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Bayesian Methods, State Space Models, Sequential Monte Carlo, Simulation Techniques, Rare Research

Interests Events Estimation

Current University of Glasgow, UK, from May 2018

Position Postdoctoral researcher in Statistics (with Prof. Dirk Husmeier),

Position within the SoftMech Centre (an EPSRC centre for Multiscale Soft Tissue Mechanics)

VU Amsterdam, The Netherlands, Jul. 2019 EDUCATION

Ph.D. in Econometrics,

Supervisors: Prof. Siem Jan Koopman and Dr Lennart. Hoogerheide

University of Edinburgh, UK, Apr. 2017 - Jun. 2017

Postgraduate Research Visit at the School of Mathematics,

Host Supervisor: Prof. Ruth King

Tinbergen Institute and VU Amsterdam, The Netherlands Aug. 2015

M.Phil., major: Econometrics, minor: Macroeconomics

Sep. 2013 University of Warsaw, Poland

Faculty of Mathematics, Informatics and Mechanics B.Sc. in Mathematics, minor: Probability Theory

University of Göttingen, Germany Sep. 2010 - Feb. 2011

Faculty of Economics and Business Administration

M.Sc. programme, exchange within the Erasmus Programme

Warsaw School of Economics, Poland Jan. 2012

M.Sc. in Economics, major: Macroeconomic Analysis

Warsaw School of Economics, Poland Jul. 2009

B.Sc. in Economics, major: Macroeconomic Analysis,

minor: Computational and Optimisation Methods in Decision Making

Publications Time-varying Combinations of Bayesian Dynamic Models and Equity Momentum Strategies,

with Nalan Baştürk, Stefano Grassi, Lennart Hoogerheide and Herman K. van Dijk,

Journal of Econometrics, 2018

Bayesian Dynamic Modeling of High-Frequency Integer Price Changes,

with István Barra and Siem Jan Koopman, Journal of Financial Econometrics, 2018

Partially Censored Posterior for Robust and Efficient Risk Evaluation, Submitted and UNDER REVISION

with Lennart Hoogerheide, Siem Jan Koopman and Herman K. van Dijk,

revision for Journal of Econometrics

Bayesian Risk Forecasting for Long Horizons, with Lennart Hoogerheide and Siem Jan Koopman,

Gaussian Processes and ABC for Statistical Inference in Cell Migration SDE Systems, Ongoing

Research with Diana Giurghita and Dirk Husmeier

Bayesian Optimisation for Left Ventricle Biomechanical Models,

with Dirk Husmeier, Hao Gao and Xiaoyu Luo

Semi-Complete Data Augmentation,

with Ruth King

Bayesian Risk Evaluation for State-Space Models, with Lennart Hoogerheide and Siem Jan Koopman

| Conference<br>and Seminar<br>Presentations<br>([P]-poster) | 10th European Seminar on Bayesian Econometrics [P] (scheduled), St Andrews, UK                                  | 2–3 Sep.         | 2018  |
|--|---|------------------|-------|
|  | 39th International Symposium on Forecasting,<br>Thessaloniki, Greece  | 16–19 Jun.       |       |
|  | Workshop on Uncertainty Quantification for Cardiac Models [P], Cambridge, UK                                    | 5–7 Jun.         | 2019  |
|  | Cside 2018 Conference, Glasgow, UK  | 26 Nov.          | 2018  |
|  | 2nd Joint Liverpool-Glasgow Maths Healthcare Centre Meeting,<br>Liverpool, UK                                   | 30 Aug.          | 2018  |
|  | 4th Bayesian Young Statisticians Meeting, Warwick, UK   | 02 - 03 Jul.     | 2018  |
|  | 12th Netherlands Econometric Study Group Meeting [P],<br>Amsterdam, The Netherlands                             | 25 May           | 2018  |
|  | 1st Bayes Comp [P], Barcelona, Spain  | 26– 28 Mar.      |       |
|  | 10th International Conference of the ERCIM WG on Computation  |                  |       |
|  | and Methodological Statistics [P], London, UK   | 16–18 Dec.       | 2017  |
|  | 8th European Seminar on Bayesian Econometrics,<br>Maastricht, The Netherlands                                   | 26–27 Oct.       | 2017  |
|  | Sequential Monte Carlo Workshop 2017 [P], Uppsala, Sweden   | 30 Aug. – 1 Sep. | 2017  |
|  | 1st International Conference on Econometrics and Statistics,<br>Hong Kong                                       | 15–17 Jun.       | 2017  |
|  | Statistics Seminar Series of the School of Mathematics,<br>Edinburgh, UK  | 19 May           |       |
|  | 10th International Conference on Computational and Financial Econometrics, Seville, Spain                       | 9–11 Dec.        |       |
|  | 3rd Bayesian Young Statisticians Meeting, Florence, Italy   | 20–21 Jun.       | 2016  |
|  | 11th Netherlands Econometric Study Group Meeting [P],<br>Leuven, Belgium  | 17–18 Jun.       |       |
|  | TI Ph.D. Lunch Seminar, Amsterdam, The Netherlands  | 24 May           |       |
|  | Econometrics Brown Bag Seminar, Amsterdam, The Netherlands  | 21 Jan.          |       |
| TEACHING<br>EXPERIENCE                                     | University of Glasgow, UK  Honours and MSc Projects supervision (Statistics)  Co-supervision with Dirk Husmeier | 2018             | /2019 |
|  | VU Amsterdam, the Netherlands  Econometrics II (B.Sc. course)  Teaching Assistant of Lennart Hoogerheide        | Feb. – Mar.      | 2017  |

