
CONTACT	University of Wollongong School of Mathematics and Applied Statistics Wollongong NSW 2522 dgunawan@uow.edu.au +61 424 379 015 https://sites.google.com/site/davidgunawan40/home
VISA STATUS	I am an Australian permanent resident.
RESEARCH INTERESTS	My Google scholar profile can be accessed via https://bit.ly/2Gi1PVy . I have a general and broad interest in Bayesian computations, from both a methodological and an applied perspective. From a methodological perspective, I am interested in posterior simulation methods, such as Markov chain Monte Carlo, Sequential Monte Carlo, particle Markov chain Monte Carlo, Variational approximations, and Approximate Bayesian computation methods. From an applied perspective, I use Bayesian computational methods to solve real world problems in many areas, such as economic inequality and poverty measurement, health, cognitive psychology, finance, and environment.
CURRENT POSITIONS	University of Wollongong , School of Mathematics and Applied Statistics (SMAS) 2020- Lecturer in Statistical Science ARC Centre of Excellence for Mathematical and Statistical Frontiers 2017- Associate investigator
PREVIOUS POSITIONS	University of New South Wales , School of Economics 2016-2019 Postdoctoral fellow Supervisor: Prof. Robert Kohn Monash University , Australia 2012-2015 PhD student and research assistant to Professors Duangkamon Chotikapanich and William Griffiths Monash University , Australia 2012-2015 Teaching Assistant
EDUCATION	Monash University , Australia 2012-2016 Ph.D. in Econometrics - Supervisor: Professor William Griffiths Professor Duangkamon Chotikapanich Associate Professor Anastasios Panagiotelis - Thesis topic: <i>Bayesian Inference on the Measurement of Welfare, Inequality, and Deprivation</i> Monash University , Australia 2010-2011 Master of Applied Econometrics (GPA 4.0 out of 4.0) Melbourne University , Australia 2006-2009 Bachelor of Electrical Engineering

THESIS

Gunawan, D. (2016) “Bayesian Inference on the Measurement of Welfare, Inequality, and Deprivation”.

REFEREED
PUBLICATIONS

1. Mendes, E., Carter, C., **Gunawan, D.** and Kohn, R. (2020) “A Flexible Particle Markov Chain Monte Carlo Method”
To appear in *Statistics and Computing*.
2. **Gunawan, D.**, Hawkins, G., Tran, M.N., Kohn, R. and Brown, S. (2020) “New Estimation Approaches for the Linear Ballistic Accumulator Model”
To appear in *Journal of Mathematical Psychology*.
3. Tran, M.N., Scharth, M., **Gunawan, D.**, Kohn, R., Brown, S., and Hawkins, G. (2020) “Estimating the Marginal Likelihood for Cognitive Models via Importance Sampling”
To appear in *Behavioural Research Method*.
4. **Gunawan, D.**, Khaled, M., and Kohn, R. (2020) “Mixed Marginal Copula Modeling”.
Journal of Business and Economic Statistics, vol. 1, no. 38, pp. 137-147.
5. Lander, D., **Gunawan, D.**, Griffiths, W.E., and Chotikapanich, D. (2020) “Bayesian Assessment of Lorenz and Stochastic Dominance”
To appear in *Canadian Journal of Economics*.
6. **Gunawan, D.**, Panagiotelis, A., Griffiths, W.E., Chotikapanich, D. (2020) “Bayesian Weighted Inference from Surveys”
To appear in *Australian and New Zealand Journal of Statistics*.
7. Chin, V., **Gunawan, D.**, Fiebig, D., Kohn, R., and Sisson, S.A. (2020) “Efficient Data Augmentation for Multivariate Probit Models with Panel Data: An Application to General Practitioner Decision Making about Contraceptives”
To appear in *Journal of Royal Statistical Society Series C*.
8. **Gunawan, D.**, Tran, M.N., Suzuki, K., Dick, J., and Kohn, R. (2019) “Computationally Efficient Bayesian Estimation of High Dimensional Archimedean Copulas with Discrete and Mixed Margins”. *Statistics and Computing*, vol. 29, no 5, pp. 933-946.
9. **Gunawan, D.**, Griffiths, W.E., and Chotikapanich, D. (2018) “Bayesian Inference for Health Inequality and Welfare using Qualitative Data”.
Economics Letters vol. 162, pp. 76-80.

