Tommaso Rigon

| Contact Information | Department of Economics, Management & Statistics
University of Milano-Bicocca
Building: U07, Room: 2034
Via Bicocca degli Arcimboldi, 8, 20126, Milan, Italy | *Email:* tommaso.rigon@unimib.it
Website: https:tommasorigon.github.io
Orcid: orcid.org/0000-0002-9224-543X |

Research Interests

Applied Bayesian Modeling, Bayesian clustering, Bayesian Nonparametrics, Computational Statistics, Functional Data Analysis, Mixture Models, Species Sampling Models

Research network

Member of BayesLab at the Bocconi Institute for Data Science and Analytics (BIDSA), and the MIDAS Complex Data Modeling Research Network

Current position

Senior Assistant Professor (*Ricercatore SECS-S/01, Legge 240/10 tipo B*)
University of Milano-Bicocca, Department of Economics, Management & Statistics (DEMS), Milan, Italy (from 05/2023 to present)

Past academic positions

Junior Assistant Professor (*Ricercatore SECS-S/01, Legge 240/10 tipo A*)
University of Milano-Bicocca, Department of Economics, Management & Statistics (DEMS), Milan, Italy (from 10/2020 to 04/2023)

Postdoctoral Associate
Duke University, Department of Statistical Sciences, Durham, USA (from 02/2020 to 09/2020)

Research Associate
Duke University, Department of Statistical Sciences, Durham, USA (from 10/2019 to 02/2020)

Research Affiliate
de Castro Statistics Initiative, Collegio Carlo Alberto, Turin, Italy (from 09/2017 to 09/2020)

Education

Bocconi University, Milan, Italy

Ph.D. in Statistics (*Dottorato di ricerca in Statistica*), Department of Decision Sciences (from 09/2015 to 09/2019, thesis defense 01/2020)
- Thesis Topic: *Finite-dimensional nonparametric priors: theory and applications*
- Advisors: Antonio Lijoi and Igor Prünster
- Ph.D. awarded with honors

Università degli Studi di Padova, Padova, Italy

M.Sc. in Statistical Sciences (*Laurea Magistrale in Scienze Statistiche*), School of Statistics (from 10/2013 to 09/2015)
- Thesis Topic: *Functional telecommunication data: a Bayesian nonparametric approach*
- Advisor: Bruno Scarpa
- Final mark: 110/110 with honors

B.Sc. in Statistics, Economics & Finance (*Laurea Triennale in Statistica, Economia & Finanza*), School of Statistics (from 10/2010 to 04/2013)
- Thesis Topic: *Box-Cox transformation: an analysis based on the likelihood*
- Advisor: Nicola Sartori
- Final mark: 110/110 with honors

Awards

Academic awards

[2024] *Blackwell-Rosenbluth Award 2024.* Junior Section of the International Society for Bayesian Analysis (J-ISBA)

[2024] *Mitchell Prize 2023.* American Statistical Association (ASA) & International Society for Bayesian Analysis (ISBA)

[2022] *National Scientific Qualification for Associate Professor in Statistics* (13/D1)

[2021] *Young Talents Award.* University of Milano-Bicocca & Accademia Nazionale dei Lincei

[2021] *Savage Award 2020 (Theory and Methods).* American Statistical Association (ASA) & International Society for Bayesian Analysis (ISBA)

[2017] *Best Ph.D. student in Statistics.* Bocconi University

Data competitions

[2018] *Best objective prediction*. Stat under the Stars 4

[2017] *Young-CLADAG data contest*. Classification and Data Analysis group

[2017] *Bocconi summer school data competition*. Bocconi summer school

Travel awards

[2019] *Travel award (accommodation)*. BNP12 conference Oxford, UK

[2019] *Travel award (400£)*. O'Bayes 2019 conference, Warwick, UK

[2018] *ISBA travel award (250$)*. ISBA 2018 world meeting, Edinburgh, UK

[2017] *ISBA travel award (700$)*. O'Bayes 2017 conference, Austin, Texas

SERVICE TO PROFESSION

Editorial activity

[2022 / Present] Associate Editor of Bayesian Analysis

Referee service (alphabetical order)

