

Riccardo Corradin

Last update 10 June 2023

Bio	Born in Monza 17, July, 1988
Contact information	School of Mathematical Sciences University of Nottingham riccardo.corradin@gmail.com +39 3475666897 +44 7360769573 http://rcorradin.github.io
Research interest	Bayesian nonparametric, partition models, mixture models, computational statistics, approximate Bayesian computation

🏠 Current position

2022-Pres.	Assistant professor School of Mathematical Sciences	University of Nottingham
------------	--	--------------------------

🎓 Education and employment history

Past positions

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

Studies

2015-2019	Ph.D. in Statistics and Mathematical Finance Dissertation: <i>Contributions to modelling via Bayesian nonparametric mixtures</i> Supervisor: Professor Bernardo Nipoti. Defense: 31 st 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 and Information Management 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 Julian Arbel for a visiting period at the INRIA centre 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

- 2023 Camerlenghi F., **Corradin R.**, Ongaro A.
Contaminated Gibbs-type priors. Bayesian Analysis (forthcoming).
- 2022 Canale A., **Corradin R.**, Nipoti B.
Importance conditional sampling for Pitman-Yor mixtures. Statistics and Computing. 32(40).
- 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.
- 2022 **Corradin R.**, Nieto Barajas L.E., Nipoti B.
Optimal stratification of survival data via Bayesian nonparametric mixtures. Econometrics and Statistics (Part B: Statistics), 22, 17–38.
- 2021 **Corradin R.**, Canale A., Nipoti B.
BNPmix: an R package for Bayesian nonparametric modelling via Pitman-Yor mixtures. Journal of Statistical Software, 100.
- 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. **Corradin R.**, Nipoti B.
Elicitation of Gibbs-type priors.
- in prep. **Corradin R.**, Danese, L., KhudaBukhsh, W. R., Ongaro A.
Model based clustering of non-stationary time series with shared historical change times.
- in prep. Camerlenghi F., **Corradin R.**, Ongaro A.
Conditional methods for compound random measures.
- 2022+ Argiento, R., **Corradin R.**, Guglielmi, A., Lanzarone, E
A Bayesian nonparametric model for covariate driven clustering of blood donors data. arXiv:2210.08297
- 2022+ **Corradin R.**, Beraha M.
Bayesian nonparametric model based clustering with intractable distributions: an ABC approach. arXiv:2112.10393

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.

Funding and awards

Grants

International Research Collaboration Fund, 4 336 pounds. University of Nottingham (2023) —●— LMS ECR Travel Grant, 500 pounds. London Mathematical Society (2022) – cod. ECR-2122-34

Awards

Travel award, 100 dollars. BayesComp 2023, Levi, FI (June, 2022) —●— j-ISBA poster award. 2022 ISBA world meeting, Montreal, CA (June, 2022) —●— Travel award, 500 dollars. 2022 ISBA world meeting, Montreal, CA (June, 2022) —●— Travel award, accommodation. BNP12 conference, Oxford, UK (June, 2019)

Teaching experience

2022-2023	MATH2011 (statistical models), <i>B.Sc. in Statistics, University of Nottingham</i> (lecturer).
2021-2022	Bayesian statistics, <i>Ph.D. in Economics, Statistics and Data Science - curriculum Data Science</i> (lecturer).
2019-2021	Bayesian statistics, <i>M.Sc. in Mathematical Engineering, Polytechnic University of Milan</i> (co-lecturer).
2020-2021	Inferential statistics, <i>M.Ec. in International Economics, University of Milano-Bicocca</i> (teaching assistant).
2016-2017	Statistics II (statistical inference), <i>B.Sc. in Statistics, University of Milano-Bicocca</i> (co-lecturer).
2016-2017	Generic tutoring <i>Master in Data Science for Management, Catholic University of Milano</i> (teaching assistant).
2015-2016	Statistics I (descriptive statistics), <i>B.Ec. in Marketing, University of Milano-Bicocca</i> (co-lecturer).

Scientific memberships and editorial activity

Referee for:	Australian & New Zealand Journal of Statistics —●— Bayesian Analysis —●— Biometrika —●— Computational Statistics & Data Analysis —●— Environmetrics —●— International Journal of Approximate Reasoning —●— Journal for the Royal Statistical Society - Series C —●— Mathematical Biosciences —●— 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

Dependent Bayesian nonparametric models and their application. *Machine Learning: Mathematics and Applications* (May, 2023) —●— Mixtures of normalized nested compound random measures and their application. *CMStatistics 2022* (December, 2022) —●— Nested Compound Random Measures. *51th Scientific meeting of the Italian Statistical Society* (June, 2022) —●— 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. *CMStatistics 2019* (December, 2019)

Contributed presentations and posters

Posterior Representation of Compound Random Measures. *2022 ISBA world meeting* (June, 2022, poster) —●— Model based clustering with intractable distributions. *BAYSM 2021* (September, 2021, contributed) —●— On the convex combination of a Gibbs-type prior with a diffuse probability measure. *50th Scientific meeting of the Italian Statistical Society* (June, 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* (June, 2019, contributed) —●— Galaxy color distribution estimation via dependent nonparametric mixtures. *SIS 2019 – “Smart Statistics for Smart Applications”* (June, 2019, contributed) —●— Conditional Predictive Sampler for Dirichlet process mixture model. *LMS Invited Lecture Series and CRISM: Summer School in Computational Statistics* (July, 2018, poster)

Seminars

A journey through model-based clustering with intractable distributions. *University of Nottingham statistics seminars* (October, 2022) —●— 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: "Advances in Bayesian computation" *CMStatistics 2022* (December, 2022) —●— Session: "Advances in Bayesian nonparametric" *BAYSM:O* (November, 2020)

Administrative roles

APTS representative, *University of Nottingham* (2022-Present) —●— Joint committee, *University of Milano-Bicocca* (2016-2017) —●— Phd students representative, *University of Milano-Bicocca* (2015-2017)

Supervision

B.Sc./M.Sc.

Edoardo Marchionni, M.Sc. - *Politecnico di Milano* (2023) —●— Kieran Lee, B.Sc. - *University of Nottingham* (2023) —●— Xiahui Li, M.Sc. - *University of Nottingham* (2022) —●— Mingyu Lai, M.Sc. - *University of Nottingham* (2022) —●— Qihang Zhao, M.Sc. - *University of Nottingham* (2022) —●— Laura Accorto, M.Sc. - *University of Milano-Bicocca* (2021) —●— Simone Borgonovo, M.Sc. - *University of Milano-Bicocca* (2021) —●— Martina Peron, M.Sc. - *University of Milano-Bicocca* (2021) —●— Luca Danese, M.Sc. - *University of Milano-Bicocca* (2020)

IT skills

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

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

Industry experience

2014-2015	Internship Data analyst on web scraped data of clients and competitors.	Freedata Labs
-----------	--	---------------