Michela Frigeri, PhD

Postdoctoral Researcher in Statistics

Current Position

Mar. 2026 – Ongoing **Postdoctoral Researcher**,
Faculty of Economics and Management, Free University of Bozen- Bolzano, Italy

Education

Nov. 2022 – Feb. 2026 **PhD in Mathematical Models and Methods in Engineering**,
Department of Mathematics, Politecnico di Milano, Milan(IT)
Dissertation: "Enhancing diagnostic tools for regional air quality monitoring and decision making"
Supervisor: Prof. Alessandra Guglielmi

Dec. 2023 – June 2024 **Visiting PhD student at UCI**,
University of California Irvine (UCI), Irvine(CA), USA
Supervisor: Prof. Veronica J. Berrocal

Mar. 2020 – Oct. 2022 **M.Sc. in Mathematical Engineering – Major in Statistical Learning**,
Politecnico di Milano, Milan(IT)
Dissertation: "Spatiotemporal Models for Particulate Matter in the Po Valley"
Supervisor: Prof. Alessandra Guglielmi, Co-Supervisor: Prof. Giovanni Lonati

Oct. 2016 – Mar. 2020 **B.Sc. in Mathematical Engineering**,
Politecnico di Milano, Milan(IT)
Dissertation: "A Walk in the Rain – L'evoluzione di un modello matematico"
Supervisor: professor Maurizio Verri

Academic Teaching

Fall 2025 **Statistica (B.Sc. in Energy Engineering)**,
Teaching Assistant, Politecnico di Milano

Fall 2025 **Bayesian Statistics (M.Sc. in Mathematical Engineering)**,
Project Tutor, Politecnico di Milano

Fall 2024 **Statistica (B.Sc. in Energy Engineering)**,
Teaching Assistant, Politecnico di Milano

Fall 2024 **Bayesian Statistics (M.Sc. in Mathematical Engineering)**,
Project Tutor, Politecnico di Milano

Fall 2023 **Statistica (B.Sc. in Energy Engineering)**,
Teaching Assistant, Politecnico di Milano

Fall 2023 **Bayesian Statistics (M.Sc. in Mathematical Engineering)**,
Project Tutor, Politecnico di Milano

Spring 2023 **Fondamenti di Statistica e Segnali Biomedici (B.Sc. in Biomedical Engineering)**,
Teaching Assistant, Politecnico di Milano

Spring 2023 **Business Data Analytics (B.Sc. in Management Engineering)**,
Teaching Assistant, Politecnico di Milano

Fall 2022 **Bayesian Statistics (M.Sc. in Mathematical Engineering)**,
Project Tutor, Politecnico di Milano

Mentoring Activities

2025 **Thesis co-advisor – M.Sc. in Mathematical Engineering**,
A. Calanchi, MCMC algorithm for Bayesian source apportionment

2024 **Thesis co-advisor – M.Sc. in Mathematical Engineering**,
B. Sisti, Bayesian spatio-temporal models for over-threshold ozone pollution in Lombardia

Languages

Italian Mother tongue

English C1 – *TOEIC (965/1000)*

Computer Skills

Operating System **Microsoft Windows, Mac OS, Linux**

Programming Languages **Python, Matlab, C++, C, R, LaTex, Stan, JAGS, Julia**

Skills and Competences

- Strong statistical background and deep knowledge of theory, methods, models and algorithms for data analysis;
- Experience of methods, models and computational algorithms of Bayesian statistics;
- Experience with specific software for Bayesian inference, such as Stan and JAGS
- Good knowledge of C/C++, Python, R, Julia and their specific libraries.

Conferences

Sept. 2025 **GRASPA25**, *Bayesian spatiotemporal model for tropospheric ozone daily exceedances.*
Invited Talk: GRASPA 2025, Roma, Italy.

Sept. 2025 **SISBayes**, *Bayesian Source Apportionment.*
Contributed poster: SISBayes 2025, Padova, Italy.

June 2025 **BNP14**, *Bayesian Source Apportionment.*
Contributed poster: BNP 2025, Los Angeles (CA), USA.

June 2025 **SIS25**, *A Bayesian Spatiotemporal Multivariate Receptor Model.*
Invited Talk: SIS 2025, Genova, Italy.

May 2025 **BISP14 workshop**, *Bayesian Source Apportionment.*
Contributed poster: BISP 2025, Milan, Italy.

Apr. 2025 **BAYSM25**, *Bayesian spatio-temporal model for harmful Ozone air pollution levels in Northern Italy.*
Contributed Talk: BAYSM 2025, online.

Nov. 2024 **M4H24 workshop**, *Bayesian Source Apportionment.*
Contributed Poster: M4H 2024, Milan, Italy.

July 2024 **ISBA24**, *Bayesian Source Apportionment.*
Contributed Poster: ISBA 2024, Venice, Italy.

Nov. 2023 **BAYSM23**, *Understanding ammonia air pollution in Northern Italy via Bayesian causal inference.*
Contributed Talk: BAYSM 2023, online.

June 2023 **SEAS-IN**, *A Bayesian weather–driven spatio–temporal model for PM10 in Lombardy.*
Contributed Talk: SIS 2023, Ancona, Italy.

Publications

2026 **Frigeri, M.**, A. Guglielmi, and C. Colombi.,
Bayesian Spatiotemporal Models for Counts of Tropospheric Ozone Daily Exceedances.
Environmetrics 37, no. 6: e70138. https://doi.org/10.1002/env.70138.

Refereed Conference Proceedings

2025 **Frigeri, M.**, Veronica J. Berrocal, Alessandra Guglielmi,
A Bayesian Spatiotemporal Multivariate Receptor Model.
Statistics for Innovation I. Springer Nature Switzerland, 2025. 56-60.

2024 **Frigeri, M.**, Leonardo Marchesin, Matteo Coppellotti, Alessandra Guglielmi,
A Bayesian binomial regression model for ozone levels in Northern Italy.
Scientific Meeting of the Italian Statistical Society. Springer Nature Switzerland, 2024. 40-45.

2023 **Frigeri, M.**, Alessandra Guglielmi,
Understanding ammonia air pollution in Northern Italy via Bayesian causal inference.
Selected for long talk at BAYSM 2023.

2023 **Frigeri, M.**, Ilenia Epifani,
Bayesian analysis of PM10 concentration by spatio-temporal ARIMA and STS models.
SEAS IN Book of short papers 2023. Pearson, 2023. 1026-1031.

2023 **Frigeri, M.**, Alessandra Guglielmi, Giovanni Lonati,
A Bayesian weather–driven spatio–temporal model for PM10 in Lombardy.
SEAS IN Book of short papers 2023. Pearson, 2023. 1-6.

Articles Under Review

2026+ **Frigeri, M.**, Veronica J. Berrocal, Alessandra Guglielmi,
Bayesian source apportionment of spatio-temporal air pollution data.
https://doi.org/10.48550/arXiv.2510.27551