education and Titles

PhD in Statistics (4 years), *Bocconi University*, Milan.
Supervisor: prof. Emanuele Borgonovo.

Master in Statistics, Actuarial and Financial Sciences with honors, *Università degli Studi di Firenze*, Florence.

Master in Mathematics with honors, *Università degli Studi di Bologna*, Bologna.
I was Erasmus student at the Freie Universitaet Berlin.

Bachelor in Mathematics, *Università degli Studi di Bologna*, Bologna.

Awards and Visiting Periods

Dec. 2023 **Visiting researcher at the Bocconi Institute for Data Science and Analytics**, *Milan*, Two weeks.

March 2022 **Top Downloaded Article in the SCANDINAVIAN JOURNAL OF STATISTICS**, *Among works published between 1 January 2021 – 31 December 2021.*.

2019 **Editors' Award for Excellence in Reviewing**, *European Journal of Operational Research*.

2018 **Young Researcher Award Italy**, *International Congress of Actuaries*, Berlin.

Publications

Accepted

1. G. Rabitti, Which interactions make you unique?, **Annals of Operations Research**, 2025
2. A. Khorrami Chokami, G. Rabitti, A copula-based data augmentation strategy for the sensitivity analysis of extreme operational losses, **Quantitative Finance**, 2025
3. G. Rabitti, G. Tzougas, Accelerating the computation of Shapley effects for datasets with many observations, **European Actuarial Journal**, forthcoming, 2025
4. G. Rabitti, A. Khorrami Chokami, P. Coyle, R. Cohen, A taxonomy of cyber risk taxonomies, **Risk Analysis**, In press, 2024
5. E. Borgonovo, E. Plischke, G. Rabitti,The many Shapley values for explainable artificial intelligence: A sensitivity analysis perspective, **European Journal of Operational Research**, In press, 2024
6. A. Khorrami Chokami, G. Rabitti, An exact game-theoretic variable importance index for generalized additive models, **Journal of Computational and Graphical Statistics**, Accepted, 2024
7. E. Borgonovo, G. P. Clemente, G. Rabitti, Why insurance regulators need to require sensitivity analysis settings of internal models for their approval, **Finance Research Letters**, Volume 60, February 2024
8. A. Vallarino, G. Rabitti, A. Khorrami Chokami, Construction of rate making systems using global sensitivity measures: a numerical illustration, **ASTIN Bulletin**, In press, 2023
9. M. Galeotti, G. Rabitti, Tail variance allocation, Shapley value and the majorization problem, **Journal of Applied Probability**, To appear, 2023
10. A. Antoci, M. Galeotti, G. Rabitti, P. Russu, A coevolution model of defensive medicine, litigation and medical malpractice insurance, **Communications in Nonlinear Science and Numerical Simulation**, Accepted 2022
    (Top ten downloaded article from SSRN for: Medical Physics eJournal)
11. E. Borgonovo, X. Lu, G. Rabitti, Sensitivity analysis of pandemic models can support effective policy making, **Journal of Computational and Graphical Statistics**, accepted 2022
12. E. Borgonovo, G. Rabitti, Screening: from Tornado Diagrams to effective dimensions, **European Journal of Operational Research**, 304, p. 1200–1211, 2023
13. E. Borgonovo, E. Plischke, G. Rabitti, Interactions and Computer Experiments, **Scandinavian Journal of Statistics**, 2021
    (Top ten downloaded article)
14. E. Plischke, G. Rabitti, E. Borgonovo, Computing Shapley Effects for Sensitivity Analysis, **SIAM/ASA Journal on Uncertainty Quantification**, 9(4), p. 1411–1437, 2021