WORKING PAPERS:
AVAILABLE ON
ARXIV/UPON
REQUEST.

10. **Gunawan, D.**, Dang, K.D., Quiroz, M., Kohn, R., and Tran, M.N. “Subsampling Sequential Monte Carlo for Static Bayesian Models”
Revision requested by Statistics and Computing.
11. **Gunawan, D.**, Carter, C., Fiebig, D., and Kohn, R. “Efficient Bayesian Estimation for Flexible Panel Models for Multivariate Outcomes: Impact of Life Events on Mental Health and Excessive Alcohol Consumption”
To be submitted.
12. **Gunawan, D.**, Tran, M.N., and Kohn, R. “Fast Inference for Intractable Likelihood Problems using Variational Bayes”
To be submitted.

13. **Gunawan, D.**, Kohn, R., Carter, C., and Tran, M.N. “Flexible Density Tempering Approaches for State Space Models with An Application to Factor Stochastic Volatility Models”
To be submitted.
14. **Gunawan, D.**, Carter, C., and Kohn, R. “Efficiently Combining Pseudo Marginal and Particle Gibbs Sampling”
To be submitted.
15. Choppala, P., **Gunawan, D.**, Chen, J., Tran, M.N., and Kohn, R. “Bayesian Inference for State Space Models using Block and Correlated Pseudo Marginal Metropolis-Hastings”
To be submitted.
16. **Gunawan, D.**, Griffiths, W.E., and Chotikapanich, D. “Analysis of Inequality and Poverty in the Income Distribution in Australia 2001 - 2010: a Bayesian Stochastic Dominance Approach”
To be submitted.
17. **Gunawan, D.**, Quiroz, M., Nott, D., and Kohn, R. “Fast Variational Approximation for Multivariate Factor Stochastic Volatility Model”
Submitted to International Journal of Forecasting.
18. Nguyen, N., Tran, M.N., **Gunawan, D.**, and Kohn, R. “Long Short Term Memory Stochastic Volatility Model”
Submitted to Journal of Econometrics.
19. **Gunawan, D.**, Hawkins, G., Tran, M.N., Kohn, R., and Brown, S. “Time-Evolving Psychological Processes over Repeated Decisions?” *Revision requested by Psychological Review.*
20. **Gunawan, D.**, Hawkins, G., Brown, S., Kohn, R., and Tran, M.N. “Identifying relationship between cognitive processes across tasks, contexts, and time”
Submitted to Behavioural Research Method.
21. **Gunawan, D.**, Griffiths, W.E. and Chotikapanich, D. “Bayesian Inference on the Measurement of Multidimensional Welfare, Inequality and Deprivation using Copula”
22. **Gunawan, D.**, Tran, M.N., Scharth, M., and Kohn, R. “Efficient Bayesian Inference for Latent Variable Models using Correlated/Blocked Pseudo Marginal and Efficient Importance Sampling”
23. **Gunawan, D.**, Pitt, M.K., and Kohn, R. “Bayesian Latent Factor Garch Model”
24. **Gunawan, D.** and Kohn, R. “On Flexible Particle Markov Chain Monte Carlo for General Time-Varying Multivariate Factor Model”
25. **Gunawan, D.**, Khaled, M., and Kohn, R. “Approximate Bayesian Computation for Estimating High Dimensional Archimedian Copula with Discrete Marginals”

PAPERS IN
PREPARATION

GRANTS AND AWARDS

UNSW Business School

- Conference Travel Funding 2018. 3K AUD.
- National Computational Infrastructure (NCI) funding 800 kSU (approximately 18K AUD) in 2018.
- National Computational Infrastructure (NCI) funding 1000 kSU (approximately 22K AUD) in 2019.
- International Research Collaboration Travel Funds 2019. 7K AUD.
- Conference Travel Funding 2019. 3K AUD.