Annals of Applied Statistics • Annals of Statistics • Bayesian Analysis • Bernoulli • Biometrics • Biometrika • Computational Statistics & Data Analysis • Electronic Journal of Statistics • European Journal of Operational Research • IEEE Transactions on Neural Networks and Learning Systems • Journal of Computational & Graphical Statistics • Journal of the American Statistical Association • Journal of the Royal Statistical Society: Series B (Statistical Methodology) • Journal of Statistical Planning and Inference • NeurIPS • Plos One • Statistical Methods & Applications • Social Indicators Research • Statistics & Probability Letters • Statistical Science

Positions in Academic Societies

[2024] **Peer mentor** in the j-ISBA Peer Mentoring Scheme, "Researchers supporting other researchers"

[2024] **Member of the committee** for the DeGroot Prize

[2022] **Member of the committee** for the Savage Award, Theory and Methods

[2021/24] **Social media manager** of the International Society for Bayesian Analysis

[2016/18] **Elected member of the board** of the young group (ySIS) of the Italian Statistical Society

Organization of Scientific Events

[2024] **Member of the local and scientific committees** of the *BAyesian Young Statisticians Meeting 2024* (BAYSM 2024), Venice, Italy

[2022] **Organizer of the session** *Flexible Bayesian modelling for biostatistics* at the 15th International Conference of the ERCIM WG on Computational and Methodological Statistics conference, London, UK

[2021] **Organizer of the j-ISBA session** *Computational and modeling advances for complex biological data* at the 2021 World Meeting of the International Society for Bayesian Analysis conference, virtual

[2019] **Organizer of the ySIS session** *think outside of the black-box: statistical reasoning in applications* of the SIS2019: Smart Statistics for Smart Applications conference, Milan, Italy

[2019] **Member of the organizing committee** of *Stats under the Stars 5*, a hackathon for young Data Scientists, Milan, Italy

[2017] **Member of the local organizing committee** of the *10th international workshop on Bayesian inference in stochastic processes (BISP10)*, Milan, Italy

Service to University

Positions in Boards and Committees

- **Faculty member of the Ph.D. program** in *Economics, Statistics and Data Science*, of the University of Milano-Bicocca (from 2024 to present)

- **Member admission committee for the Ph.D. program** in *Economics, Statistics and Data Science*, of the University of Milano-Bicocca (2024)

- **Member of the selection committee for adjunct professors** at the University of Milano-Bicocca (4 times, 2023/2024)

- **Doctoral thesis committee member** for

  - *Ph.D. in Statistics and Computer Science* at Bocconi University (Patric Dolmeta, 2024)
  - *Ph.D. in Economics and Statistics* at the University of Milano-Bicocca (Camilla Salvatore, Luca Brusa, 2023; Luca Aiello, 2024)
  - *Ph.D. Mathematics, Information sciences and technologies, Computer science* at the University Grenoble Alpes (Louise Alamichel, 2024)

- **Social media manager of the Department** (DEMS), of the University of Milano-Bicocca, from 2021 to present

Students Supervised, Co-supervised, and Mentored

- **Current Ph.D. students**: Luca Presicce (**Ph.D.**), Anna Petranzan (**Ph.D.**)

- **Former Ph.D. students**: Alessandro Zito (**Ph.D.**, supervisor: David Dunson, 2024), Davide Agnoletto (**M.Sc.**, **Ph.D.**, supervisor: Bruno Scarpa), Riccardo Cogo (**Ph.D.**, supervisor: Federico Camerlenghi), Ching-Lung Hsu (**Ph.D.**, supervisor: David Dunson)

- I have supervised and co-supervised about 30 B.Sc./M.Sc. students in applied and research-oriented theses on a broad range of topics

Funding and grants

Collaborator of the NEMESIS ERC project entitled "*sociogeNEsis of criMinal nEtworks: reconStruction, dIscovery and diSruption*", funded by the European Research Council ERC starting grant for the years 2024-2029. PI: Daniele Durante

