Nonparametric estimation of log-concave densities

University of Dortmund
Statistics Seminar
15 November, 2011

by

Jon A. Wellner
Department of Statistics, University of Washington, Seattle WA
visiting Heidelberg

Abstract:
I will review recent progress concerning nonparametric estimation of log-concave densities and related families in $\mathbb{R}^1$ and $\mathbb{R}^d$. In the case of $\mathbb{R}^1$, I will present limit theory for the estimators at fixed points at which the population density has a non-zero second derivative and for the resulting natural mode estimator under a corresponding hypothesis. In the case of $\mathbb{R}^d$ with $d \geq 2$ will briefly discuss some recent progress and sketch a variety of open problems.