

Lidia André

POSTDOCTORAL RESEARCH FELLOW

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Education

Lancaster University

United Kingdom

PHD STATISTICS

2021 - 2025

- Thesis: "Modelling and inference for the body and tail regions of multivariate data"
- Supervisors: Professor Jennifer Wadsworth

Lancaster University

United Kingdom

MRES STATISTICS AND OPERATIONAL RESEARCH, GRADE: DISTINCTION

2020 - 2021

- Project: "Dependence Models for Actuarial Data"
- Supervisors: Professor Jennifer Wadsworth, Dr. Adrian O'Hagan (UCD, Ireland)

Faculty of Sciences, University of Lisbon

Portugal

MSC STATISTICS AND OPERATIONAL RESEARCH, GRADE: 18/20

2017 - 2019

- Dissertation: "Copula Models for Dependence: Comparing Classical and Bayesian Approaches"
- Supervisors: Dr. Patrícia de Zea Bermudez

University of Bologna

Italy

MSC STATISTICAL SCIENCES - ERASMUS PROGRAMME

2017 - 2018

- Analysis of Categorical Data: 24/30
- Survey Sampling: 24/30
- Systems and Algorithms for Data Science: 30/30

Lisbon School of Economics & Management, University of Lisbon

Portugal

BSC MATHEMATICS APPLIED TO ECONOMICS AND MANAGEMENT, GRADE: 15/20

2014 - 2017

Professional Experience

2025— **Postdoctoral Research Fellow: X-vine models for multivariate extremes**, Université de Namur

2024 **Research Associate: Computational Skills Project**, Lancaster University

2021 - 2023 **Graduate Teaching Assistant**, Department of Mathematics and Statistics, Lancaster University

Research Fellow: Spatial distribution of a fish species where the focus was on assessing whether including

2019 - 2020 Preferential Sampling would improve the estimation of such distribution, Portuguese Institute for Sea and Atmosphere, Portugal

2012 - 2017 **Monitor at Summer Camp (for children aged 3-10)**, Junta de Freguesia de Carnide, Lisboa, Portugal

Research Interests

Main interests: Statistics of Extremes (with particular interest in multivariate extremes), Computational Statistics and Copula Theory

Other interests: High Dimension Statistics, Spatial Statistics, Bayesian Inference and Machine Learning/AI

Publications

PUBLISHED

André, L. M., Campbell, R., D'Arcy, E., Farrell, A., Healy, D., Kakampakou, L., Murphy, C., Murphy-Bartrop, C.J.R., Speers, M. (2024). Extreme value methods for estimating rare events in Utopia. *Extremes*.

André, L. M., Wadsworth, J. L., O'Hagan, A. (2024). Joint modelling of the body and tail of bivariate data. *Computational Statistics & Data Analysis*.

André, L. M., Figueiredo, I., Carvalho, M. L., Simões, P., Natário, I. (2020). Spatial Modelling of Black Scabbardfish Fishery Off the Portuguese Coast. *ICCSA 2020*.

André, L. M., de Zea Bermudez, P. (2020). Modelling dependence between observed and simulated wind speed data using copulas. *Stochastic Environmental Research Risk Assessment*.

IN REVIEW

André, L. M., Tawn, J. A. (2025). Gaussian mixture copulas for flexible dependence modelling in the body and tails of joint distributions. *In review and submitted to Computation Statistics & Data Analysis*. Preprint in <https://arxiv.org/pdf/2503.06255>

André, L. M., Wadsworth, J. L., Huser, R. (2025). Neural Bayes inference for complex bivariate extremal dependence models. *In review and submitted to Extremes*. Preprint in <https://arxiv.org/pdf/2503.23156>

Awards

2023 **23rd European Young Statisticians Meeting**, European Regional Committee of the Bernoulli Society

2019 **XXIV Congresso da Sociedade Portuguesa de Estatística (Scholarship)**, Sociedade Portuguesa de Estatística

Conferences

POSTER PRESENTATIONS

February 2024. *ML-based inference for complex dependence models*. Causality in Extremes Workshop, Geneva, Switzerland.

January 2024. *Jointly Modelling the Body and Tail of Multivariate Data*. STOR-i Annual Conference, Lancaster, UK.

May 2022. *Jointly Modelling the Body and Tail of Multivariate Data*. 5th International Conference on Advances in Extreme Value Analysis and Application to Natural Hazards, Orlando, Florida, USA.

April 2022. *Jointly Modelling the Body and Tail of Multivariate Data*. Data on the Lake Conference, Windermere, UK.

CONTRIBUTED PRESENTATIONS

April 2025. *Modelling and inference for the body and tail regions of multivariate data*. Royal Statistical Society Seminar, Plymouth, UK.

March 2025. *Neural Bayes inference for extremal dependence models*, EDT STAT-ACTU, Brussels, Belgium.

October 2024. *Neural network based inference for complex dependence models*, KAUST/INRAE/Lancaster workshop, Online.

September 2023. *Joint modelling of the body and tail of bivariate data*. STOR-i Extremes Workshop, Lancaster, UK.

September 2023. *Joint modelling of the body and tail of bivariate data*. 23rd European Young Statisticians Meeting, Ljubljana, Slovenia.

June 2023. *Joint modelling of the body and tail of bivariate data*. Extreme Value Analysis Conference, Milan, Italy.

November 2022. *Joint modelling of the body and tail of bivariate data*, KAUST/INRAE/Lancaster workshop, Online.

March 2022. *Introduction to Extremes with R*. University of Lisbon Extremes Webinar (Joint workshop), Lisbon, Portugal.

July 2020. *Spatial Modelling of Black Scabbardfish Fishery off the Portuguese Coast*. 20th International Conference on Computational Science and Its Applications, Cagliari, Italy.

November 2019. *Bivariate Copula Models for Dependence: Application to Wind Speed Data*. XXIV Congresso da Sociedade Portuguesa de Estatística, Amarante, Portugal.

Teaching Experience

MATH101: **Calculus** (Autumn 2021)

MATH102: **Further Calculus** (Autumn 2021)

MATH235: **Statistics II** (Spring 2022, 2023)

MATH331: **Bayesian Statistics** (Autumn 2021, 2022)

MATH403: **Statistical Foundations I** (Autumn 2023)

MATH502: **Statistical Fundamentals II** (Autumn 2021, 2022)

STOR605: **Inference** (Autumn 2021)

Activities

COMMITTEES (*O - Organiser; CO - Co-Organiser; OC - Organising Committee; CM - Committee Member*)

2023 - 2024 **Lancaster Extremes research group**, O
2022 - 2023 **STOR-i computing research group**, CO

2022 - 2023 **STOR-i Extremes Workshop**, OC
2022 - 2023 **STOR-i Womens+ Network**, CM

SUPERVISION

July 2022 **Rui Zhang**, STOR-i Intern

Lancaster University

COMPUTING SKILLS

Primary: R (and R packaging), Julia, \LaTeX
Frequent use: HPC, SLURM, GitHub
Brief knowledge: Python, MATLAB, C++, SPSS, SQL, JAGS,
WinBUGS, OpenBUGS, GiveWin, TSP

LANGUAGES

Native: **Portuguese**, Proficiency
C2: **English**, IELTS Academic: Band score 7.5
A2: **Italian**, Alma Mater Studiorum Unibo
A1: **Spanish**, COMPETIR - Formação e Serviços, SA