Member of the research group of the grant PRIN 2022 entitled "*Measuring Biodiversity via Bayesian Nonparametrics: Estimation, Clustering and Uncertainty Quantification*" for the years 2023-2025. PI: Igor Prünster. CO-PI: Federico Camerlenghi

Member of the research group of the grant PRIN 2022 entitled "*Discrete random structures for Bayesian learning and prediction*" for the years 2023-2025. PI: Antonio Lijoi. CO-PI: Bernardo Nipoti

Member of the research group of the grant FAQC 2021 funded by the University of Milano-Bicocca. PI: Bernardo Nipoti

Member of the research group of the LIFEPLAN ERC project, funded by the European Research Council through a 12.6M€ ERC-synergy grant for the years 2020-2026. Global biodiversity research PI: prof. Tomas Roslin. Statistical research PI: prof. David B. Dunson. Corresponding PI: prof. Otso Ovaskainen

Member of the research group of the grant R01ES027498 funded by the National Institute of Environmental Health Sciences of the United States National Institutes of Health. PI: Amy H. Herring

Publications

Refereed journals

1. Ghilotti, L., Camerlenghi, F., and **Rigon, T.** (2025+). Bayesian analysis of product feature allocation models. *Journal of the Royal Statistical Society Series B: Statistical Methodology*, to appear

2. Zito, A., **Rigon, T.**, and Dunson, D. B. (2025+). Bayesian nonparametric modeling of latent partitions via Stirling-gamma priors. *Bayesian Analysis*, to appear

3. Agnoletto, D., **Rigon, T.**, and Dunson D.B. (2025). Bayesian inference for generalized linear models via quasi-posteriors. *Biometrika*, **112**(2)

4. **Rigon, T.**, Scarpa, B. and Petrone, S. (2025). Enriched Pitman–Yor processes. *Scandinavian Journal of Statistics*, **52**(2), 631–657

5. Lijoi, A., Prünster, I. and **Rigon, T.** (2024). Finite-dimensional discrete random structures and Bayesian clustering. *Journal of the American Statistical Association (T&M)*, **119**(546), 929–941

6. Catalano, M., Lijoi, A., Prünster, I. and **Rigon, T.** (2023). Bayesian modeling via discrete nonparametric priors. *Japanese Journal of Statistics and Data Science*, **6**(2), 607–624

7. **Rigon, T.** (2023). An enriched mixture model for functional clustering. *Applied Stochastic Models in Business and Industry*, **39**(2), 232–250

8. **Rigon, T.** and Aliverti, E. (2023) Conjugate priors and bias reduction for logistic regression models. *Statistics & Probability Letters*, **202**, 109901

9. **Rigon, T.**, Herring, A. H. and Dunson, D. B. (2023). A generalized Bayes framework for probabilistic clustering. *Biometrika*, **110**(3), 559–578

10. Zito, A., **Rigon, T.** and Dunson, D. B. (2023). Inferring taxonomic placement from DNA barcoding aiding in discovery of new taxa. *Methods in Ecology & Evolution*, **14**(2), 529–542

11. Zito, A., **Rigon, T.**, Ovaskainen, O. and Dunson, D. B. (2023). Bayesian modelling of sequential discoveries. *Journal of the American Statistical Association (T&M)*, **118**(544), 2521–2532

12. Legramanti, S., **Rigon, T.** and Durante, D. (2022). Bayesian testing for exogenous partition structures in stochastic block models. *Sankhya A: The Indian Journal of Statistics*, **84**, 108–126

13. Legramanti, S., **Rigon, T.**, Durante, D. and Dunson, D. B. (2022). Extended stochastic block models with application to criminal networks. *Annals of Applied Statistics*, **16**(4), 2369-2395

14. Reverberi, C., **Rigon, T.**, Solari, A., Hassan, C., Cherubini, P., GI Genius CADx Study Group and A. Cherubini (2022). Experimental evidence of effective human-AI collaboration in medical decision-making. *Scientific Reports*, **12**(14952)

