



## Statistisches Kolloquium

Zeit: <u>Mittwoch, 16.10.2013, 16.30 - 17.30</u>

Ort: <u>Seminarraum SE 108</u> (Templergraben 90)

- Vortragende: Prof. Dr. Irini Moustaki Department of Statistics London School of Economics
- Titel: Composite likelihood estimation and limited goodness-of-fit test statistics under simple random sampling and complex sample designs in latent variable models for categorical data

## Abstract

Latent variable models are widely used in social sciences for measuring unobserved constructs such as intelligence, fear of crime, anxiety etc. In the last two decades, latent variable models have been extended to account for categorical responses, multidimensional latent variables, effects of explanatory variables, non-linear relationships, longitudinal data, missing values, outliers and complex survey data. At the same time, those extensions have led to complex models with many parameters in which estimation methods such as maximum likelihood is difficult if not intractable. In this talk, we will discuss estimation methods recently proposed that are based on composite likelihood theory as well as limited goodness-of-fit test statistics for dealing with the complexities of the models but also the complexities of the sample design. Simulations results and applications that use survey data will be presented throughout the talk.

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