Short course by professor Jon A. Wellner

Socrate -242 / Place du Cardinal Mercier, 10

Empirical process theory for statistics

This course will cover some of the basics of empirical process theory and the application of the theory to problems in statistics. The focus will be on some of the basic convergence theory and methods together with inequalities for dealing with minimum contrast and maximum likelihood estimators in nonparametric and semiparametric models.

Outline

Tuesday, May 29, 2012 - 14:00 - 17:15

- *Introduction, history, selected examples*
- *Some basic inequalities*
- *Glivenko-Cantelli theorems and first applications*

Wednesday, May 30, 2012 - 09:00 - 12:15

- *Donsker theorems and some inequalities*
- *Peeling methods and rates of convergence*
- *Some useful preservations theorems*

Some References:

1. *Van der Vaart, A. W. and Wellner, J. A. (1996). Weak Convergence and Empirical Processes. Springer, New York.*
2. *Dudley, R. M. (1999). Uniform Central Limit Theorems. Cambridge University Press, Cambridge.*
3. *Van de Geer, S. (2000). Applications of Empirical Process Theory. Cambridge University Press, Cambridge.*
4. *de la Pena, V. H., and Giné, E. (1999). Decoupling: From Dependence to Independence. Springer, New York.*