15. Favaro, S., Panero, F. and **Rigon, T.** (2021). Bayesian nonparametric disclosure risk assessment. *Electronic Journal of Statistics*, **15**(2), 5626–5651

16. **Rigon, T.** and Durante, D. (2021). Tractable Bayesian density regression via logit stick-breaking priors. *Journal of Statistical Planning and Inference*, **211**, 131–142

17. Lijoi, A., Prünster, I. and **Rigon, T.** (2020). Sampling hierarchies of discrete random structures. *Statistics & Computing*, **30**, 1591–1607

18. Lijoi, A., Prünster, I. and **Rigon, T.** (2020). The Pitman–Yor multinomial process for mixture modeling. *Biometrika*, **107**(4), 891–906

19. Durante, D. and **Rigon, T.** (2019). Conditionally conjugate mean-field variational Bayes for logistic models. *Statistical Science*, **34**(3), 472–485

20. **Rigon, T.**, Durante, D. and Torelli, N. (2019). Bayesian semiparametric modelling of contraceptive behavior in India via sequential logistic regressions. *Journal of the Royal Statistical Society Series A: Statistics in Society*, **182**(1) 225–247

21. Durante, D., Canale, A. and **Rigon, T.** (2019). A nested expectation-maximization algorithm for latent class regression models. *Statistics & Probability Letters*, **146**, 97–103

Submitted and working papers

22. Ghilotti, L., Camerlenghi, F., **Rigon, T.** and Guindani, M. (2025+). Bayesian nonparametric modeling of multivariate count data with an unknown number of traits. Submitted, *arXiv:2510.24526*.

23. Agnoletto, D., **Rigon, T.** and Dunson D.B. (2025+). Nonparametric predictive inference for discrete data via Metropolis-adjusted Dirichlet sequences. Submitted, *arXiv:2507.08629*.

24. **Rigon, T.**, Hsu, C. and Dunson D.B. (2025+). A Bayesian theory for estimation of biodiversity. Submitted, *arXiv:2502.01333*

25. Anceschi, N., **Rigon, T.**, Zanella, G. and Durante D. (2025+). Optimal lower bounds for logistic log-likelihoods. Submitted, *arXiv:2410.10309*

Publications in monographs, volumes, and discussions

26. Agnoletto, D., **Rigon, T.** and Dunson, D.B. (2025). Bayesian inference for generalized linear models via quasi-posteriors: an application to Eurasian Chaffinch abundance in Finland. In *Methodological and Applied Statistics and Demography III* (Pollice, A. and Mariani, P., editors). Springer.

27. **Rigon, T.**, Aliverti, E., Russo, M. and Scarpa, B. (2021). A discussion on: "Centered partition processes: Informative priors for clustering" Paganin, S., Herring, A. H., Olshan, A. F., Dunson, D. B., et al. (2021) in *Bayesian Analysis* **16**(1) 301–370

28. Aliverti, E., Paganin, S., **Rigon, T.** and Russo, M. (2019). A discussion on: "Latent nested nonparametric priors" by Camerlenghi, F., Dunson, D. B., Lijoi, A., Prünster, I. and Rodríguez, A. in *Bayesian Analysis* **14**(4), 1303–1356

29. Caponera, A., Denti, F., **Rigon, T.**, Sottosanti, A. and Gelfand, A. (2018). Hierarchical spatio-temporal modeling of resting state fMRI data. In *Studies in Neural Data Science* (Canale, A., Durante, D., Paci, L. and Scarpa, B., editors). Springer.

National conference proceedings

30. Agnoletto, D., **Rigon, T.** and Scarpa, B. (2023). Bayesian density estimation for modeling age-at-death distribution. In *Book of Short Papers of the Italian Statistical Society* (Chelli, F. M., Ciommi, M., Ingrassia, S., Mariani, F., Recchioni, M.C.) 2023. ISBN: 9788891935618.

31. Cogo, R., Camerlenghi, F. and **Rigon, T.** (2023). Hierarchical processes in survival analysis. In *Book of Short Papers of the Italian Statistical Society* (Chelli, F. M., Ciommi, M., Ingrassia, S., Mariani, F., Recchioni, M.C.) 2023. ISBN: 9788891935618.

