

Elena Bortolato

CURRICULUM VITAE

Contact Information

Universitat Pompeu Fabra, Department of Economics and Business
Barcelona School of Economics, Data Science Center
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Current Position

Since October 2024;

Postdoctoral researcher, Universitat Pompeu Fabra & Barcelona School of Economics
Supervisor: prof. David Rossell (UPF, BSE), prof. Stephen Hansen (UCL)

Research interests

- Markov Chain Monte Carlo methods
- Model misspecification
- Likelihood-free inference
- Confidence Distributions
- Objective Bayesian approach

Education

October 2020- May 2024

PhD in Statistical Sciences

University of Padova, Department of Statistical Sciences
Thesis title: *Advancements in distribution sampling for statistical inference*
Supervisor: prof. Laura Ventura, University of Padova
Co-supervisors: prof. Pierre E. Jacob, ESSEC, prof. Robin J. Ryder, Paris Dauphine

October 2018 – September 2020

Master degree (Laurea Magistrale) in Statistical Sciences

University of Padova, Department of Statistical Sciences
Thesis title: *Bias reduction in the equicorrelated multivariate normal*
Supervisor: Prof. Euloge Clovis Kenne Pagui
Final mark: 110/110 cum laude

October 2015 - July 2018

Bachelor degree (Laurea Triennale) in Statistics for Technology and Sciences

University of Padova, Department of Statistical Sciences
Thesis title: *Models and methods for music analysis*
Supervisor: Prof. Alessandra Rosalba Brazzale
Final mark: 106/110.

Work experience

October 2024 +;

Affiliated professor, Barcelona School of Economics.

Postdoctoral Research fellow, Universitat Pompeu Fabra and Barcelona School of Economics.

Supervisor: prof. David Rossell (UPF) and prof. Stephen Hansen (UCL)

November 2023 - October 2024;

Research fellow, University of Padova.

Project title: *Bayesian nonparameterics spatio-temporal processes and their applications*

Supervisor: prof. Antonio Canale, University of Padova

August 2019 - September 2019

ACAM MOCOTO' (Florianopolis - Brazil).

Social Media analyst (AIESEC volunteer)

February 2019 - July 2019

Research Fellow, University of Padova

Project title: *ROI-MOB: Measuring return on investment from EU VET mobility*

(2016-1-IT01-KA202-005396)

Awards and Scholarship

2024 Best Poster Award ISBA2024, Venice

2023 Honorable mention (Poster) GRASPA2023, Palermo

2023 ISBA/BayesComp Travel Grant

2022 Laboratoires Junior financing (PhD student teams prize, University of Lyon, University Jeanne Monnet)

2021 Best thesis in Mathematical Statistics in memory of professor Oliviero Lessi - Società Italiana di Statistica (SIS).

2020 First Prize *Laboratorio con le aziende* (Business Lab)- Department of Statistical sciences University of Padova and ASPIAG.

Computer skills/software

- R, Rstudio
- Julia
- Python
- SAS
- C++
- LaTeX

Language skills

Italian: native - English: fluent - French: basic - Catalan: basic

Publications

Articles in journals

Bortolato, E., Bertolino, F., Musio, M., Ventura, L. (2025) Bayesian Discrepancy Measure: Higher-order and Skewed approximations, Entropy

Colaone et al. (2025) Effectiveness of Telemedicine Nursing Interventions in Adult Obesity: A Systematic Review and meta-analysis, Current Obesity Reports *accepted*

Biz, C., et al. (2025) The Learning Curve of Reverdin-Isham and Akin percutaneous osteotomies for Hallux Valgus correction: a Bayesian approach, Journal of Clinical Medicine, 14 (6), 1921.

Bortolato, E., Ventura, L. (2024). Objective priors for invariant e -values in the presence of nuisance parameters. Entropy, 26 (1), 58.

Bortolato, E., Kenne Pagui, E.C. (2024) Bias reduction and robustness for Gaussian longitudinal data analysis. Journal of Statistical Computation and Simulation 94 (2), 360-375.

Bortolato, E., Ventura, L. (2023). On approximate robust confidence distributions. Econometrics and Statistics, 2452-3062 <https://doi.org/10.1016/j.ecosta.2023.04.006>.

Scarpazza, C., et al. (2021) Idiopathic and acquired pedophilia as two distinct disorders: an insight from neuroimaging. Brain Imaging and Behavior, 15, 2681–2692.

Biz, C., et al. (2022) Treatment of Distal Radius Fractures with Bridging External Fixator with Optional Percutaneous K-Wires: What Are the Right Indications for Patient Age, Gender, Dominant Limb and Injury Pattern? Journal of Personalized Medicine, 12, 1532.