15. M. Galeotti, G. Rabitti, On the comparison between Shapley values for variance and standard deviation games, **Journal of Applied Probability**, 58(3), p. 609-620, 2021
16. E. Borgonovo, S. Caselli, A. Cillo, D. Mansciandaro, G. Rabitti, Money, privacy, anonimity: What do experiments tell us?, **Journal of Financial Stability**, 56, 2021
17. S. Razavi, A. Jakeman, A. Saltelli, C. Prieur, B. Iooss, E. Borgonovo, E. Plischke, S. Lo Piano, T. Iwanaga, W. Becker, S. Tarantola, J.H.A. Guillaume, J. Jakeman, H. Gupta, N. Melillo, G. Rabitti, V. Chabridon, Q. Duan, X. Sun, S. Smith, R. Sheikholeslami, N. Hosseini, M. Asadzadeh, A. Puy, S. Kucherenko, H. R. Maier, The Future of Sensitivity Analysis: An Essential Discipline for Systems Modeling and Policy Support, **Environmental Modelling & Software**, Accepted, 2021
18. G. Rabitti, E. Borgonovo, Is mortality or interest rate the most important risk in annuity models? A comparison of sensitivity analysis approaches, **Insurance: Mathematics and Economics**, 95, p. 48-58, 2020
19. M. Galeotti, G. Rabitti, E. Vannucci, An evolutionary approach to fraud management, **European Journal of Operational Research**, 284(3), p. 1167-1177, 2020
20. G. Rabitti, E. Borgonovo, A Shapley-Owen Index for interaction quantification, **SIAM/ASA Journal on Uncertainty Quantification**, 7(3), p. 1060-1075, 2019
21. F. Castelli, M. Galeotti, G. Rabitti, Financial instruments for mitigation of flood risks: the case of Florence, **Risk Analysis**, 39(2), p. 462-472, 2019

Referee Activity

European Journal of Operational Research, Journal of Risk and Reliability, Proceedings of the European Safety and Reliability Conference (ESREL) 2019, ASTIN Bullettin, Decision in Economics and Finance, Reliability Engineering & System Safety, Environmental Modelling & Software, Risks, Managerial Finance, Fintech, International Series on Actuarial Science, Computational Economics, SIAM/ASA Journal on Uncertainty Quantification, Statistics and Computing, Journal of Risk and Insurance, Proceedings of the Royal Society A, European Actuarial Journal, Scandinavian Actuarial Journal, Annals of Operations Research, IEEE Transactions on Artificial Intelligence

Grants

2024 **Individual Research Grant**, *Society of Actuaries*, 6000 dollars.

2023 **UK-IT Trustworthy AI Visiting Research Fellowship**, *Alan Turing Institute*, 4500 pounds.

2019 **Special Financial Support for top level Phd students**, *Fondazione Invernizzi*, 10000 euro.

2019 **Senior Researchers' Grants**, *Bocconi University*, Topic: "*Sensitivity Analysis of Machine Learning Techniques for Big Data*", With: Emanuele Borgonovo.
10000 euro

Academic Activity: Teaching, Supervision and Evaluation

From Oct. 2025 **Senior course leader for the course of Financial Mathematics**, Bachelor in Economics and Financial Markets, Università di Trieste.

From Oct. 2025 **Assistant for the course of Matematica per l'economia e la statistica**, Bachelor in Statistica per Assicurazione e Business Analytics, Università di Trieste.

Phd Thesis: **External examiner**, *for the Phd Thesis of Mariagrazia Rositano, Scuola di Scienze Statistiche - Scienze Attuariali (XXXV ciclo), Sapienza University of Rome*, 2023.

Dissertations: **I have supervised 15 MSc Dissertations, including industrial projects in collaboration with financial companies and the Bank of England**.

Sep. 2020 - 2024 **Senior course leader for the course of Quantitative Risk Analysis**, Master in Actuarial Management, Heriot-Watt University.

Jan. 2025 **Senior course leader for the course of Statistics for Science**, Bachelor in Engineering, Heriot-Watt University.

Jan. 2024 – Apr. 2024 **Senior course leader for the course of Actuarial and Financial Mathematics B**, Bachelor in Actuarial Management, Heriot-Watt University.

Sep. 2022 **Course leader of the Phd course in "Sensitivity analysis for economic, financial and actuarial models"**, Phd in Economics and Quantitative Methods, University of Sassari.

Sep. 2019 – Dec. 2019 **Assistant for the course of Fundamentals of Business Analytics**, *Prof. Borgonovo*, Master in Management, Bocconi University.

April 2019 - April 2020 **Teacher**, *Modulo: Insurtech and Machine Learning*, Scuola di Attuariato, Centro Interaccademico per le Scienze Attuariali e Finanziarie.

Sep. 2016 – Jan. 2017 **Assistant for the course of Statistics**, *Prof. Veronese*, Bachelor in Economics and Management.

