



THE RIMINI CENTRE FOR ECONOMIC ANALYSIS



THE UNIVERSITY
OF QUEENSLAND
AUSTRALIA

11th Annual RCEA Bayesian Econometric Workshop

July 3 - 4, 2017

Melbourne, Australia

Keynote Speakers



Sylvia Frühwirth-Schnatter
*Institute for Statistics and Mathematics
Vienna University of Economics and Business*



Sylvia Kaufmann
*Study Center Gerzensee,
Foundation of the Swiss National Bank*

Program and Event Information

This event is sponsored by the Universities of Melbourne and Queensland, and the International Society of Bayesian Analysis.

Information about Melbourne and the Workshop

Getting to-and-from the Airport

Melbourne's airport (called the Tullermarine airport) is around 20km from the city centre. The simplest way to travel between the airport and the city is via taxi, which costs approximately 60 Australian dollars.

There is also a regular shuttle bus service to Southern Cross station in the city centre, called the "skybus". Information about travel options are also available at the help desks at the airport.

Location of Workshop

The workshop will be located at the Carlton Campus of the University of Melbourne in the "**Faculty of Business and Economics Building**" at **111 Barry Street**, Carlton (which can be readily found in Google Maps). The entrance to the building is from the University Square side. A map of the campus, with the building circled is on the next page.

The presentations will be in **room 605 on level 6**, which is accessible by both lift and stairs.

Getting to-and-from the University

If you are staying in or around the central business district, regular trams every few minutes travel along Swanston street north to the University. **The nearest tram stop is "Lincoln Square"**, where you can exit and head directly west across the park. The Faculty of Economics and Business building where the workshop is to be held is around 400 metres directly west.

Myki

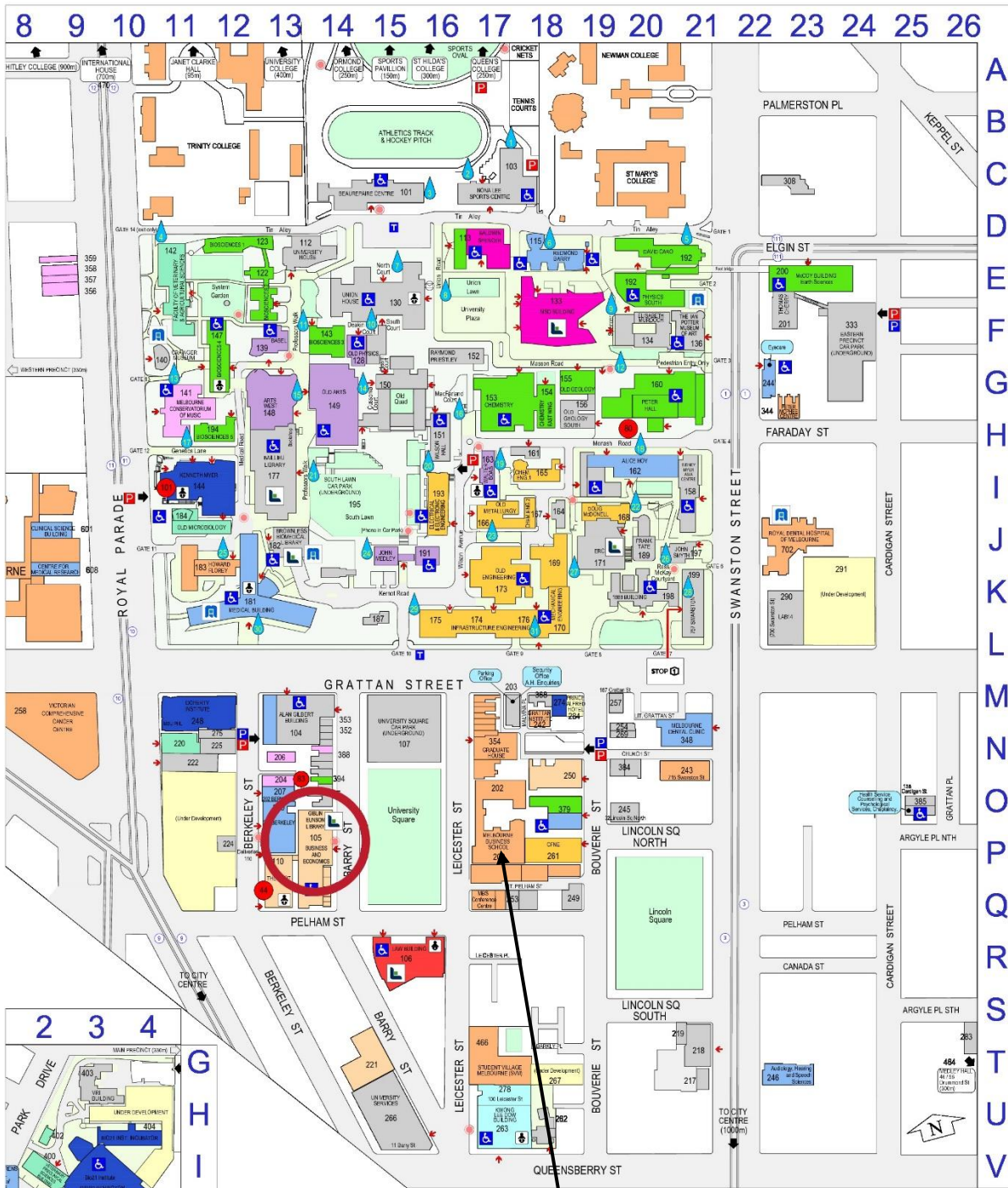
Please note that you need a local travel card to use the tram system. This card is called a "myki" card, and they can be purchased at the airport, from Seven-Eleven stores, hotel lobbies and anywhere that displays the "myki" sign.

