

# Niccolo Anceschi

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## Current Position

Oct 2022 - Present

**Postdoctoral Associate in Statistics**, Duke University

*Research Area:* Development of novel statistical methods for inferring latent structure in high-dimensional, complex, and structured data  
*Mentors:* Amy Herring & David Dunson

## Education

Sep 2018 - Jan 2023

**Ph.D. in Statistics** with honors (*cum laude*), Bocconi University

*Topic:* High-dimensional Bayesian inference for binary data  
*Advisors:* Daniele Durante & Giacomo Zanella

Oct 2014 - Apr 2017

**M.Sc. in Physics** with honors (*cum laude*), University of Milan

*Topic:* Emergence of biodiversity and the definition of species in ecological communities  
*Advisors:* Samir Suweis & Jorge Hidalgo (Padua University)

Aug 2014 - Sep 2014

**Visiting Student**, University of Colorado Boulder

Research Project at Soft Materials Research Center

Oct 2010 - Apr 2014

**B.Sc. in Physics**, University of Milan

*Topic:* Liquid-Crystal phases in racemic mixtures of DNA oligomers  
*Advisors:* Alberto Vailati & Tommaso Bellini

## Work Experience

Jun 2017 - Jul 2018

**Pricing Analyst**, brumbrum S.p.A.

*Job Description:* Development of efficient and robust algorithms for competitive data-driven asset pricing, based on highly-noisy data  
*Industry:* Used Car e-commerce

## Publications

- ▶ Anceschi N., Fasano A., Durante D. & Zanella G. (2023) Bayesian conjugacy in probit, tobit, multinomial probit and extensions: a review and new results, *Journal of the American Statistical Association*, 118 (542), 1451-1469
- ▶ Anceschi N., Hidalgo J., Plata. C., Bellini T., Maritan A. & Suweis S. (2019) Neutral and niche forces as drivers of species selection, *Journal of Theoretical Biology*, 483, 109969

## Submitted Papers

- ▶ Anceschi N., Ferrari F., Mallick H. & Dunson D. (2024+) Bayesian joint additive factor models for multiview learning, *arXiv:2406.00778*
- ▶ Anceschi N., Fasano, A., Franzolini B. & Rebaudo G. (2024+) Scalable expectation propagation for generalized linear models, *arXiv:2407.02128*
- ▶ Poworoznek E., Anceschi N. Ferrari F. & Dunson D. (2021) Efficiently resolving rotational ambiguity in Bayesian matrix sampling with matching, *arXiv:2107.13783*

## Working Papers

- ▶ Anceschi N., Rigon T., Durante D. & Zanella G. - Optimal lower bounds for logistics likelihoods, *(preparing to submit)*
- ▶ Anceschi N., Stolf F., Tikhonov G., Ovaskainen O. & Dunson D. - Enhanced borrowing for modeling rare species occurrences: tree-structured factor models.
- ▶ Mauri L., Anceschi N., & Dunson D. - Fast and accurate factor pre-estimation for multi-study data.
- ▶ Kulkarni S, Anceschi N., Ferrari F & Mallick H. - Realistic multi-omics data simulator for reliable testing of novel methodologies.

## Refereed Conference Proceedings

- ▶ Anceschi N., Fasano, A. & Rebaudo G. (2023) Expectation propagation for the smoothing distribution in dynamic probit. *Bayesian Statistics, New Generations New Approaches - BAYSM 2022*
- ▶ Fasano, A., Anceschi N., Franzolini, B. & Rebaudo G. (2023) Efficient computation of predictive probabilities in probit models via expectation propagation, *Book of Abstracts and Short Papers - CLADAG 2023*, 449-452
- ▶ Fasano A., Rebaudo G. & Anceschi N. (2022) Bayesian inference for the multinomial probit model under Gaussian prior distribution, *Book of short papers - SIS 2022*, 871-876

## Teaching

- ▶ Course Instructor, *B.Sc. course The Mathematics of Regression*, Duke University (AY 2024/2025)
  - 51 undergrad students, 2 TAs for grading assignments
- ▶ Teaching Assistant, *B.Sc. course Statistics*, Università degli studi di Bergamo (AY 2021/2022)
  - 62 undergrad students, economics majors.
  - Held online exercises sessions & online office hours
- ▶ Teaching Assistant, *B.Sc. course Computer Science II*, Bocconi University (AY 2020/2021, 2021/2022)
  - ~ 50 undergrad students, math & computer sciences major
  - Prepared problem sets & solution handouts
  - Held hybrid exercise sessions & in-person/online office hours
- ▶ Teaching Assistant, *B.Sc. course Theoretical Computer Science*, Bocconi University (AY 2019/2020)
  - 23 undergrad students, elective class (mixed backgrounds)
  - Prepared problem sets & solution handouts
  - Held in-class exercise sessions & in-person office hours

## Public Softwares

R package **jafar** : R code for *Bayesian joint additive factor models for multiview learning*

GitHub repository **EPglm** : R code for *Scalable expectation propagation for generalized linear models*

## Editorial Work

- Ad-hoc reviewer:
- *Biometrics*
  - *Computational Statistics and Data Analysis*
  - *Journal of Computational and Graphical Statistics*
  - *Statistics and Public Policy*

## Conferences Presentations, Seminars & Schools

### Invited

- Jul 2024 ISBA World Meeting of the International Society of Bayesian Analysis (*Venice, IT*)
- Dec 2023 CMStats Computational and Methodological Statistics (*Berlin, DE*) [virtual]
- Jun 2023 IISA International Indian Statistical Association Conference (*Golden, US*)
- Apr 2023 LiPH Laboratory of Interdisciplinary Physics, *University of Padua (Padua, IT)*

### Contributed

- Jul 2024 ISEC International Statistical Ecology Conference (*Swansea, UK*)
- Aug 2023 JSM Joint Statistical Meetings (*Toronto, CA*)
- Apr 2022 BNP Networking Event of the Bayesian Nonparametric Section of ISBA (*Nicosia, CY*)
- Jun 2021 ISBA@CIRM Workshop - Satellite event of the 15th World Meeting of the International Society of Bayesian Analysis (*Marseille, FR*)

### Posters

- May 2024 PIC International Congress of Combustion By-Products and their Health Effects (*Durham, US*)
- Jun 2022 ISBA World Meeting of the International Society of Bayesian Analysis (*Montréal, CA*)

### Schools

- Jul 2019 Random Graphs: Bocconi Summer School in Advanced Statistics and Probability (*Como, IT*)
- Jul 2016 Summer School on Atomistic Simulation Techniques, SISSA (*Trieste, IT*)
- Mar 2015 46th IFF Spring School on Functional Soft Matter (*Jülich, DE*)

## Memberships & Affiliations

- American Statistical Association (*ASA*)
- International Society for Bayesian Analysis (*ISBA*)
- Italian Statistical Society (*SIS*)
- Bayesian Learning Laboratory (*BayesLab*) at Bocconi Institute for Data Science and Analytics (*BIDSA*)

## Other Skills

- Programming: *R, C, C++, Python, Mathematica*
- Other tools: *GitHub, R Markdown, Tableau*
- Languages: *English (fluent), Italian (native speaker)*

## Hobbies

Rock Climbing, Skiing, Hiking, Reading