

SIRIO LEGRAMANTI

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ACADEMIC POSITIONS

Jan. 2025 – present	Tenure-track Assistant Professor (RTT), University of Bergamo (Italy)
Jan. 2022 – Dec. 2024	Assistant Professor (RTDA), University of Bergamo (Italy)
Sep. 2020 – Dec. 2021	Postdoctoral Researcher, Bocconi University (Milan, Italy)

RESEARCH INTERESTS

Bayesian statistics, Dimensionality reduction, Network data, Approximate Bayesian Computation, Privacy

AFFILIATIONS

- [BayesLab](#), Bocconi Institute for Data Science and Analytics (BIDSA)
- [MIDAS](#) Complex Data Modeling Research Network

FUNDING AND GRANTS

Member of the PRIN 2017 grant "[Unfolding the secrets of longevity: current trends and future prospects](#)" (20177BRJXS)

EDUCATION

Sep. 2016 – Feb. 2021	PhD in Statistics (cum laude) Bocconi University (Milan, Italy). Advisor: Daniele Durante
Oct. 2013 – Apr. 2016	MSc in Mathematics (110/110 cum laude) + ECMI Postgraduate Programme "Mathematics for Industry" University of Milan (Italy), with 5 months at University of Twente (NL)
Oct. 2009 – Oct. 2013	BSc in Mathematics (110/110 cum laude) University of Milan (Italy)
Oct. 2006 – Nov. 2007	Master in Screenwriting and Production Università Cattolica del Sacro Cuore (Milan, Italy)
Oct. 2003 – July 2006	BA in Arts and Entertainment (110/110 cum laude) Università Cattolica del Sacro Cuore (Brescia, Italy)

INDUSTRY EXPERIENCE

- Dec. 2007 – Aug. 2011 Rete 4 Programming Manager, Mediaset (RTI S.p.A.)
Oct. 2007 – Nov. 2007 Purchasing Coordination Intern, Mediaset (RTI S.p.A.)

TEACHING EXPERIENCE

At the University of Bergamo

Lecturer

- Computational Statistics (24 h, in English), a.y. 2024/25
- Network Data Analysis (8 h, in Italian), within [DADS](#) post-graduate course, a.y. 2023/24, 2024/25
- Statistics and Probability for Economics and Finance (72 h, in English), a.y. 2023/24, 2024/25
- Probability and Statistics for Business and Finance (48 h, in English), a.y. 2022/23
- Coding for Data Science (16 h, in English), a.y. 2022/23
- Statistics (54 h, in Italian), a.y. 2021/2022

MSc Thesis Supervisor

- Alessandro Cantù, *Bus occupancy patterns at Azienda Trasporti Bergamo*, Oct. 2024
- Guido Franchin, *Clustering soccer players*, July 2024
- Khadija Anam, *Automating missing data treatment in the energy sector*, Oct. 2023

+ 4 BSc short theses

At Bocconi University

Teaching Assistant

- Statistics, Module 1 (in English), a.y. 2017/2018
- Advanced Mathematics and Statistics, Module 2 (in English), a.y. 2017/2018

MSc Thesis Co-supervisor

- Michele Siciliano, *Health expenditure analysis and forecasting via dynamic linear models*, Apr. 2021 (with Prof. A. Melegaro)

PUBLICATIONS

Working papers

- L. Aiello, R. Argiento, S. Legramanti, L. Paci. **Bayesian nonparametric clustering for spatio-temporal data, with an application to air pollution.** Submitted.

Refereed journals

- S. Legramanti, D. Durante, P. Alquier (2025). **Concentration of discrepancy-based approximate Bayesian computation via Rademacher complexity.** *Annals of Statistics*, 53(1) 37-60.
- T. Lando, S. Legramanti (2025). **Bootstrap-based tests for the total time on test and the excess wealth orders.** *Journal of Statistical Planning and Inference*, to appear.
- T. Lando, S. Legramanti (2025). **A new class of nonparametric tests for second-order stochastic dominance based on the Lorenz P–P plot.** *Scandinavian Journal of Statistics*, 52(1) 480-512.

