



ANNOUNCES A
COLLOQUIUM

Dr. Jelena Bradic

*Department of Operations Research
& financial Engineering
Princeton University*

will speak on

Penalized Composite Quasi-Likelihood for Ultrahigh-Dimensional Variable Selection

Time: 3:00 – 4:00 PM

Date: Thursday, December 16, 2010

Place: Alter Hall 746

Abstract

In high-dimensional model selection problems, penalized least-square approaches have been extensively used. This paper addresses the question of both robustness and efficiency of penalized model selection methods, and proposes a data-driven weighted linear combination of convex loss functions, together with weighted L_1 -penalty. It is completely data-adaptive and does not require prior knowledge of the error distribution. The weighted L_1 -penalty is used both to ensure the convexity of the penalty term and to ameliorate the bias caused by the L_1 -penalty. In the setting with dimensionality much larger than the sample size, we establish a strong oracle property of the proposed method that possesses both the model selection consistency and estimation efficiency for the true non-zero coefficients. As specific examples, we introduce a robust method of composite L_1 - L_2 , and optimal composite quantile method and evaluate their performance in both simulated and real data examples.