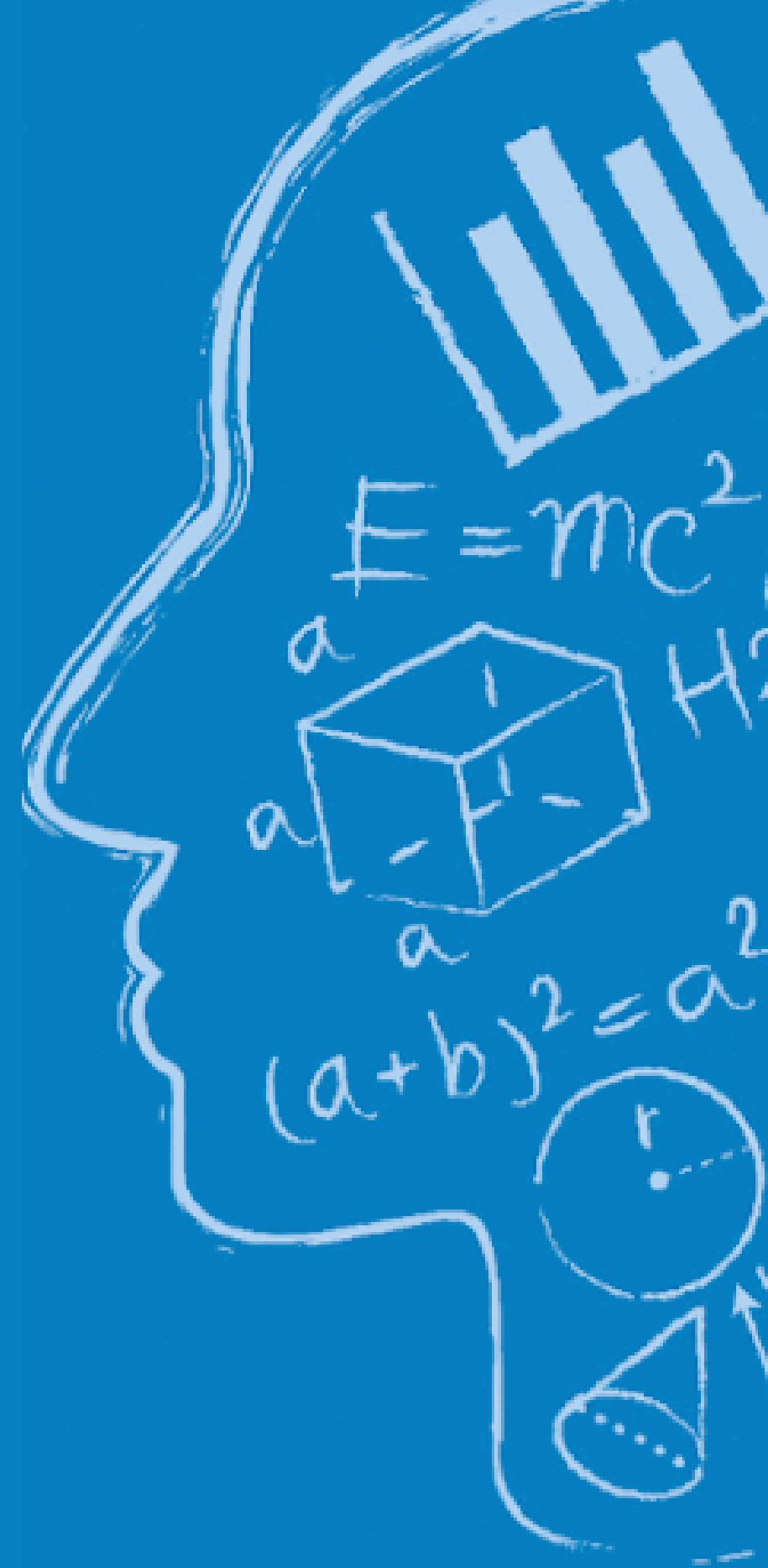


SEMINAR

CEAUL & CEMAT



ONE WAY TO ESTIMATE AN OUT-OF-SAMPLE QUANTILE OF AN UNKNOWN DISTRIBUTION THROUGH EXTREME VALUE THEORY

ABSTRACT:

Within the general aim of extreme value statistics lies the estimation of an event that is so rare that might have never been witnessed in the past. Whilst the parametric estimation of an extreme quantile has found its way to the lore of many applied sciences, in terms of evaluating return levels, analogous non-parametric methodology is far less explored. This is an interesting topic because there are different albeit equivalent ways to define an (extreme) out-of-sample quantile as underpinned by different constructs arising from the same foundational extreme value theorem.

In this talk, I will address two of these definitions through the domains of attraction framework and will explain how we succeeded in generalising one of them to allow for either cases of finite or infinite upper bound to the distribution underlying the sampled data.



SPEAKER

Cláudia Neves

King's College London, DEIO and CEAUL, University of Lisbon

Cláudia Neves joined the Department of Mathematics at King's College London as Lecturer in Statistics in 2021 and was promoted to Senior Lecturer in 2023. Prior to this, from 2015 to 2021, she was a Lecturer in Theoretical Probability and Statistics at the University of Reading during which time she held an EPSRC Innovation Fellowship for the project "Multivariate Max-stable Processes with Application to the Forecasting of Multiple Hazards".

Before joining Reading, she was Assistant Professor at the University of Aveiro, Portugal. Her primary field of expertise is in extreme value theory for modelling extreme and rare events. Her research centres around the development of statistical methodology to help solve challenging problems in several fields of applied sciences, ranging from meteorology and the environment to insurance and finance.

Cláudia received her PhD in Statistics and Operational Research in 2006 from the Faculty of Sciences, University of Lisbon. As well as holding a Visiting Research Fellowship at the University of Reading, Cláudia has maintained to date strong links with academics and researchers based in Lisbon through her continued collaboration with the Centre of Statistics and its Applications. She has been teaching at the university level since 1997.