- F. Pavone, S. Legramanti, D. Durante (2024). **Learning and Forecasting of Age-Specific Period Mortality via B-Spline Processes with Locally-Adaptive Dynamic Coefficients**. *Annals of Applied Statistics*, 18(3) 1965-1987.
- S. Legramanti, T. Rigon, D. Durante, D. B. Dunson (2022). **Extended Stochastic Block Models with Application to Criminal Networks**. *Annals of Applied Statistics*, 16(4) 2369-2395 [Winner of the 2024 [Mitchell Prize](#)]
- S. Legramanti, T. Rigon, D. Durante (2020). **Bayesian Testing for Exogenous Partition Structures in Stochastic Block Models**. *Sankhya A*, 84, 108-126.
- S. Legramanti, D. Durante, D. B. Dunson (2020). **Bayesian Cumulative Shrinkage for Infinite Factorizations**. *Biometrika*, 107(3), 745-752 [Winner of the 2021 [ASA-SBSS Student Paper Competition](#)]

Conference proceedings

- L. Aiello, R. Argiento, S. Legramanti, L. Paci (2025). **Computationally Efficient Clustering of PM₁₀ Time Series Data**. *Statistics for Innovation II (SIS 2025 short papers)*, 19–24.
- L. Aiello, S. Legramanti, L. Paci (2025). **A Spatial Product Partition Model for PM₁₀ Data**. *Book of short papers SIS 2024*, 8-13.
- V. Ghidini, S. Legramanti, R. Argiento (2023). **Extended Stochastic Block Model with Spatial Covariates for Weighted Brain Networks**. *Bayesian Statistics, New Generations New Approaches (BAYSM2022)*. Springer Proceedings in Mathematics & Statistics, 435, 47-56.
- V. Ghidini, S. Legramanti, R. Argiento (2023). **Binomial Extended Stochastic Block Model for Brain Networks**, *Book of short papers SIS 2023*, 1121-1126.
- S. Legramanti, T. Rigon, D. Durante (2022). **Bayesian Clustering of Brain Regions via Extended Stochastic Block Models**. *Book of short papers SIS 2022*, 45-51.
- F. Pavone, S. Legramanti (2022). **Bayesian Analysis of Mortality in Iceland via Locally Adaptive Splines**. *Book of short papers SIS 2022*, 520-525.
- S. Legramanti (2020). **Variational Bayes for Gaussian Factor Models under the Cumulative Shrinkage Process**. *Book of short papers SIS 2020*, 416-420.
- S. Legramanti (2019). **Bayesian Analysis of Privacy Attacks on GPS Trajectories**. *Book of Short Papers SIS 2019*, 379-386.

AWARDS

- 2024 [Mitchell Prize](#), awarded by the International Society for Bayesian Analysis (ISBA) in recognition of an outstanding paper that describes how a Bayesian analysis has solved an important applied problem.
- 2021 [ASA-SBSS Student Paper Competition](#), awarded by the Section on Bayesian Statistical Science of the American Statistical Association to the best student papers on Bayesian methodology.
- Six Time National Finalist at Mathematical Games International Championship.
- Multiple travel awards (see “Presentations”).

EDITORIAL ACTIVITY

Editorial Board Member

ACM Transactions on Probabilistic Machine Learning (2023 - present)

Referee

- Annals of Applied Statistics
- Bayesian Analysis
- Computational Statistics and Data Analysis
- Journal of the American Statistical Association
- Journal of Computational and Graphical Statistics
- Journal of Machine Learning Research
- Journal of Multivariate Analysis
- Journal of the Royal Statistical Society – Series A
- Journal of the Royal Statistical Society – Series C
- Stat
- Statistics in Medicine
- Statistical Methods & Applications
- *Proceedings*: [BAYSM 2022](#), [RSSDS 2019](#)

SERVICE TO PROFESSION

- Judge for the [ASA-SBSS Student Paper Competition](#) in 2021 and 2022
- PhD thesis external referee for Francesco Barile, University of Milan-Bicocca, Feb. 2025
- PhD thesis committee member for Luca Gherardini, University of Florence, Feb. 2025
- Divulgarion articles [[1](#), [2](#), [3](#), [4](#), [5](#), [6](#), [7](#), [8](#), [9](#), [10](#), [11](#), [12](#), [13](#), [14](#), [15](#), [16](#), [17](#)]

SERVICE TO UNIVERSITY/DEPARTMENT

At the University of Bergamo

- Member of the academic board of the PhD program in “Artificial Intelligence for Sustainable Futures” (May 2025 – present)
- Member of the “Open Campus” and the “Smoke-free University” committees

At the Department of Economics, University of Bergamo

- Co-organizer of the seminars in *Statistics and computational methods* (Nov. 2024 – present)
- Member of the “PR & Digital Communication” committee (Feb. 2022 – Oct. 2024)
- Member of the admission committee for the MSc in “Economics and Data Analysis” (a.y. 2023/24, 2024/25, 2025/26)
- Statistics laboratories for high-school students

