

Laura Bondi | Curriculum Vitae

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Academic Positions

MRC Biostatistics Unit, Cambridge University

Cambridge, UK

Research Associate

Sep. 2021 – Present

I work within the Precision Medicine and Inference for Complex Outcomes (PREM) group with Dr. Brian Tom and Prof. Sylvia Richardson. I am part of the “STEpUP OA” consortium, led by the Kennedy Institute at Oxford University, that aims at identifying molecular pathways of osteoarthritis (OA) through the analysis of the synovial fluid proteome. From a methodological side, I am currently working on issues related to variable selection, dimensionality reduction and outcome prioritisation in outcome-guided Bayesian clustering.

Education

Bocconi University

Milan, Italy

Ph.D. in Statistics

Sep. 2017 – Feb. 2022

Final mark: cum laude. Advisor: Prof. Marco Bonetti. Thesis’s title: “*Statistical models for the natural history of breast cancer*”. My PhD thesis focused on the likelihood-free estimation of multi-state models for the natural history of breast cancer, using mammography screening data.

Università degli Studi di Padova

Padua, Italy

M.Sc. in Statistical Sciences

Jan. 2015 – Mar. 2017

Main fields of interest: Biostatistics, Data Mining, Causal Inference, Mathematical Statistics. Thesis’s supervisors: Prof. Irene Gijbels (KU Leuven) and Prof. Alessandra Brazzale. Thesis’s title: “*Kernel estimation of quantile regression curves using copula modelling*”. Final mark: 110/110 cum laude.

Università degli Studi di Padova

Padua, Italy

B.Sc. in Mathematics

Oct. 2011 – Dec. 2014

Main fields of interest: Probability and Applied Mathematics. Final mark: 108/110.

Academic Experience

Articles in refereed journals.....

BONDI L, BONETTI M, GRIGOROVA D, RUSSO A (2023). Approximate Bayesian Computation (ABC) for the natural history of breast cancer with application to data from a cohort of disease-free women in Milan. *Statistics in Medicine*. 1- 21. <https://doi.org/10.1002/sim.9756>

Refereed conference proceedings.....

BONDI L, BONETTI M, HOFVIND S (2023). A model for the natural history of breast cancer: application to Norwegian screening data. *Book of Short Papers of the Italian Statistical Society*. <https://it.pearson.com//docenti/universita/partnership/sis.html>

FRANZOLINI B, BONDI L, FASANO A, REBAUDO G (2023). Bayesian forecasting of multivariate longitudinal zero-inflated counts: an application to civil conflict. To appear on *CLADAG 2023 Book of Short Papers*.

BONDI L, BONETTI M, PICCARRETA R (2022). An exploration of Approximate Bayesian Com-

putation (ABC) and dissimilarities. Book of Short Papers of the Italian Statistical Society. <https://it.pearson.com//docenti/universita/partnership/sis.html>

Working papers.....

THE STEP-UP OA CONSORTIUM (2023+). Methodological development of molecular endo-type discovery from synovial fluid of individuals with knee osteoarthritis: the STEPUP OA Consortium. Submitted.

BONDI L, BONETTI M, PAGANO M (2023+). Unbiased estimation of the sparsity index in Poisson size-biased sampling. Under revision.

BONDI L, TOM B, RICHARDSON S (2023+). A generalized Bayes framework for outcome-guided clustering. Work in progress.

THE STEP-UP OA CONSORTIUM (2023+). Supportive evidence for novel biodiscovery in osteoarthritis through the STEPUP OA Consortium. Work in progress.

BONDI L, PERUGINI G, BONETTI M, HOFVIND S (2023+). Bayesian multi-state semi-Markov models for breast cancer natural history: results from the Norwegian BreastScreen data. Work in progress.

Teaching activities.....

Bocconi University **Milan, Italy**

Teaching Assistant *A.y. 2018/2019-2020/2021*

I helped in the teaching activity of the courses "Advanced Mathematics and Statistics" and "Statistics" for the bachelor degrees in Economics, Management and Computer Science, Economics and Management for Arts, Culture and Communication and Economics and Management proposing and solving exercises, supervising and scoring exams.

Affiliations.....

Affiliations: International Biometric Society (IBS) - Italian Region, International Society for Clinical Biostatistics (ISCB), Italian Statistical Society (SIS).

Talks, conferences and workshops.....

ISCB 2023 **Milan, Italy**

Contributed Talk *August 2023 - PLANNED*

44th Conference of the International Society for Clinical Biostatistics.

