Psychometric Society Meeting 2013 – CITO Arnheim

**Preconference Workshop Bayesian Structural Equation Modeling Using Mplus**

Monday 22-7-2013, 9.00am-5.00pm

Herbert Hoijtink

CITO/Department of Methods and Statistics, University Utrecht

herbert.hoijtink@cito.nl, h.hoijtink@uu.nl

**Workshop Description**

Mplus ([www.statmodel.com](http://www.statmodel.com)) is a software package that allows data analysts to use Bayesian structural equation modeling (BSEM). This one day preconference workshop will teach the participants how to use BSEM for data analysis. The workshop consists of four lectures. The structure of each lecture is the same: first of all an important feature of Bayesian data analysis will be introduced in a non-technical manner (formulas and derivations are virtually absent from this course); secondly, it will be elaborated how this feature is implemented in Mplus (Mplus code snippets will be given and explained); and thirdly, examples in which the feature plays an important role in data analysis will be presented. The four lectures subsequently focus on the following features:

Lecture 1, 9.00am – 10.30am, Bayesian estimation using non-informative and informative prior distributions.

Lecture 2, 11.00am - 12.30pm, Bayesian estimation in the presence of missing data via multiple imputation.

Lecture 3, 14.00pm – 15.30pm, Bayesian model selection using the BIC and the DIC.

Lecture 4, 16.00pm – 17.00pm, The computation of error probabilities in the context of model selection.

**Course Materials**

In the first week of July 2013 the slides that will be presented during this course can be downloaded from http://tinyurl.com/hoijtink they can be found at the bottom of the page under sideline activities. Note that references to books and papers are included in the slides.

**Participants**

The course focuses on participants who want to learn about important features of BSEM when to goal is to use BSEM for data analysis. This course elaborates concepts and features that are important for the application of BSEM, it does not elaborate the technical foundation of BSEM (although references to technical elaborations will be given).