

Elena Bortolato

CURRICULUM VITAE

Contact Information

University of Padova
Department of Statistical Sciences via Cesare Battisti, 241-243
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Current Position

Since October 2020; (expected completion: May 2024)

PhD candidate in Statistical Sciences, University of Padova.

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

Since November 2023;

Research fellow, University of Padova.

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

Supervisor: prof. Antonio Canale, University of Padova

Research interests

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

Education

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

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

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
- LaTeX

Language skills

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

Publications

Articles in journals

Bortolato, E., Ventura, L. (2024). Objective priors for invariant e -values in the presence of nuisance parameters. *Entropy* - to appear,

Bortolato, E., Kenne Pagui, E.C. (2023) Bias reduction and robustness for gaussian longitudinal data analysis. *Journal of Statistical Computation and Simulation* - to appear

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. Idiopathic and acquired pedophilia as two distinct disorders: an insight from neuroimaging. *Brain Imaging and Behavior* (2021)

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., 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 Fabbri, 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., Jacob, P.E., Ryder, R.J. Manifold MCMC for generic sampling problems and couplings (2024+) *working paper*

Bortolato, E., Ventura, L., On improved constrained bootstrapping (2024+) *working paper*

Bortolato, E., Musio, M. Ventura, L., Approximate Inference for the Bayesian Discrepancy Measure for Precise Statistical Hypotheses (2024+) *submitted*

Bortolato, E., Canale, A., Flexible Multi-study factor analysis (2024+) *working paper*

Poster

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

Bortolato, E., MCMC convergence on manifolds through coupling techniques, Statistical methods and models for complex data, Padova September 2022

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

Conference presentations

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. 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 Statistic 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

Teaching assistant

Multidimensional data analysis (Department of Statistical Sciences)

University of Padova

October 2023 - December 2023

Statistical Models 1 (Department of Statistical Sciences)

Small lectures and exercises to BSc and MSc students

University of Padova

February 2024 - June 2024

Mathematics and Statistics (Department of Biology)

University of Padova

February 2024 - June 2024

Adjunct lecturer

Business Statistics and Introduction to Data Analytics (Grande Ecole - Master in Management)

ESSEC Business School

January 2023 - March 2023

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

Other experience

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

Referee activity

Bayesian Analysis

Memberships

ISBA (International Society of Bayesian Analysis), IMS (Institute of Mathematical Statistics)

16/04/2024