Martina Narcisi

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Location and Date of Birth: San Benedetto del Tronto, 21/02/1994
Office: Viale Quirico Filopanti, 9 (BO)

Research interests

Linear regression models focused on the problem of confounding, Bayesian spatio-temporal hierarchical models with a focus on the identifiability problem, Spatial statistics, Gaussian latent models, sampling methods and techniques with application to the epidemiological and environmental field, disease mapping and analysis of volleyball data with the application of random partition models, focusing on the problem of players' evaluation. Statistical matching and small area estimation.

Research activities

Research Fellow — Bologna, ITA

Department of Statistical Sciences "Paolo Fortunati" — February 2024–Present
Employing survey data for statistical matching and small area estimation.

Department of Biological, Geological, and Environmental Sciences — February 2023–January 2024
Sampling and mapping strategies for species of conservation interest in Emilia-Romagna.

Education

Alma Mater Studiorum, University of Bologna — Bologna, ITA
Ph.D. in Statistical Sciences, Supervisor: Prof. Carlo Trivisano — November 2019–June 2023

- Thesis: "On the effect of confounding in linear regression models: an approach based on the theory of quadratic forms"

Alma Mater Studiorum, University of Bologna — Rimini, ITA
M.S. in Statistical, Financial and Actuarial Sciences, Supervisor: Prof. Fedele Greco
September 2017–September 2019

- Thesis: "Stima dei parametri delle distribuzioni di perdita nella gestione del rischio assicurativo"

University of Camerino — Camerino, ITA
B.S. in Mathematics and Applications, Supervisor: Prof. Carlo Lucheroni — October 2013–February 2017

- Thesis: "Matematica delle assicurazioni sulla vita"

Visiting Periods

Brigham Young University — Provo, Utah (US)
Visiting Scholar. Tutor: Prof. Garritt Page — March 2023–June 2023

Pubblications

M. Narcisi, F. Greco, C. Trivisano. On the effect of confounding in linear regression models: an approach based on the theory of quadratic forms. *Environmental and Ecological Statistics* (2024). https://doi.org/10.1007/s10651-024-00604-y

M. Narcisi. On the effect of confounding in linear regression models: an approach based on the theory of quadratic forms. *PhD Dissertation Thesis* (2023). https://amsdottorato.unibo.it/11001/

Contributions in Proceedings

M. Narcisi. G.L. Page, G.W. Fellingham. Evaluating volleyball setters using Product Partition Models. *Proceedings of the SIS 2024 Conference (Bari, 17–20 June 2024), Methodological and Applied Statistics and Demography IV, Springer Nature Switzerland, pp.318–323. ISBN: 978-3-031-64447-4.* https://doi.org/10.1007/978-3-031-64447-4$_5$4

F. Greco, **M. Narcisi**. On the effect of spatial confounding: an approach based on the theory of quadratic forms. *Proceedings of the GRASPA 2023 Conference (Palermo, 10–11 July 2023), pp.86–91. ISBN: 979-1-221-03389-2*

Working Papers

M. Narcisi, F. Greco. Consistent estimation of linear regression models using matched data via regression imputation.

M. Narcisi. G.L. Page, G.W. Fellingham. Ranking Volleyball Setters: Analyzing Performance Variability with Product Partition Models.

Projects

COMBI project (COnoscere e Monitorare la Biodiversità) 2022–2024
The project focuses on updating the regional knowledge framework on conservation-relevant species and defining a long-term regional monitoring plan in Emilia-Romagna. Key quantities for monitoring were estimated, and an interactive `R`-Shiny application was developed to create suitability maps and perform various sampling strategies for target species.

Academic Teaching Activities

Crash Course at University of Bologna, Department of Economics 2023-2024
Mathematics (Economics and Business)

Teaching Assistant at University of Bologna, Department of Economics 2023–2025
Metodi statistici per le applicazioni aziendali (Economia dell'impresa)

Teaching Assistant at University of Bologna, Department of Statistical Sciences 2020–2025
Statistica, Metodi di campionamento, Inferenza statistica (Statistica, finanza ed assicurazioni–CLASFA), Statistica avanzata (Scienze statistiche, finanziarie ed attuariali–SSFA)

Teaching Assistant at University of Bologna, Department of Statistical Sciences 2020–2021
Algebra (Statistical Sciences–CLASS)

Talks in Conferences and Workshops as Speaker

F. Greco, **M. Narcisi**. *Confounding in Linear Regression Models.* ISBA World Meeting, 1–7 July 2024 (**Contributed** (poster)) at the Department of Economics – Ca' Foscari University of Venice, Italy.

M. Narcisi, G. L. Page, G.W. Fellingham. *Evaluating volleyball setters using Product Partition Models.* SIS conference, 17–20 June 2024 (**Contributed**) at the Department of Economics – University of Bari Aldo Moro, Italy.

F. Greco, **M. Narcisi**. *Monitoring for Biodiversity: A Strategic Sampling Approach to Habitat Coverage in Emilia-Romagna.* Final Conference of the COMBI Project, 24 June 2024 (**Invited**) at the Department of Land and Environmental Management – Regione Emilia-Romagna.

F. Greco, **M. Narcisi**. *On the effect of spatial confounding: an approach based on the theory of quadratic forms.* GRASPA-SIS biennal conference, 10–11 July 2023 (**Invited**) at the Department of Economics – University of Palermo, Italy.

F. Greco, **M. Narcisi**. *Evaluation of confounding in linear regression models: an approach based on the theory of quadratic forms.* Seminar April 2023 (**Invited**) at the Department of Statistics – Brigham Young University, Provo, Utah.

Talks in Conferences and Workshops as Co-author

F. Greco, **M. Narcisi**. *On the sampling distribution of regression coefficient estimators in the presence of confounding.* Complex Environmental Data and Modeling (CoEnv) workshop, 10 April 2024 (**Invited**) at University of Chieti-Pescara.

Experience

Alma Mater Studiorum, University of Bologna — Rimini, ITA
Degree programme tutor for M.S. in Statistical, Financial and Actuarial Sciences — 2017–2019

Scholarships and Awards

Merit-based scholarship — 2013–2016
Department of Mathematics, University of Camerino

Institutional Activities

Elected PhD Students representative in the PhD Board — 2020–2023
Department of Statistical Sciences "Paolo Fortunati", University of Bologna

Skills

Software and Programming: Microsoft Office, LaTeX, `R`, `C++`, `MATLAB`

Languages

English: C1 level
Spanish: B1 level