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Título: Time series clustering via copula-based tail dependence

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Abstract: The seminar presents a time series clustering procedure based on tail dependence, estimated through copula functions. Tail dependence captures the tendency of two time series to exhibit extreme values simultaneously. This clustering method therefore groups objects that display similar behavior under extreme conditions. It is particularly relevant in contexts where the tails of distributions matter, such as financial markets, urban traffic management, and weather forecasting. The approach was first proposed by De Luca and Zuccolotto (2011) and later refined in several directions, including a multivariate extension and the incorporation of spatial constraints. Applications will be illustrated with data on financial stock returns, traffic flows, and floods/droughts.

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Sobre la Autora: Paola Zuccolotto is a Full Professor of Statistics at the Department of Economics and Management of the University of Brescia.