PRESENTATIONS

Invited seminars

- 27 Mar. 2025, LUISS, Rome (Italy)
- 18 Dec. 2024, WU Vienna (Austria)
- 13 Nov. 2023, Durham University (UK)
- 5 Oct. 2023, ESSEC Asia-Pacific, Singapore
- 23 Mar. 2023, University of Florence (Italy)

2 Mar. 2022, [BNP-ISBA webinars](#) (online, jointly with Daniele Durante)

28 Apr. 2021, [University of Bergamo](#) (online)

Invited talks

13-15 Dec. 2025, London (UK): [CFE-CMStatistics 2025](#)

29 Sept. 2025, Trieste (Italy): final workshop of the PRIN 2022 project [MNEMET](#)

4-5 Sept. 2025, Padova (Italy): [2nd SISBayes Workshop](#)

25-28 June 2024, Lugano (Switzerland): [Satellite workshop to the 2024 ISBA world meeting](#)

16-18 Dec. 2023, Berlin (Germany): [CMStatistics 2023](#)

13-14 July 2023, Venezia (Italy): [final workshop of the PRIN 2017 project SELECT](#)

15-17 Mar. 2023, Levi (Finland): [Bayes Comp 2023](#) [with travel award]

17-19 Dec. 2022, online: [CMStatistics 2022](#)

13-16 Dec. 2022, Florence (Italy): [1st IMS International Conference on Statistics and Data Science](#)

30 Aug. - 2 Sept. 2022, Misurina (Italy): ["Climbing Mortality Models" workshop](#)

23-26 Aug. 2022, online: [COMPSTAT 2022](#)

26 June - 1 July 2022, Montreal (Canada): [2022 ISBA World Meeting](#) [with travel award]

22-24 June 2022, Caserta (Italy): [SIS 2022](#)

8-12 Aug. 2021, online: [JSM 2021](#)

28 May 2020, online: [first intermediate meeting of the PRIN 2017 project SELECT](#)

24 Jan. 2020, Padua (Italy): [BNP for complex data](#)

7-10 Jan. 2020, Gainesville, FL (US): [Bayes Comp 2020](#) [with travel award]

14-15 Oct. 2019, Venice (Italy): [kick-off meeting of the PRIN 2017 project SELECT](#)

18-21 June 2019, Milan (Italy): [SIS 2019](#)

Contributed talks

22-24 Sep. 2021, online: [New data for new challenges of population and society](#)

28 June - 2 July 2021, online: [2021 ISBA World Meeting](#)

24-28 Aug. 2020, online: [Bernoulli-IMS One World Symposium](#)

Poster presentations

24-28 June 2019, Oxford (UK): [BNP 12](#) [with travel award]

12-14 June 2019, Madrid (Spain): [BISP 11](#)

2-6 July 2018, Vilnius (Lithuania): [IMS Annual Meeting](#)

24-29 June 2018, Edinburgh (UK): [2018 ISBA World Meeting](#) [with travel award]

CONFERENCE SESSION ORGANIZATION

13-15 Dec. 2025, London (UK): [CFE-CMStatistics 2025](#), invited session "Bayesian Analysis of Network Data".

Speakers: Martina Amongero, Luca Gherardini, Riccardo Rastelli, Giovanni Romanò.

1-7 July 2024, Venice (Italy): [2024 ISBA World Meeting](#), invited session "Bayesian Analysis of Network Data".

Speakers: Martina Contisciani, Nial Friel, Federico Pavone.

RESEARCH VISITS

24 Jan. – 2 Feb. 2024, TU Wien, Austria. *Host:* A. Avalos-Pacheco

24 Sep. – 7 Oct. 2023, ESSEC Asia-Pacific, Singapore. *Host:* P. Alquier

SUMMER SCHOOLS

9-20 July 2018, Como (Italy): Bocconi Summer School in Advanced Statistics and Probability

Topic: Graphical Models. Main instructor: S. Lauritzen

10-22 July 2017, Como (Italy): Bocconi Summer School in Advanced Statistics and Probability

Topic: Statistical and Causal Learning. Main instructor: B. Schölkopf

24-31 Aug. 2014, Paderborn (Germany): ECMI 28th Modelling Week

OTHER SKILLS

Programming R, Python, Matlab, Java, C

Languages English (C1), Italian (mother tongue)