Niccolo Anceschi, Ph.D.

Postdoctoral Associate - Duke University (Durham, NC) - Department of Statistical Science
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Profile and Key Competencies

- Statistician with research focus on Bayesian methods, high-dimensional inference, and interpretable statistical modeling for mixed-measurement data. Methodological contributions include scalable approximate inference (variational methods, MCMC), latent structure recovery and dimension reduction for multi-study/multi-view data integration.
- Applied interdisciplinary collaborations with Merck Sharp & Dohme scientists, and with academic researchers in environmental health, toxicology, and ecology – including simulation-based power assessment in exposure studies & spanning publication-oriented research and statistical consulting.
- Solid foundation in scientific computing and simulation, with extensive R and C++ programming, focused on efficient and accessible code for statistical modeling and inference.
- Strong communicator with 10+ invited and contributed talks – instructor and teaching assistant for Bachelor-level classes – active peer reviewer for scientific journals in statistics and applied fields.

Work Experience

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

Sep 2019 – Dec 2024
Teaching Appointments
Course Instructor: Duke University (AY 2024/25)
Teaching Assistant: University of Bergamo (AY 2021/22), and Bocconi University (AY 2019/20, 2020/21, 2021/22)

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

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 (at Padua University)

Aug 2014 - Sep 2014
Visiting Student, University of Colorado Boulder

Oct 2010 - Apr 2014
B.Sc. in Physics, University of Milan

Publications

- Anceschi N., Rigon T., Zanella G. & Durante D. (2026) Optimal and computationally tractable lower bounds for logistic log-likelihoods, *Accepted on Biometrika* (*arXiv:2410.10309*)
- Anceschi N., Ferrari F., Mallick H. & Dunson D. (2026) Bayesian joint additive factor models for multiview learning, *Accepted on Biometrics* (*arXiv:2406.00778*)
- Poworoznek E., Anceschi N., Ferrari F. & Dunson D. (2025) Efficiently resolving rotational ambiguity in Bayesian matrix sampling with matching, *Bayesian Analysis, Advance Publication, 1-22, 2025*
- 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*

Preprints

- Mauri L., Anceschi N., & Dunson D. (2026+) Spectral decomposition-assisted multi-study factor analysis, *arXiv:2502.14600*
- Anceschi N., Fasano, A., Franzolini B. & Rebaudo G. (2026+) Scalable expectation propagation for generalized linear models, *arXiv:2407.02128*

Working Papers

- Huayta J., Anceschi N., Meyer J., Dunson D., & Herring A. - Statistical assessment of additivity in joint benzo[a]pyrene and lead neurotoxicity using C. elegans
- Presman R., Anceschi N., Herring A. & Meyer J. - Order-restricted Bayesian ordinal regression for the modeling of neuron degeneration in C. elegans

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

Public Softwares

R package **`logitPQbound`** : code for *optimal lower bounds for logistic log-likelihoods*

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

GitHub repository **`MatchAlign`** : code for *resolving rotational ambiguity in Bayesian matrix sampling*

GitHub repository **`TobitSUN`** : code for *Bayesian conjugacy in probit, tobit, and multinomial probit*

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

Teaching

- Course Instructor, *B.Sc. course* The Mathematics of Regression, Duke University *(AY 2024/2025)*
  - *48 undergrad students from mixed majors — supervising 2 teaching assistants for grading*
  - *Prepared lectures, course materials, weekly assignments, midterms & final exams*
  - *Managed course website, delivered in-person lectures, & held hybrid office hours*
- Teaching Assistant, *B.Sc. course* Statistics, Università degli studi di Bergamo *(AY 2021/2022)*
  - *32 undergrad students in economics majors*
  - *Held online classes, exercise sessions & office hours. Graded exams*
- Teaching Assistant, *B.Sc. course* Computer Science II, Bocconi University *(AY 2020/2021, 2021/2022)*
  - *~ 50 undergrad students in math & computer sciences major*
  - *Prepared problem sets & solutions. Held hybrid exercise sessions & office hours. Graded exams*
- Teaching Assistant, *B.Sc. course* Theoretical Computer Science, Bocconi University *(AY 2019/2020)*
  - *23 undergrad students from mixed backgrounds & majors*
  - *Prepared problem sets & solutions. Held in-person exercise sessions & office hours. Graded exams*

Conference Presentations & Talks

Invited

Dec 2025	CMStats Computational and Methodological Statistics *(London, UK)*
Aug 2025	JSM Joint Statistical Meetings *(Nashville, US)*
Mar 2025	ENAR Spring Meeting of the International Biometric Society *(New Orleans, US)*
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 osf 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)*

Editorial Work

Ad-hoc reviewer for:

- *Biometrics*
- *Journal of Machine Learning Research*
- *Computational Statistics and Data Analysis*
- *Journal of Computational and Graphical Statistics*
- *Annals of Applied Statistics*
- *Bayesian Analysis*
- *Electronic Journal of Statistics*
- *Statistics and Public Policy*

Awards

- First Runner up BioPharm Junior Researcher Paper 2024
- Biometrics 2024 Excellent Referee Award
- Travel Award, *ISBA* 2024 World Meeting (Venice, IT)
- Travel Award, *ISBA* 2022 World Meeting (Montréal, CA)
- Travel Award, *BNP* 2022 Networking Event (Nicosia, CY)
- Ph.D. Scholarship, Bocconi University (Milan, IT)

Other Skills

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