32. Presicce, L., **Rigon, T.** and Aliverti, E. (2023). Bias-reduction methods for Poisson regression models. In *Book of Short Papers of the Italian Statistical Society* (Chelli, F. M., Ciommi, M., Ingrassia, S., Mariani, F., Recchioni, M.C.) 2023. ISBN: 9788891935618.

33. Legramanti S., **Rigon, T.** and Durante, D. (2022). Bayesian clustering of brain regions via extended stochastic block models. In *Book of Short Papers of the Italian Statistical Society* (Balzanella, A., Bini, M., Cavicchia, C., Verde, R.) 2022. ISBN: 9788891932310.

34. Zito, A., **Rigon, T.** and Dunson, D. B. (2021). Modelling of accumulation curves through Weibull survival functions. In *Book of Short Papers of the Italian Statistical Society 2021* (Perna, C., Salvati, N. and Schirripa Spagnolo, F.). ISBN: 9788891927361

35. **Rigon, T.** (2018). Logit stick-breaking priors for partially exchangeable count data. In *Book of Short Papers of the Italian Statistical Society 2018* (Abbruzzo, A., Piacentino, D., Chiodi, M. and Brentari, E.). ISBN: 9788891910233

VISITING PERIODS	**Universities and research centers**
	[2023] *Duke University*, North Carolina, USA (April 12th, 2023 - May 9th, 2023)
	[2022] *Inria centre at the University Grenoble Alpes*, France (April 3rd, 2022 - April 10th, 2022)

PRESENTATIONS **Seminars**

[2024] *Inria centre at the University Grenoble Alpes*, Grenoble, France

[2023] *University of California in Los Angeles* (*UCLA*), California, USA

[2023] *Duke University*, North Carolina, USA

[2023] *Università Ca' Foscari*, Italy

[2021] *University of Crete*, Greece

[2020] *Collegio Carlo Alberto, Università degli studi di Torino*, Italy

Keynote and plenary presentations

[2025] *SIS Bayes* 2025, University of Padova, Padova, Italy

Invited presentations

[2025] GRASPA *enviromental statistics* 2025, University of Roma Tre and LUMSA University, Rome, Italy

[2025] 14*th International Conference on Bayesian Nonparametric*, UCLA, Los Angeles, USA

[2025] *Early Career Workshop on Nonparametric Statistics*, LUISS, Rome, Italy

[2025] 14*th Bayesian Inference for Stochastic Processes*, Milan, Italy

[2025] *BAYSM 2025: Bayesian Young Statisticians Meeting* (*Blackwell-Rosenbluth Award Talks*), (online)

[2024] *BIRS-CMO 2024: Frontiers of Bayesian Inference and Data Science*, Oaxaca, Mexico (hybrid)

[2024] *Bernoulli-IMS 11th World Congress in Probability and Statistics*, Bochum, Germany

[2024] 2024 *ISBA world meeting* (*Biometrika invited session*), Venice, Italy

[2024] *ISBA satellite workshop in Lugano*, Lugano, Switzerland

[2023] 13*th Bayesian Inference for Stochastic Processes*, Madrid, Spain

[2023] *BayesComp 2023: Bayesian computing without exact likelihoods* (*satellite event*), Levi, Finland

[2022] *The IISA International Conference on Statistics*, Bangalore, India

[2022] 15*th International Conference of the ERCIM WG on Computational and Methodological Statistics*, London, UK

[2022] *Statistical methods and models for complex data* (invited discussant), Padova, Italy

[2022] *CSDA & EcoSta Workshop on Statistical Data Science* (*SDS 2022*), Bologna, Italy

[2022] 5*th International Conference on Econometrics and Statistics*, Tokyo, Japan (hybrid)

[2022] *BNP Networking Event*, Nicosia, Cyprus

[2021] 14*th International Conference of the ERCIM WG on Computational and Methodological Statistics*, London, UK (hybrid)

