Marcel Scharth

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Personal information

Born: 1982 in Rio de Janeiro, Brazil. Nationality: Brazilian.

Current position

Lecturer in Business Analytics, University of Sydney Business School, Australia (since May 2015).

Education

PhD in Econometrics, VU University Amsterdam and Tinbergen Institute, The Netherlands, 2012.

MPhil in Economics, University of Amsterdam and Tinbergen Institute, The Netherlands, 2009.

MSc in Economics, Pontifical Catholic University of Rio de Janeiro, Brazil, 2006.

BA in Economics, Pontifical Catholic University of Rio de Janeiro, Brazil, 2004.

Key interests

Bayesian statistics, Monte Carlo methods and computational statistics, statistical learning, time series, causal inference.

Publications

▷ "Predicting time-varying parameters with parameter-driven and observation-driven models" (with Siem Jan Koopman and Andre Lucas). *Review of Economics and Statistics*, Volume 98, Issue 1, March 2016.

▷ "Particle efficient importance sampling" (with Robert Kohn). *Journal of Econometrics*, Volume 190, Issue 1, January 2016, Pages 133-147.

▷ "Numerically accelerated importance sampling for nonlinear non-Gaussian state space models" (2015, with Siem Jan Koopman and Andre Lucas). *Journal of Business and Economic Statistics*, Volume 33, Issue 1, pages 114–127.

▷ "Modeling and predicting the CBOE market volatility index" (with Marcelo Fernandes and Marcelo C. Medeiros). *Journal of Banking and Finance*, Volume 40, March 2014, pages 1-10.

▷ "The analysis of stochastic volatility in the presence of daily realised measures" (with Siem Jan Koopman). *Journal of Financial Econometrics*, 11 (1), Winter 2013, 76-115.

▷ "Asymmetric effects and long memory in the volatility of Dow Jones stocks" (with Marcelo Medeiros). *International Journal of Forecasting*, 25, 2009, 304–327.

Working papers

▷ "Leverage, asymmetry and heavy tails in the high-dimensional factor stochastic volatility model." (2017), with Mengheng Li.

▷ "Markov Interacting Importance Samplers" (2015), with Eduardo Mendes and Robert Kohn.

▷ "Importance sampling squared for Bayesian inference in latent variable models" (2015), with Minh-Ngoc Tran, Michael K. Pitt and Robert Kohn).

Work experience

Postdoctoral fellow, Department of Economics, University of New South Wales, Sydney, Australia (2012-2015).

Research associate, School of Accounting, Finance and Economics, Edith Cowan University, Perth, Australia (2007).

Research assistant, Department of Macroeconomic Studies, Institute of Applied Economic Research, Rio de Janeiro, Brazil (2002-2003).

Teaching

Teaching expertise

Statistics, machine learning, data science, data technology, time series.

Lecturing

Lecturer and unit coordinator for Statistical Learning and Data Mining (masters level). University of Sydney, 2017.

Lecturer and unit coordinator for Statistical Modelling for Business (undergraduate level). University of Sydney, 2016–2017.

Lecturer and unit coordinator for Predictive Analytics (undergraduate level). University of Sydney, 2015-2017.

Lecturer for Quantitative Business Analysis (masters level). University of Sydney, 2016.

Lecturer and unit coordinator for Introductory Statistics and Data Analysis (masters level). UNSW, 2014 (two semesters).

Guest lecturer for Advanced Econometric Theory (honours and PhD level). UNSW, 2013 and 2014 (three lectures).

Short courses

MEAFA professional development course on Machine Learning using Python (2018).

Python for business analytics and data science (University of Sydney, 2016).

Tutoring

Tutor for Business Statistics (undergraduate level). VU University Amsterdam, 2010-2012.

Tutor for Introductory Mathematics for Business (undergraduate level). VU University Amsterdam, 2011.

Awards and Grants

University of Sydney of Business School Educational Innovation Grant, 2017.

HSP Huygens scholarship, awarded by the Netherlands organization for international cooperation in higher education (NUFFIC), 2007-2009.

Tinbergen Institute fellowship, 2007.

Brazilian national research support agency (CAPES) fellowship, 2004-2006.

Professional activities

Conferences:

International Symposium on Forecasting, Cairns, 2017.
1st International Conference on Econometrics and Statistics, Hong Kong, 2017.
9th Conference of the Asian Section of the International Society for Statistical Computing, Singapore, 2015.
$9th$ International Conference on Computational and Financial Econometrics, London, 2015.
Econometric Society World Congress, Montreal, 2015 (travel award recipient).
International Society for Bayesian Analysis world meeting, Cancun, 2014 (travel award recipient).
7th CSDA conference on computational and financial econometrics, London, 2013.
3rd Amsterdam-Bonn econometrics workshop, Bonn, 2011.
4th CSDA conference on computational and financial econometrics, London, 2010.
MODSIM09 international congress on modelling and simulation, Cairns, Australia, 2009.
Modelling and managing high-frequency data conference, Perth, Australia, 2008.
2007 Far Eastern meeting of the Econometric Society, Taipei, Taiwan.
XVIII meeting of the Brazilian Econometric Society, Salvador, Brazil, 2006.

Invited seminars:

Melbourne Business School, 2015.
University of Lausanne, 2015.
McGill University, 2015.
Erasmus University Rotterdam, 2012.
EMLYON Business School, 2012.
University of Mannheim, 2010.
Tinbergen Institute Amsterdam, 2010.

Industry engagement (non-speaker):

The Data Science Conference, Seattle, 2016.
Strata + Hadoop World Conference, Singapore, 2016.

Service:

University of Sydney Business School Low Risk Ethics committee (2016).

Refereeing :

Journal of Econometrics, Journal of Applied Econometrics, Econometric Reviews, Bayesian Analysis, Journal of Empirical Finance, Econometrics and Statistics, Computational Statistics and Data Analysis, Studies in Nonlinear Dynamics and Econometrics, International Journal of Forecasting, Brazilian Review of Econometrics.

Other skills

Computational tools: Python, C, Julia, MATLAB, SQL, Spark, AWS.

Languages: Portuguese (native), English (fluent) and Italian (intermediate).