Federica Stolf

Contact Information

Department of Statistical Science
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Research Interests

Applied Bayesian Modeling, Factor models, Bayesian Nonparametrics, Latent Feature Models, Statistical Ecology.

Current position

Postdoctoral Associate
Duke University, Department of Statistical Science (from 10/2024 to present)
Advisors: Amy Herring and David Dunson

Education

Università degli Studi di Padova, Padova, Italy

Ph.D. in Statistics, Department of Statistical Sciences
(from 10/2021 to 09/2024, thesis defense 01/2025)

- Thesis Topic: *Bayesian methods for complex dependence structures with application in ecology*
- Advisors: Antonio Canale and David Dunson

M.Sc. in Statistical Sciences, Department of Statistical Sciences
(from 10/2019 to 09/2021)

- Thesis Topic: *Bayesian hierarchical models for spatial extreme values*
- Advisor: Antonio Canale
- Final mark: 110/110 with honors

B.Sc. in Statistics for Technology and Sciences, Department of Statistical Sciences
(from 10/2016 to 07/2019)

- Thesis Topic: *Quantile regression for solar power forecasting*
- Advisor: Antonio Canale
- Final mark: 110/110 with honors

Work experience

- **Research support activities** (from 03/2021 to 05/2021)
  Department of Statistical Sciences, Università degli Studi di Padova
  Supervisor: Prof. Bruno Scarpa
- **Data scientist intern** at Horsa, Vicenza (from 09/2019 to 12/2019)
- **Ski instructor** at Intersport Bernik, Kranjska Gora, Slovenia (from 12/2016 to 2/2020)

Visiting Periods

Duke University, Department of Statistical Science, NC, USA (from 03/2023 to 09/2024)
Supervisor: David Dunson.

Awards

Travel & academics awards

- Travel award. BNP14 conference, Los Angelese, US (2025)
- ASA-SBSS Student Paper Competition (2025)
- Best poster award at ISBA 2024
- ISBA travel award. ISBA 2024 world meeting, Venice, Italy
- Travel award. 4th Italian Meeting on Probability and Mathematical Statistics (2024)
- Best poster award at Autumn school in Bayesian Statistics 2023, CIRM (France)
- ISBA travel award. ISBA 2022 world meeting, Montreal, Canada
- Mille e una Lode Award 2018/2019, scholarship awarded to the best 3% students of the University of Padova

Data competitions

- First prize winner at HackTheGene, Padova (09/2022)

Publications

Submitted and working papers

- Stolf, F. and Dunson, D. (2024+). Infinite joint species distribution models. Submitted, *arXiv:2402.13384* [ASA-SBSS student paper award]

Articles in peer-reviewed journals

- Stolf, F. and Canale, A. (2025). Bayesian Adaptive Tucker Decompositions for Tensor Factorization. *Journal of Computational and Graphical Statistics*, to appear
- Stolf, F. and Canale, A. (2023). A hierarchical Bayesian non-asymptotic extreme value model for spatial data. *Environmetrics*, 34(7), e2806

Discussions and conference proceedings

- Stolf, F. (2025). Dependent Infinite Latent Feature Models for Tree Occurrence Data, in *Methodological and Applied Statistics and Demography IV: SIS 2024, Short Papers*.
- Canale, A., Schiavon, L. and Stolf, F. (2024). Invited discussion to "Sparse Bayesian factor analysis when the number of factors is unknown". *Bayesian Analysis*, 20(1), 213-344.
- Stolf, F. and Canale, A. (2022). Bayesian spatial modeling of extreme precipitation, in *Proceedings of the 36th International Workshop on Statistical Modelling*. ISBN: 9788855113090

Service to profession

Referee for: Biometrics; Computational Statistics & Data Analysis.

Membership to scientific societies:

- International Society for Bayesian Analysis (ISBA), BNP ISBA and jISBA
- Società Italiana di Statistica (SIS)

Organizer of *Explain like I'm an Undergrad* (from 09/2023 to 07/2024)
Series of weekly seminars for PhD students, post-docs, and young researchers in the statistics department at the University of Padova

Presentations

Invited presentations

[Dec 2024] CMStats Computational and Methodological Statistics, London, UK

[Jun 2024] 4th Italian Meeting on Probability and Mathematical Statistics, Rome, Italy

Contributed presentations

[Jun 2024] 52th Scientific meeting of the Italian Statistical Society, Bari, Italy

[Nov 2023] BAYSM 2023, online

Poster presentations

[Jul 2024] ISBA world meeting 2024, Venice, Italy

[Jun 2024] BAYSM 2024, Venice, Italy

[Oct 2023] Autumn school in Bayesian Statistics 2023, CIRM, Marseille, France

[Jul 2022] 36th International Workshop on Statistical Modelling (IWSM), Trieste, Italy

[Jun 2022] ISBA world meeting 2022, Montreal, Canada

Teaching

Duke University, NC, USA

- Guest lecturer for Bayesian Statistical Modeling and Data Analysis (M.Sc.) - Spring 2025

Università degli Studi di Padova, Padova, Italy

- Teaching assistant for Advanced statistical inference (M.Sc.) - A.Y. 2020/21
- Teaching assistant for Introduction to real analysis (B.Sc.) - A.Y. 2019/20, 2020/21

Workshops

Selected participant at **Data Research Camp**, Florence (Italy), 07/2024
Four-day meeting where groups of young scholars, advised by a senior researcher, were asked to develop innovative methods and models to analyze a common dataset.