Presentation titles and abstracts

Name: **Dario Ciraki**	*Title:* A unifying statistical framework for dynamic simultaneous equation models with latent variables

Abstract:
The paper proposes a unifying statistical framework for dynamic latent variable models based on a general dynamic structural equation model (DSEM). The DSEM model is specified to encompass virtually all dynamic linear models (with or without latent variables) as special cases. A statistical framework for the analysis of the DSEM model is suggested by making distributional assumptions about its exogenous components and measurement errors. It is shown how the general model can be formulated following different traditions in the literature. The resulting forms of the general model are compared and it is suggested that some forms are more suitable for particular applications and estimation methods.

Name: **Hailiang Du**	*Title:* New approaches to estimation in nonlinear models

Abstract:

Name: **Miltiadis Mavrakakis**	*Title:* Signal extraction for long multivariate temperature series

Abstract:
Serially complete and reliable temperature records are essential for the detection of global climate change and are also required for the development of climate-dependent models, management of weather risk and pricing of weather derivatives. However, long temperature series often contain outliers, errant values and even gaps, which can be serious hindrances to these endeavours.

Different methods of estimating missing daily maximum and minimum temperatures are presented and compared. The estimated data can be used to fill gaps in the records and also to identify outliers by drawing attention to cases where there are large discrepancies between observed and estimated temperature readings.

A new approach, based on removing the long-term climate effects in the data by fitting harmonic models, is introduced. The existing methods can then be applied to the residuals from the harmonic model, which still contain the crucial (short-term) weather information.

The procedure is tested on a number of different models, which include regression-based methods as well as k-nearest-neighbour models. The data used are from weather stations in the southern United States, for daily maximum temperature data from 1950 to 2001, but can easily be applied to any other region, as long as an adequate station density and period of record exists.

Name: **Billy Wu**	*Title:* An introductory presentation on graphical models

Abstract:
Introduction to graphical models, to familiarize people with the idea of graphical models. We then extend the idea of graphical models to multivariate time series. Some foundation ideas are introduced here. This presentation will try and talk about Granger causality, time series chain graphs, partial correlation graphs, Markov properties and statistical inference for these graphs. Will also give examples of application. All depending on whether time permits.