Cards cost 6 Australian dollars and need to be credited at the point of sale (a typical amount to credit would be \$20).

You must "touch on" using the automatic readers in the tram when you board. You do NOT have to touch off when travelling (although nothing bad happens if you do).

Fares are \$4.10 for a 2 hour trip in zone 1 (where the University of Melbourne and city centre are located), and \$8.20 for a full day's travel. The optimum fare is automatically deducted from your balance.

This card can be used to travel on the bus, train and tram network throughout Melbourne and to many regional areas in the state of Victoria.



- Buildings Under Development
- Main Entry to Buildings
- Parenting Room
- Wheelchair Accessible Toilet
- Access Facilities shown are not exhaustive. For more information contact Step 1.
- Drinking Fountain
- Help Phone
- Tram Stop Number
- Mail Box
- Secure Bicycle Hub (Number - Spaces)
- Taxi Pick Up Point
- Public Parking
- Permit Only Parking

- Affiliated Organisations
- Architecture, Building & Planning
- Arts
- Business & Economics
- Education
- Engineering
- Inter-Disciplinary Research Institutes
- Law
- Medicine, Dentistry & Health Sciences
- Music
- Science
- Veterinary & Agricultural Sciences
- University General/Shared



The University of Melbourne Acknowledges the Wurundjeri people as the Traditional Custodians of the Land on which this Campus is situated.

Map created by Infrastructure Services - 1st February 2017

The Masterclass will be held HERE

Parking Infringements apply to the Parkville Campus and University
Main Campus Address: 230 Grattan St, Melbourne University, 3010.

Program

Sunday 2 July

Masterclass by Sylvia Kaufman (13:00 – 17:45)

Location: Rio Tinto Lecture Theatre, MBS Building, 200 Leicester Street, Carlton

Light sandwich lunch will be served from 12noon outside the lecture room.

Session 1 (13:00-14:30): Factor models: representation, identification and sparsity.

Break (14:30-14:45)

Session 2 (14:45-16:00): Bayesian inference, posterior identification.

Break (16:00 - 16:15)

Session 3 (16:15 - 17:45): Applications, advances in detecting multiple sparse structures.

A detailed outlined is included at the end of this document.

Mixer (18:00 - 19:00)

Location: Pelham Lounge, MBS Building, 200 Leicester Street, Carlton

Monday 3 July

Welcome (8:50 - 9:00)

Session 1 (9.00 - 10.15) Bayesian Methods

Gholarmreza Hajargasht: “Fast and Accurate Computation of Marginal Data Density using Variational Bayes”

Liana Jacobi: “Automated Sensitivity Computations for MCMC Gibbs Output”

Nadja Klein: “Scale-Dependent Priors for Variance Parameters in Structured Additive Distributional Regression”

Coffee (10:15 - 10:45)

Session 2 (10:45 - 12:25) Approximate Bayesian Computation

Gael Martin “Asymptotic Properties of Approximate Bayesian Computation”

Scott Sisson “Recalibration: a post-processing method for ABC”

Robert Kohn “The Block Pseudo-Marginal Sampler”

David Frazier “Model Misspecification in ABC: Consequences and Diagnostics”

Lunch: (12:25 - 13:30)

Session 4: Keynote Speaker (13:30-14:30)

Prof. Dr. Sylvia Frühwirth-Schnatter

“Dynamic covariance estimation using sparsity priors within a Bayesian framework.”

