SEMINARIO

Alberto González Sanz

Université Paul Sabatier de Toulouse/Universidad de Valladolid

Nonparametric Multiple-Output Center-Outward Quantile Regression

Abstract: This talk addresses the problem of non-parametric multiple-output quantile regression based on the novel concept of measure-transportation-based multivariate center-outward quantiles introduced in Chernozhukov et al. (2017) and Hallin et al. (2021). The conditional quantile regions and contours are obtained via the conditional center-outward quantile mapping. A new cyclically monotone interpolation, with non-necessarily constant weights, is proposed to define their empirical versions. This method is completely non-parametric and produces interpretable empirical regions/contours which converge in probability to their population counterparts. The presentation includes some real and simulated examples, demonstrating the power of the method as a data-analytic tool, and its ability to catch heteroskedasticity and non-linear trends.

Seminario del IMUVa, Edificio LUCIA
8 de Julio de 2022 (11:00)