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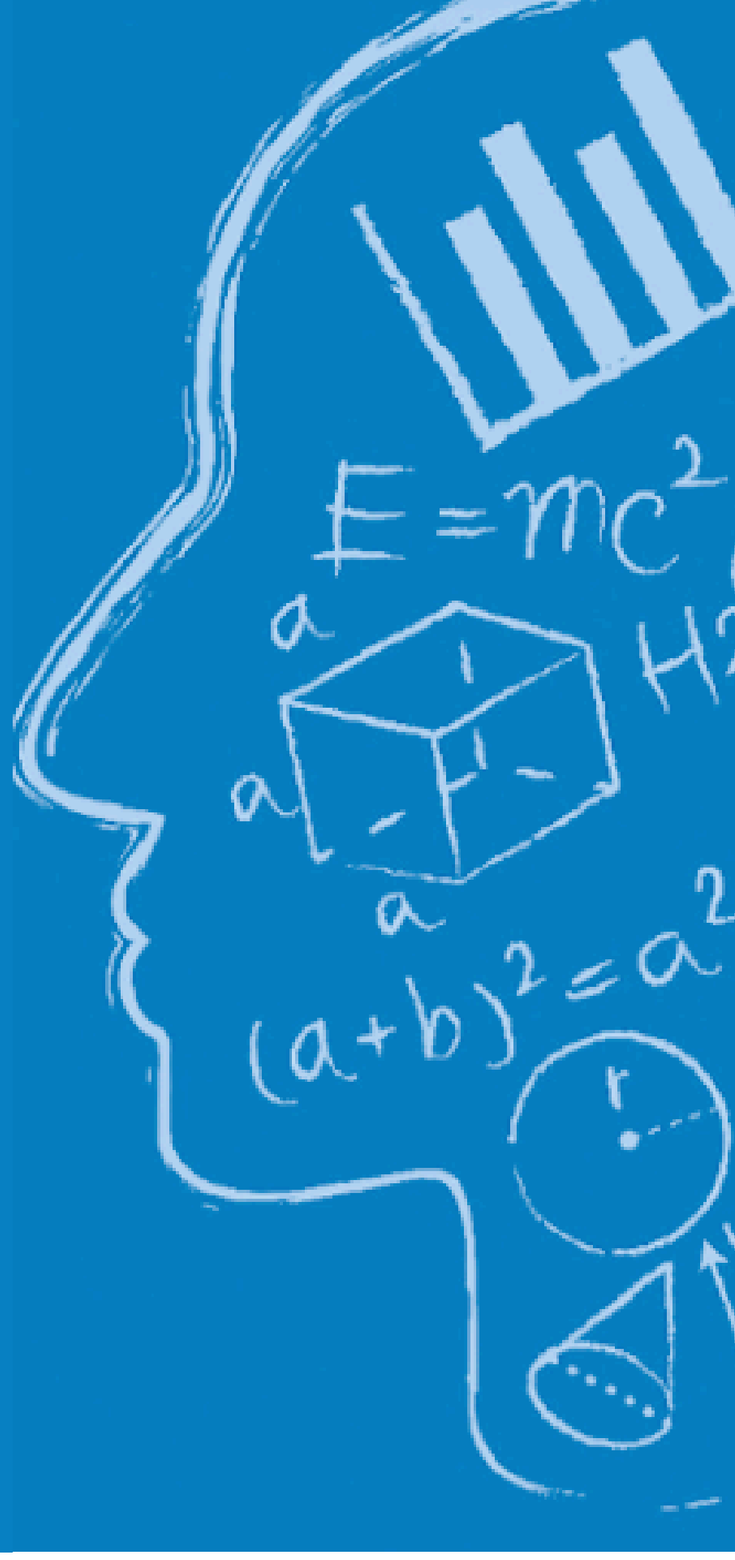

NAVIGATING SPATIAL CONFOUNDING: UNDERSTANDING CAUSES AND PROPOSING MITIGATING APPROACHES

ABSTRACT:

Spatial confounding is a fundamental issue in spatial regression models which arises because spatial random effects, included to approximate unmeasured spatial variation, are typically not independent of covariates in the model. This can lead to significant bias in covariate effect estimates. We develop a broad theoretical framework that brings mathematical clarity to the mechanisms of spatial confounding. Subsequently, we explore the potential of Bayesian methodology in alleviating spatial confounding and leveraging the understanding of how such confounding originates in the construction of prior distributions.

28 May, 2025
Wednesday

14:30

Ciências ULisboa C6, Floor 4, SASLab (room 6.4.29) & ZOOM

Centro de Estatística e Aplicações
Universidade de Lisboa

center for computational and stochastic mathematics

SPEAKER

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The Ohio State University, USA

Isa Marques is an Assistant Professor in the Department of Statistics of The Ohio State University. Before joining the Department of Statistics in 2024, Isa was a statistics and data analytics lecturer at the University of Glasgow. Before that, she was a postdoctoral researcher in the Department of Statistics and Spatial Data Science at the University of Göttingen in Germany.

Isa holds a degree in Applied Statistics from the University of Göttingen, Germany, and her research focuses on spatial confounding, non-stationarity, and computational statistics. She works with environmental applications, such as forestry.

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