Articles in conference book of papers

Bortolato, E., Musio, M., Ventura, L. Approximate Inference for the Bayesian Discrepancy Measure for Precise Statistical Hypotheses, Methodological and Applied Statistics and Demography III (2024), Springer

Bortolato, E., Ventura, L. Confidence distributions and fusion inference for intractable likelihoods, SIS Book of short papers (2022)

Bortolato, E., Kenne Pagui, E.C., Bias reduction in the equicorrelated multivariate normal, SIS Book of short papers (2021)

Bortolato, E. and Fabbris, L., Vivian, M. Quantity and mood of final open-ended comments on an Erasmus+ VET mobility questionnaire, ASA Book of short papers (2019)

Preprints/Working papers

Bortolato, E., Ventura, L. (2025+) Box-Confidence Depth: simulation-based inference with hyper rectangles *arXiv, under review*

Bortolato, E., Canale, A. (2025+) Adaptive Partition Factor Analysis *arXiv, under review*

Bortolato, E., Jacob, P.E., Ryder, R.J. (2025+) Manifold MCMC for generic sampling problems and couplings *working paper*

Bortolato, E., Hansen, S., Rossell, D. (2025+) Birth-death graphical models *working paper*

Poster

Bortolato, E., Flexible Multi study Factor Analysis BAYSM 2024, Venice, IT, June 2024

Bortolato, E., MCMC ISBA world meeting 2024, Venice, IT, July 2024

Bortolato, E., Alternatives for approximation in likelihood free inference: Box-ABC, ISBA 2022 world meeting, Montreal, CA, July 2022

Bortolato, E., Manifold MCMC methods for Generic target distributions

Bortolato, E., Couplings of MCMC algorithms on manifolds, Approximate methods in Statistics, Marseille, FR June 2023

Bortolato, E., Estimating malaria parasites age distribution: a Bayesian statistical model, GRASPA 2023, Palermo, IT July 2023

Bortolato, E., Hansen, S., Rossell D. Birth death graphical models, CMStatistics, London, UK, December 2025 (*invited*)

Conference presentations

Bortolato, E., Bayesian measure of evidence: ISI, October 2025, The Hague (*invited*)

Bortolato, E., Birth-death graphical models: CMStat, December 2025, London (*forthcoming-invited*)

Bortolato, E., Sampling on constrained spaces: SISBayes25, September 2025 (*invited*)

Bortolato, E., Measuring confidence with hyper-rectangles, May 2025, Workshop in honour of Oliviero Lessi (*invited*)

Bortolato, E., MCMC on manifolds: challenges and solutions, Florence, Italy, May 2024 (*invited*)

Bortolato, E., MCMC on manifolds: challenges and solutions, Venice, Italy, March 2024 (*invited*)

Bortolato, E., Jacob, P. E., Ryder, R. J. Coupling MCMC algorithms on submanifolds, Bayes@CIRM France, November 2023 (*invited*)

Bortolato, E., Jacob, P. E., Ryder, R. J. Tuning refinements and parallelizable computation for MCMC on manifolds, AppliBUGS2023, Paris, France, June 2023 (*invited*)

Bortolato, E., Jacob, P. E., Ryder, R. J. Convergence of MCMC algorithms on manifolds through coupling techniques, BayesComp2023, Levi, Finland, March 2023 (*contributed*)

Bortolato, E., Ventura, L. Box-ABC for likelihood-free inference, CMStatistics, London, UK, 17-19 December 2022 (*invited*)

Bortolato, E., Ventura, L. Confidence distributions and fusion inference for intractable likelihoods, Fusion workshop, Marseille, FR, October 2022 (*invited*)

Bortolato, E., Ventura, L. Confidence distributions and fusion inference for intractable likelihoods, Italian Statistical Society meeting, Caserta, IT, June 2022 (*contributed*)

Bortolato, E., Kenne Pagui, E. C. Bias reduction in the equicorrelated multivariate normal, 50th meeting of the Italian Statistical Society, Pisa, Italy, June 25, 2021 (*contributed*)

Teaching experience

Main instructor

Computational Machine Learning, Barcelona School of Economics (Master in Data Science - Methodology) *October-December 2025*

Computational Machine Learning, Barcelona School of Economics (Master in Data Science - Methodology) *October-December 2024*

Computational Machine Learning and Deep learning, Barcelona School of Economics (Master in Data Science for decision making) *January-March 2024*

Business Statistics and Introduction to Data Analytics (Grande Ecole - Master in Management) ESSEC Business School *January 2023 - March 2023*

Teaching assistant

Foundations of Data science, Barcelona School of Economics (Master in Finance) *November 2024*

Multidimensional data analysis (Department of Statistical Sciences, Bachelor), University of Padova *October 2023 - December 2023*

Statistical Models 1 (Department of Statistical Sciences, Bachelor) University of Padova *February 2024 - June 2024*

Mathematics and Statistics (Department of Biology, Bachelor) University of Padova *February 2024 - June 2024*

Tutoring

Calculus (Statistics for Technology and Sciences, Statistics for Business and Economy, BSc courses)
Statistics (Statistical Sciences, MSc course)
University of Padova *October 2019 - June 2020*

Schools

Bayes@CIRM, Marseille, France, *October 2023*

Sampling high-dimensional probability measures: applications in (non)equilibrium molecular dynamics and statistics, Paris, France, *September 2023*

Replicability crisis in Science?, Padova, Italy, *September 2023*

CEREMADE Winter School 2022, Saint-Pierre-Canivet, France, *February 2022*

Visiting

November 2021 - June 2022, November 2022 - June 2023 ESSEC Business School, Cergy, France

Organisation Other experience

Support to organization of 14th International Conference on Monte Carlo Methods and Applications MCM23, Paris, *June 2023*.

Referee activity

Journal of Multivariate Analysis (2025)
Journal of Statistical Computation and Simulation (2024)
Journal of Computational and Graphical Statistics (2025)
Bayesian Analysis (2023, 2024, 2025)

02/02/2025