Abstract

In this talk, we show how goodness-of-fit test statistics based on sup-functionals of weighted empirical processes can be effectively applied to various problems of signal detection and classification in high-dimensional, sparse models. The weight functions employed are Erdős-Feller-Kolmogorov-Petrovski upper-class functions of a Brownian bridge.
The obtained results demonstrate the advantage of our approach to the problems of signal detection and classification in sparse models over a common approach that utilizes regularly varying weight functions. This is joint work with Natalia Stepanova, Carleton University, Canada and Oskar Stattin, KTH Royal Institute of Technology, and work in progress.