



KATHOLIEKE UNIVERSITEIT LEUVEN

Statistics and Econometrics Seminar

Joint organization by
ORSTAT, Faculty of Business and Economics and the Statistics Research Group,
Faculty of Science
Leuven Statistics Research Center

Prof. Dr. Rainer von Sachs

Institute of statistics, biostatistics and actuarial sciences, Université catholique de Louvain

**“Ideal denoising within a family of tree-structured
wavelet estimators”**

Thursday, May 5, 2011

12.00–13.00h

Location: Room HOG 03.101, Naamsestraat 69, Leuven.

Supporting research project: GOA-project 2007/04

Abstract. We focus on the performances of tree-structured wavelet estimators belonging to a large family of keep-or-kill rules, namely the Vertical Block Thresholding family. For each estimator, we provide the maximal functional space (maxiset) for which the quadratic risk reaches a given rate of convergence. Following a discussion on the maxiset embeddings, we identify the ideal estimator of this family, that is the one associated with the largest maxiset. We emphasize the importance of such a result since the ideal estimator is different from the usual (plug-in) estimator used to mimic the performances of the Oracle. Finally, we confirm our theoretical results through extensive numerical experiments.

This is joint work with Florent Autin (Marseille) and Jean-Marc Freyermuth (Louvain-la-Neuve).