

# Riccardo Corradin

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Bio	Born in Monza 17, July, 1988
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Research interest	Bayesian nonparametric, mixture models, computational statistics, approximate Bayesian computation

## Current position

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2022-Pres.	Assistant professor School of Mathematical Sciences	University of Nottingham
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## Education and employment history

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### Past positions

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2019-2021	Postdoctoral researcher Models for nonstandard data with high complexity. Supervisor: Professor Andrea Ongaro.	University of Milano-Bicocca
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### Studies

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2015-2019	Ph.D. in Statistics Dissertation: <i>Contributions to modelling via Bayesian nonparametric mixtures</i> Supervisor: Professor Bernardo Nipoti. Defense: 31 <sup>st</sup> January 2019.	University of Milano-Bicocca
2013-2015	M.Sc. in Statistical Sciences Dissertation: <i>Somatosensory evoked potentials pain-related: nonparametric bayesian functional data analysis application.</i> Supervisor: Professor Bruno Scarpa.	University of Padova
2009-2012	B.Sc. in Statistics Dissertation (a): <i>Distortion in deviance: a study on hypothesis testing.</i> Supervisor: Professor Fulvia Pennoni. Dissertation (b): <i>A study on the concentration of radon indoor gas in termal areas of Veneto.</i> Supervisor: Professor Riccardo Borgoni.	University of Milano-Bicocca

## Visiting periods .....

- Mar. 2018 INRIA Grenoble - Rhône-Alpes  
I was invited by Julyan Arbel for a visiting period at the "Institut National de Recherche en Informatique et en Automatique" (INRIA) in Grenoble, to work on asymptotic results for Dirichlet process mixture models under affine transformations.
- 2017-2018 Trinity College of Dublin  
I spent a long visiting period, from March 2017 until August 2018, under the supervision of Bernardo Nipoti, where I worked on my Ph.D. research.

## Summer schools and short courses

LMS Invited Lecture Series and CRISM: Summer School in Computational Statistics. *University of Warwick* (July, 2018) —●— Imprecise Probability - A Gentle Overview. *Trinity College of Dublin* (November, 2017) —●— Introduction to functional data analysis. *IMATI, Consiglio Nazionale delle Ricerche* (October/November, 2016) —●— ABS16 - 2016 Applied Bayesian Statistics School: Bayes, big data and the Internet. *IMATI, Consiglio Nazionale delle Ricerche* (August, 2016)

## Academic experience ---

## Publications .....

### On referred journals

- 2022+ Canale A., **Corradin R.**, Nipoti B.  
*Importance conditional sampling for Pitman-Yor mixtures*. *Statistics and Computing*. Forthcoming.
- 2022 **Corradin R.**, Danese L., Ongaro A.  
*Bayesian nonparametric change points detection for multivariate time series with missing observations*. *International Journal of Approximate Reasoning*, 143, 26–43.
- 2021 **Corradin R.**, Canale A., Nipoti B.  
*BNPmix: an R package for Bayesian nonparametric modelling via Pitman-Yor mixtures*. *Journal of Statistical Software*, 100.
- 2021 **Corradin R.**, Nieto Barajas L.E., Nipoti B.  
*Optimal stratification of survival data via Bayesian nonparametric mixtures*. *Econometrics and Statistics*, 22, 17–38.
- 2020 Arbel J., **Corradin R.**, Nipoti B.  
*Dirichlet process mixtures under affine transformations of the data*. *Computational Statistics*, 36, 577–601.
- 2014 Boscari E., Pujolar J.M., Dupanloup I., **Corradin R.**, Congiu L.  
*Captive Breeding Programs Based on Family Groups in Polyploid Sturgeons*. *PLoS ONE*, 9(10).

### Submitted and in preparation

- in prep. Camerlenghi F., **Corradin R.**, Ongaro A.  
*Conditional methods for compound random measures*.
- in prep. Argiento, R., **Corradin R.**, Guglielmi, A., Lanzarone, E  
*A Bayesian nonparametric model for covariate driven clustering of blood donors data*.

- 2022+ **Corradin R.**, Beraha M.  
*Bayesian nonparametric model based clustering with intractable distributions: an ABC approach.* *arXiv:2112.10393*
- 2022+ Camerlenghi F., **Corradin R.**, Ongaro A.  
*Contaminated Gibbs-type priors.* *arXiv:2108.11997*

### Proceedings and discussions

- 2021 Camerlenghi F., **Corradin R.**, Ongaro A.  
*On the convex combination of a Dirichlet process with a diffuse probability measure.* Proceedings of 2021 Conference of the Italian Statistical Society.
- 2020 **Corradin R.**, Nieto Barajas L.E., Nipoti B.  
*Pitman-Yor mixture models for survival data stratification.* Proceedings of 2020 Conference of the Italian Statistical Society.
- 2020 Beraha M, **Corradin R.**,  
*An ABC algorithm for random partitions arising from the Dirichlet process.* Proceedings of 2020 Conference of the Italian Statistical Society.
- 2019 Canale A., **Corradin R.**, Nipoti B.  
*Galaxy color distribution estimation via dependent nonparametric mixtures.* Proceedings of 2019 Conference of the Italian Statistical Society.
- 2018 Arbel J., **Corradin R.**, Lewandowski M.  
*Discussion of "Bayesian cluster analysis: Point estimation and credible balls." by Wade and Ghahramani.* *Bayesian Analysis.* 13, no. 2, 559–626.