Membership

Affiliated to the Maxwell Institute for Mathematical Sciences, *Section: Data and Decisions*.

Member of the Scottish Financial Risk Academy, *Section: Cyber risk*.

Member of the Scientific Committee of the Italian Actuarial Association.

Member of Centro Interaccademico per le Scienze Attuariali e la Gestione dei Rischi.

Conferences and Seminars

24/6-27/6 2025 **Contributed talk**, *UNISActuarial School*, Università di Salerno.

19/6-20/6 2025 **Contributed talk**, *Insurance Data Science Conference*, Bayes Business School, University of London.

24/10 2024	**Invited seminar**, *ASTIN Webinar*.
14/8-16/8 2024	**Contributed talk**, *Scandinavian Actuarial Conference*, University of Copenhagen.
17/6-18/6 2024	**Contributed talk**, *Insurance Data Science Conference*, Stochkolm University.
14/4-16/4 2024	**Invited seminar**, Department of Economics, Statistics and Management, Universitá di Trieste.
14/10-21/10 2023	**Invited seminar**, School of Risk and Insurance, UNSW Business School, Sydney.
18/7-18/7 2023	**Invited seminar**, Department of Economics, Universitá di Verona.
4/7-7/7 2023	**Organising and Scientific Committee, Chair and Speaker**, *Conference Insurance: Mathematics and Economics*, Edinburgh.
20/4-22/4 2023	**Contributed talk**, *Workshop Quantitative Finance*, Organizer: Universita di Cassino, Gaeta.
3/3-3/3 2023	**Invited seminar**, Collegio Carlo Alberto, Universitá di Torino.
15/6-17/6 2022	**Contributed talk**, *Insurance Data Science Conference*, Organizer: Catholic University of Milan.
20/4-22/4 2022	**Contributed talk**, *MAF2022 Mathematical and Statistical Methods for Actuarial Science and Finance*, Universitá di Salerno.
13/11/2021	**Contributed talk**, *Congress of the Italian Actuarial Association*.
16/6-18/6 2021	**Contributed talk**, *Insurance Data Science Conference*, Organizer: City University of London.
10/6-11/6 2021	**Contributed talk**, *Big Data and Machine Learning in Finance Conference*, Organizer: Politecnico di Milano.
28/4-29/4 2020	**Contributed talk**, *OICA - Online International Conference in Actuarial science, data science and finance*, Organizer: University of Lyon.
28/10-31/10 2019	**Contributed talk**, *SAMO Sensitivity Analysis of Model Output*, Barcelona.
10/6-12/6 2019	**Contributed talk**, *IME Congress Insurance: Mathematics and Economics*, Munich.
21/5-24/5 2019	**Contributed talk**, *AFIR-ERM Colloquium 2019*, Florence.
7/2-8/2 2019	**Poster session**, *Actuarial and Financial Mathematics Conference*, Bruxelles, (financially supported).
13/9-15/9 2018	**Contributed talk**, *AMASES*, Napoli, Università degli Studi di Napoli Parthenope.
4/6-8/6 2018	**Contributed talk**, *International Congress of Actuaries ICA2018*, Berlin.
8/1-12/1 2018	**Poster session**, *Key UQ methodologies and motivating applications*, Cambridge, Isaac Newton Institute for Mathematical Sciences, (financially supported).

14/9-16/9 2017	**Contributed talk**, *AMASES*, Cagliari, Universitá di Cagliari.
13/6-15/6 2017	**Poster session**, *Bayesian Inference in Stochastic Processes BISP10*, Milan, Università Bocconi.
30/3-1/4 2016	**Contributed talk**, *Mathematical and Statistical Methods for Actuarial Science and Finance*, Paris, Universitè Paris Dauphine.

Professional Activity

2019	**Data Science Consultancy**, *My research group has been chosen by Campari to support them in model building and in uncertainty quantification with business application*.
From 2015	**Fully qualified Actuary**, *Member of the Italian Institute of Actuaries and of the International Actuarial Association*.

Computer skills

Intermediate	Microsoft Office (Excel, Word, Power Point)
Advanced	Matlab, R

Languages

Italian	**Mothertongue**	
English	**Advanced**	
German	**Level: C1**	*TELC C1*