[2021] 2021 *ISBA world meeting*, virtual

[2020] *Bayes Comp 2020*, Gainesville, Florida, USA

[2019] *The IISA International Conference on Statistics*, Mumbai, India

[2019] 12*th International Conference of the ERCIM WG on Computational and Methodological Statistics*, London, UK

[2018] 11*th International Conference of the ERCIM WG on Computational and Methodological Statistics*, Pisa, Italy

[2018] *JSM 2018: Joint Statistical Meetings*, Vancouver, Canada

[2018] 49*th Scientific meeting of the Italian Statistical Society*, Palermo, Italy

[2017] *The IISA International Conference on Statistics*, Hyderabad, India

Contributed presentations

[2024] *BNP Networking Event*, Singapore

[2023] *Approximation methods in Bayesian Analysis*, CIRM, Marseille, France

[2019] 12*th International Conference on Bayesian Nonparametrics*, Oxford, UK

[2018] *BAYSM 2018: Bayesian Young Statisticians Meeting*, Warwick, UK

[2018] *YES IX Scalable Statistics: on Accuracy and Computational Complexity*, Eindhoven, Netherlands

Poster presentations

[2019] *O'Bayes 2019*, Warwick, UK

[2018] 2018 *ISBA world meeting*, Edinburgh, UK

[2017] *O'Bayes 2017*, Austin, USA

[2017] 10*th international workshop on Bayesian inference in stochastic processes* (*BISP10*), Milan, Italy

[2017] *Italian Statistical Society* (*SIS*) *Bayes 2017*, Rome, Italy

[2016] 2016 *ISBA world meeting*, Cagliari, Italy

TEACHING	**University of Milano-Bicocca**, Milan, Italy

As lecturer

- Statistical Inference (Ph.D.) A.Y. 2024/25 - 32h
- Bayesian Computations (Ph.D.) A.Y. 2020/21, 2021/22 - 12h - 2022/23, 2023/24, 2024/25 - 15h
- Data Mining (M.Sc.) - A.Y. 2023/24 - 42h - A.Y. 2024/25 - 47h
- Statistics III (B.Sc.) - A.Y. 2025/26 - 41h
- Statistics I (B.Sc.) - A.Y. 2020/21, 2021/22, 2022/23 - 42h - 2023/24, 2024/2025 - 48h
- R for the multivariate statistical analysis (B.Sc.) - A.Y. 2020/21, 2021/22, 2022/23 - 21h

SDA Bocconi School of Management, Milan, Italy

As lecturer

- AXA Italia - Mastering data for insurance III ed. - A.Y. 2022/23 - 12h
- AXA Italia - Mastering data for insurance II ed. - A.Y. 2021/22 - 8h

Bocconi University, Milan, Italy

As lecturer

- Foundations of data science (B.Sc.) - A.Y. 2022/23, 2023/24, 2024/25 - 10h

As teaching assistant

- Data analysis (B.Sc.) - A.Y. 2016/17
- Statistics for economic and business (M.Sc.) - A.Y. 2016/17

Università degli Studi di Padova, Padova, Italy

As lecturer

- Data mining (M.Sc.) - A.Y. 2020/21 - 8h

As teaching assistant

- Introduction to real analysis (B.Sc.) - A.Y. 2014/15
- Advanced statistical inference (M.Sc.) - A.Y. 2014/15

PAST BUSINESS POSITIONS	**Intern** Groupon, Dublin, Ireland (from 09/2014 to 11/2014) **Business analyst** Bravofly Rumbo Group, Chiasso, Switzerland (from 10/2013 to 07/2014) **Intern** Bravofly Rumbo Group, Chiasso, Switzerland (from 05/2013 to 10/2013)

SUMMER SCHOOLS AND WORKSHOPS	**Summer Schools and workshops**

- *StartUp Research*, Certosa di Pontignano, Italy (06/2017)

- *Bocconi Summer School in Advanced Statistics and Probability*, Como, Italy (07/2017)

- *J. T. Schwartz International School for Scientific Research*, Lipari, Italy (07/2013)

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