ΠΑΝΕΠΙΣΤΗΜΙΟ ΠΕΙΡΑΙΩΣ
ΣΧΟΛΗ ΧΡΗΜΑΤΟΟΙΚΟΝΟΜΙΚΗΣ ΚΑΙ ΣΤΑΤΙΣΤΙΚΗΣ

UNIVERSITY OF PIRAEUS
SCHOOL OF FINANCE AND STATISTICS

ΠΡΟΣΚΛΗΣΗ ΣΕ ΔΙΑΛΕΞΗ

Την Τετάρτη 17/6/2015 στις 11:15-12:00 θα πραγματοποιηθεί διάλεξη στην Αίθουσα Συνεδρίων του Πανεπιστημίου Πειραιώς με ομιλητή τον Καθηγητή **Michael Akritas**, Professor of Statistics, Penn State University, USA με θέμα:

"Single and Multi Index Models for Mean and Quantile Regression"

Abstract

The first part of the talk will consider estimation of the first projective direction. A new innovation, based on the results of Hansen (2008), allows estimation of the exact first projective direction, instead of a trimmed version of it. The asymptotic theory for the proposed estimator is similar to the known result for the trimmed version when the single index model is assumed to hold, but the result without this assumption is new (Akritas, 2015a).

The parametrization used for identifiability is essential for the application of the asymptotic theory. The concept of joint projective directions will be introduced and used to define the class of Projection Pursuit Multiple Index (PPMI) Models. The connection between the PPMI model and the usual multi index model will be explored (Akritas, 2015b).

The second part of the talk will present a new approach for estimating the parametric component of the single index quantile regression model (Christou and Akritas, 2015). Compared to existing methods, the advantage of the proposed estimator is that it is non-iterative. The asymptotic theory of the proposed estimator will be presented. Extensions and open problems will be discussed. Simulation results suggest advantages of the proposed estimator. The analysis of a real data set will be presented.

Bibliography

Akritas, M. G. (2015a). Asymptotic theory for the first projective direction. *Submitted for publication*.

Akritas, M. G. (2015b). Projection pursuit multi-index (PPMI) models. *Manuscript in preparation*.

Christou, E. and Akritas, M. G. (2015). Single index quantile regression model for heteroscedastic data. *Submitted for publication*.

Hansen, B. E. (2008). Uniform convergence rates for kernel estimation with dependent data. *Econometric Theory*, 24, 726-748.