Title: On the estimation of conditional quantiles.

Véronique Maume-Deschamps (Institut Camille Jordan, université Claude Bernard Lyon 1).

Estimation of conditional quantiles is required for many purposes, in particular when the conditional mean is not sufficient to describe the impact of covariates on the dependent variable. For example, one may estimate the quantiles of some climatic measure (temperature, rainfall ...) at a station, knowing the distribution at other places, or one may estimate the quantiles of one financial index (e.g. WisdomTree
Japan Hedged Equity Fund) knowing financial indices from other countries). It is also required to estimate conditional quantiles in Quantile Oriented Sensitivity Analysis (QOSA).
We shall present several view points on conditional quantile estimation: quantile regression and improvements, Kernel based estimation, random forest estimation. We shall focus on applications to QOSA.