Session 5 (14:30 - 15:45)

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| Ole Maneesoonthorn | “Inference on Price Jump Dynamics under Alternative Nonparametric Measures” |
| Eric Eisenstaat | “Bayesian Model Comparison for Time-Varying Parameter VARs with Stochastic Volatility” |
| Peter Exterkate | “A Regime-Switching Stochastic Volatility Model for Forecasting Electricity Prices” |

Coffee (15:45 - 16:15)

Session 6 (16:15 - 18:00) Multivariate Macroeconometrics

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| Ruben Loaiza-Maya | “Real-Time Macroeconomic Forecasting with a Heteroskedastic Inversion Copula Model” |
| Anastasios Panagiotelis | “Bayesian Rank Selection in Multivariate Regression” |
| Kelly Trinh | “Reduced Rank Regression in Large VAR Models” |
| Joshua Chan | “Measuring the Output Gap using Stochastic Model Specification Search” |

18:15 - 21:00

Conference Dinner at Woodward Centre

Tuesday 4 July

Session 1 (9:00 -10:15) Frontiers of Computational Methodology

- Chris Dravondi “Using the Synthetic Likelihood to Handle High-Dimensional Summary Statistics in Likelihood-Free Bayesian Inference.”
- Ming Ngoc Tran “Computationally Efficient Bayesian Estimation of High-Dimensional Copulas with Discrete and Mixed Margins”
- Chris Carter “On General Sampling Schemes for Particle Markov Chain Monte Carlo Methods”

Coffee (10:15 - 10:45)

Session 2 (10:45 - 12:25) Multivariate Models

- Qiao Yang “Oil Price Shocks and Economic Growth”
- John Maheu “Bayesian Parametric and Semiparametric Factor Models for Large Realized Covariance Matrices”
- Jia Liu “Bayesian Nonparametric Covariance Estimation with Noisy and Nonsynchronous Asset Prices”
- Maria Kalli “Bayesian nonparametric time varying vector autoregressive models”

Lunch (12:25 - 13:30)

Session 3 Keynote Speaker (13:30 - 14:30)

- Prof. Dr. Sylvia Kaufman “Unique representations of sparse factor models”

Session 4 (14:30 – 15:45) Structural Econometrics

Aleksei Netsunajev “Stargazing with Structural VARs: Shock Identification via Independent Component Analysis”

Benjamin Wong “Estimating and Accounting for the Output Gap using the Beveridge-Nelson Decomposition with Large Multivariate Models”

Xin Zheng “Exogenous Shocks, Financial Volatility and Endogenous Growth- Bayesian DSGE-GARCH-VAR Model with Finite Mixtures of Financial Shocks”

Coffee (15:45 - 16:15)

Masterclass on Bayesian Sparse Factor Modelling

Instructor: PD Dr. Sylvia Kaufmann

Deputy Director, Study Center Gerzensee, Dorfstrasse 2, 3115 Gerzensee, and

Visiting Professor, Monetary Macroeconomics, Faculty of Business and Economics, University of

Basel, Peter Merian-Weg 6, 4002 Basel

Outline

The course discusses Bayesian parametric estimation and identification of (dynamic) factor models. The lectures will introduce an alternative to the usual approach of estimating a factor model with pre-imposed identification restrictions. Rather, Bayesian estimation of the model will precede (rotational) identification, which ultimately is achieved by post-processing the posterior output. By inducing sparsity, identification may be achieved while estimating the model. In this case, post-processing of the posterior output is applied to identify a unique posterior mode, ie. the orientation of the factor basis implying a specific factor ordering and sign.

In this course, the students get an overview of some results concerning identification in factor models. Posterior inference is obtained by applying Bayesian Markov Chain Monte Carlo methods. Applying prior predictive simulation reveals that a careful specification renders the sparse prior distribution informative about the prior number of factors and the number of non-zero factor loadings. Posterior inference about the number of factors is obtained from analyzing the posterior output. Applications to large economic data sets illustrate the procedures and the usefulness for obtaining structural inference and interpretation of results.