Sep. - Oct. 2016 Business Mathematics (B.Sc. course, evaluation: 3.8/5) Business Statistics (B.Sc. course, evaluation: 4.1/5) Feb. - Mar. 2016

Tinbergen Institute, Amsterdam, the Netherlands

Advanced Econometrics II (M.Phil. course, evaluation: 4.1/5) Jan. - Feb. 2015

Teaching Assistant of Kees Jan van Garderen

Measure Theory and Stochastic Processes (M.Phil. course, evaluation: 4.2/5) Sep. - Oct. 2014

Teaching Assistant of Peter J. C. Spreij

Professional AND RESEARCH EXPERIENCE

University of Warsaw, Poland

Researcher Feb. 2012 - Sep. 2014

Pension system reform modelling within the OLG framework under time inconsistency; welfare analysis of various fiscal closures; numerical model solving in Fortran; paper writing and editing.

Civil Development Forum, Warsaw, Poland

Internship in the Analytical Department

Jul. 2010

Analysis of the privatisation process in Poland; comparison of fiscal policy rules in selected EU countries; development of a database on fiscal stability reforms in the EU.

National Bank of Poland, Warsaw, Poland

Internship in the Economics Institute, Monetary Policy Strategy Bureau Aug. 2009

Comparison and evaluation of the communication tools and institutional solutions implemented in

selected central banks worldwide.

| Additional    |
|---------------|
| Courses       |
| AND TRAININGS |

Forecasting Summer School

Thessaloniki, Greece Jun. 2019

Probabilistic forecasting (scoring rules, combining predictive distributions)

Scalable Bayesian Inference

Edinburgh, UK Jun. 2018

Scalable algorithms for large datasets (embarrassingly parallel MCMC, approximate MCMC), scalable Bayesian methods for very high-dimensional data analysis

Workshop on Machine Learning Models and Methods for Econometricians

Maastricht, The Netherlands

Oct. 2017

Gaussian processes, distributed and subsampling MCMC, variational Bayes, deep ;earning

Intensive PhD level course on Sequential Monte Carlo Methods

Uppsala University, Sweden

Aug. 2017

Particle MCMC, high-dimensional filtering, SMC for probabilistic graphical models and probabilistic programming

Reading Group on Bayesian Nonparametrics

University of Edinburgh, UK

May - Jun. 2017

Introduction to Dirichlet process and their mixtures, Bayesian nonparamteric regression

Course on High Performance Computing

VU Amsterdam, The Netherlands

Oct. 2016

Basics of Unix and cluster computing, Hadoop and data analytics, GPU programming, HPC cloud

Summer School in Applied Macroeconomics

University of Salento, Lecce, Italy

Jul. 2012

Programming in Matlab, VAR for monetary policy, state space models and the Kalman Filter

SCHOLARSHIPS AND AWARDS IIF travel award grant to attend ISF 2019 and the forecasting summer school

International Institute of Forecasters

Mar. 2019

Cside 2018 winners' prize

(Model 3 and Additional Challenge)

Nov. 2018

ISBA travel award to attend BAYSM 2018

BAYSM 2018 organizing committee,

Apr. 2018

SMC2017 scholarship to attend the workshop and the intensive course

SMC2017 organizing committee

Aug. 2017

Tinbergen Institute merit-based scholarship

Tinbergen Institute, full scholarship, first and second year

Sep. 2013 – Aug. 2015

Student Exchange Scholarship

Warsaw School of Economics, the LLP Erasmus

Sep. 2010 – Feb. 2011

Scholarship for excellent academic achievements

Warsaw School of Economics

Oct. 2007 – Sep. 2010

Computer Strong experience in MATLAB, Fortran, R

Skills Experience with Python, C, PHP, Visual Basic, SQL, BUGS/JAGS

Familiarity with EViews, Stata, SPSS Other: LATEX, Linux, GitHub, SVN

FOREIGN Polish (native), English (fluent), German (advanced), LANGUAGES Russian (intermediate), French (basic), Dutch (basic)

Referees Prof. Siem Jan Koopman

The Department of Econometrics

Vrije Universiteit Amsterdam, e-mail: s.j.koopman@vu.nl

Dr Lennart Hoogerheide

The Department of Econometrics

Vrije Universiteit Amsterdam, e-mail: 1.f.hoogerheide@vu.nl

Prof. Ruth King

The School of Mathematics,

The University of Edinburgh, e-mail: ruth.king@ed.ac.uk

Prof. Herman K. van Dijk

Econometric Institute,

Erasmus University Rotterdam, e-mail: hkvandijk@ese.eur.nl