BSU Seminar **Cambridge, UK**

Invited Talk *August 2023*

Internal cycle of seminars of the MRC Biostatistics Unit.

EcoSta 2023 **Tokyo, Japan**

Contributed Talk *August 2023*

EcoSta 2023 - 6th International Conference on Econometrics and Statistics.

SIS 2023 **Ancona, Italy**

Contributed Talk *June 2023*

SIS 2023 - Statistical Learning, Sustainability and Impact Evaluation.

STEpUP OA **Oxford, UK**

Invited Talk *January 2023*

STEpUP OA Annual Consortium Meeting 2023.

ISBA 2022 **Montreal, Canada**

Contributed Talk *June 2022*

International Society for Bayesian Analysis (ISBA) World Meeting.

SIS 2022 <i>Contributed Talk</i> 51 st Scientific Meeting of the Italian Statistical Society.	Caserta, Italy <i>June 2022</i>
CMStatistics 2021 <i>Contributed Talk</i> 14th International Conference of the ERCIM WG on Computational and Methodological Statistics.	London, UK <i>December 2021</i>
ISCB 2021 <i>Contributed Talk</i> 42nd Conference of the International Society for Clinical Biostatistics.	Virtual <i>July 2021</i>
IBS-EMR 2021 <i>Invited Talk</i> Conference of the Eastern Mediterranean Region, International Biometric Society.	Virtual <i>April 2021</i>
IBC 2020 <i>Poster Session</i> 30th Conference of the International Biometric Society.	Virtual <i>August 2020</i>
Data Research Camp <i>Workshop</i> It was a 3-day meeting where small research groups of young scholars were asked to develop innovative methods to analyse a common dataset. I worked in a group supervised by Professor David Rossell (Pompeu Fabra University).	Venice, Italy <i>July 2019</i>

Awards

Premio Maria Chiara Magri I was awarded a prize in memory of Maria Chiara Magri for my article "Approximate Bayesian computation for the natural history of breast cancer, with application to data from a Milan cohort study" (for more details, see https://epiprev.it/page/premio-maria-chiara-magri , in Italian only).	<i>April 2023</i>
ISBA Travel Award Junior Travel Support to attend the 2022 ISBA World Meeting in Montreal.	<i>June 2022</i>

Programming Skills

Advanced: R, L^AT_EX

Basic: Stata, SAS, MATLAB, C, Python

Outreach and Scholarships

PhD student representative <i>Bocconi University</i> I have been elected PhD student representative in the Department of Decision Sciences for three academic years.	Milan, Italy <i>Nov. 2018 - Nov. 2021</i>
Modern Methods in Biostatistics and Epidemiology <i>Summer School</i> I attended the course "Statistical methods for population-based cancer survival analysis" by Professors Paul Dickman (Karolinska Institutet) and Paul Lambert (Leicester University and Karolinska Institutet).	Cison di Valmarino, Italy <i>June 2019</i>
Bocconi University PhD BEAT program <i>Bocconi Excellence in Advanced Teaching program</i> I attended the PhD BEAT program whose aim is to support PhD students to explore new pedagogical methodologies and teaching practices, and to help them in personal development to provide enhanced learning experiences in the classrooms.	Milan, Italy <i>Oct.-Dec. 2018</i>

Bocconi Summer School in Advanced Statistics and Probability **Como, Italy**
Summer School *July 2018*

I attended the Bocconi Summer School in Advanced Statistics and Probability: Graphical Models.

Bocconi University PhD Scholarship **Milan, Italy**
Scholarship *Sep. 2017 - Aug. 2021*

Visiting period at KU Leuven **Leuven, Belgium**
Visiting Student *May-July 2017*

I have been invited by Professor Irene Gijbels to spend a period in Leuven as a visiting research assistant.

Erasmus+ Scholarship **Leuven, Belgium**
Scholarship *Sep. 2016 - Feb. 2017*

I have been awarded with a merit-based scholarship by the Erasmus+ program to spend a semester at Katholieke Universiteit Leuven (KU Leuven) to write my master's thesis.

Università degli studi di Padova Scholarship for Academic Achievement **Padua, Italy**
Scholarship *Oct. 2012*

I have been awarded with a merit-based scholarship designed to encourage students of scientific subjects.

Italian Maths Olympiads **Cesenatico, Italy**
Award *May 2011*

I have been awarded with a bronze medal at the Italian Maths Olympiads.

Language Skills

Italian: Mother tongue

English: Fluent, C1 level.