### Teaching experience

- 2019-2021 *Bayesian statistics, M.Sc. in mathematical engineering, Polytechnic University of Milan* (co-lecturer).
- 2020-2021 *Inferential statistics, M.Ec. in international economics, University of Milano-Bicocca* (teaching assistant).
- 2016-2017 *Statistics II (statistical inference), B.Sc. in Statistics, University of Milano-Bicocca* (co-lecturer).
- 2016-2017 *Generic tutoring Master in data science for management, Catholic University of Milano* (teaching assistant).
- 2015-2016 *Statistics I (descriptive statistics), B.Ec. in Marketing, University of Milano-Bicocca* (co-lecturer).

### Scientific memberships and editorial activity

- Referee for: Australian & New Zealand Journal of Statistics —●— Bayesian Analysis —●— Computational Statistics & Data Analysis —●— Environmetrics —●— International Journal of Approximate Reasoning —●— Journal fo the Royal Statistical Society - Series C —●— 2021 SBSS Student Paper Competition
- Affiliations: International Society for Bayesian Analysis (ISBA – BNP-ISBA – jISBA – BayesComp) —●— Royal Statistical Society —●— Società Italiana di Statistica (SIS – ySIS)

## Activities .....

### Invited presentations

Contamination of Gibbs-type prior. *2021 ISBA world meeting* (June, 2021) —●— [BNPmix: an new package to estimate Bayesian nonparametric mixtures](#). *eRum* (June, 2020) —●— [Importance conditional sampler for Pitman-Yor and GM-DDP mixtures](#). *Bayesian Nonparametrics for complex data* (January, 2020) —●— [Importance conditional sampler for nonparametric mixtures](#). *12th International Conference of the ERCIM WG, London* (December, 2019)

### Contributed presentations and posters

Model based clustering with intractable distributions. *BAYSM 2021* (September, 2021, contributed) —●— [Approximate estimation of latent random partitions](#). *ABC (not) in Svalbard* (April, 2021, contributed) —●— [BNPmix: an R package to estimate Bayesian nonparametric mixtures](#). *EuroBioC2020* (December, 2020, contributed) —●— [Importance conditional sampler for nonparametric mixture models](#). *BNP12, University of Oxford* (June, 2019, contributed) —●— [Galaxy color distribution estimation via dependent nonparametric mixtures](#). *Università Cattolica del Sacro Cuore* (June, 2019, contributed) —●— [Conditional Predictive Sampler for Dirichlet process mixture model](#). *LMS Invited Lecture Series and CRISM: Summer School in Computational Statistics. University of Warwick* (July, 2018, poster)

### Seminars

On the contamination of Gibbs-type priors. *University of Nottingham statistics seminars* (April, 2021) —●— [Dirichlet process mixtures for density estimation and clustering under affine transformations of the data](#). *Department of Statistics and Quantitative Methods, University of Milano-Bicocca* (December, 2017), and *School of Computer Science and Statistics, Trinity College of Dublin* (January, 2018), and *Data Institute, Université Grenoble Alpes* (March, 2018) —●— [Bayesian Nonparametric Approach for Multiple Functional Data Clustering](#). *Department of Statistics and Quantitative Methods, University of Milano-Bicocca* (February, 2017)

### Organization

Session: "Advance in Bayesian nonparametric" *BAYSM:O* (November, 2020)

### Other activities

Joint committee, *University of Milano-Bicocca* (2016-2017) —●— [Phd students representative, University of Milano-Bicocca](#) (2015-2017)

### Awards

Travel award. *BNP12 conference, Oxford, UK* (June, 2019) —●— [Travel award. 2022 ISBA world meeting, Montreal, CA](#) (June, 2022)

## Supervision .....

### B.Sc./M.Sc.

[Laura Accorto, M.Sc.](#) - *University of Milano-Bicocca* (2021, jointly with A. Ongaro and F. Camerlenghi) —●— [Simone Borgonovo, M.Sc.](#) - *University of Milano-Bicocca* (2021, jointly with A. Ongaro) —●— [Martina Peron, M.Sc.](#) - *University of Milano-Bicocca* (2021, jointly with A. Ongaro) —●— [Luca Danese, M.Sc.](#) - *University of Milano-Bicocca* (2020, jointly with A. Ongaro)

## IT skills

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Base	Java, HTML
Intermediate	Linux systems, SAS, SQL, Git
Advanced	$\LaTeX$ , R, C++

### Software dev and more

Maintainer of the [BNPmix](#) package, an R library for Bayesian nonparametric modelling.

## Language skills

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Italian	Mothertongue
English	Fluent, working level
$\LaTeX$	Fluent, working level

## Industry experience

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2014-2015	Internship	Freedata Labs
	Internship period of 6 months, working as data analyst on web scraped data of clients and competitors.	