Monash University

- Member of the Golden Key International Honours society in 2010
- Awarded Monash University International Scholarship for Excellence in 2011. 10K AUD.
- Awarded an Academic Medal for excellence in study of Master of Applied Econometrics/Statistics (ranked 1st of all graduates in the Faculty of Business and Economics in 2011).
- Dean's Honour List 2011 and 2012 (top 2 percent of the Faculty of Business and Economics).
- Received a Monash Graduate Scholarships (MGS) and Faculty International Postgraduate Research Scholarships (FIPRS). Three year research grant for PhD studies. Approximately 200K AUD.
- Awarded a scholarship to attend summer school on multidimensional poverty measurement organised by OPHI (Oxford Poverty and Human Development Initiative) in George Washington University in July 2013 (\$750 for tuition fee).
- Best Teaching Assistant of Department of Econometrics and Business Statistics in 2013.

PH.D. SUPERVISION

Hung Dao, University of New South Wales, *Co-supervisor* 2019-
Topic: Prior choice for Bayesian inference.
Main supervisor: Prof. Robert Kohn.

THESIS SUPERVISION

Xuebin Zheng, Master thesis, University of New South Wales, *Co-supervisor* 2017
Topic: The Pseudo-Marginal Metropolis-Hastings approach and its application to Bayesian Copula Models.
Main supervisor: Prof. Josef Dick.

Anny Francis, Honours thesis, University of New South Wales, *Co-supervisor* 2019
Topic: Variational Bayes approximations for high-dimensional discrete copula models.
Main supervisor: Prof. Robert Kohn.

TEACHING EXPERIENCE

Guest lecturer, Econometric Theory and Methods 2018
University of New South Wales. Undergraduate course.

Lecturer, Business Forecasting 2019
University of New South Wales. Postgraduate course. Term 1.

Guest lecturer, Advanced Econometric Theory and Methods 2019
University of New South Wales. Postgraduate course.

Teaching assistant,
Monash University, 2012-2015.

- Financial Econometrics (Postgraduate),
- Introduction to Applied Econometrics (Postgraduate),
- Introduction to Econometrics (Undergraduate),

- Quantitative Models for Business Research (Undergraduate)
University of New South Wales, 2016.
- Advanced Econometric Theory and Methods (Postgraduate)

CONFERENCE/SEMINAR PRESENTATIONS

- 2014 Faculty of Business and Economics Seminar Series at University of Melbourne, Melbourne, Australia (Invited Presentation).
- 2014 EBS Seminar Series at Monash University, Melbourne, Australia (Invited Presentation).
- 2015 9th Rimini Bayesian Econometrics Workshop, Rimini, Italy (Contributed Presentation).
- 2015 The 25th New Zealand Econometrics Study Group Meeting, Brisbane, Australia (Contributed Presentation).
- 2015 6th Meeting of the Society for the Study of Economic Inequality ECINEQ, Luxembourg (Contributed Presentation).
- 2015 ACEMS Workshop, Adelaide, Australia (Invited Presentation).
- 2016 International Panel Data Conference, Perth, Australia (Contributed Presentation).
- 2017 Time Series and Forecasting Symposium at University of Sydney, Sydney, Australia (Contributed Presentation).
- 2017 Lunch time seminar series at University of Technology Sydney, Sydney, Australia (Invited Presentation).
- 2018 Econometrics and Statistics conference (EcoSta), HongKong (Invited Presentation).
- 2018 Econometrics Workshop in honour of Professor William Griffiths, Monash University, Melbourne, Australia (Invited Presentation).
- 2018 Joint Statistical Meetings, Vancouver, Canada (Invited Presentation).
- 2018 Melbourne Bayesian Econometrics Workshop, Melbourne University, Melbourne, Australia (Invited Presentation).
- 2019 Econometrics and Statistics conference (EcoSta), Taichung, Taiwan (Invited Presentation).
- 2019 The 12th International Conference on Monte Carlo Methods and Applications, University of Technology Sydney, Sydney, Australia (Invited Presentation).

ACADEMIC SERVICE

Scientific Committee

The 12th Int. Conf. on Monte Carlo Methods and Applications

2019

- University of Technology Sydney, Sydney.

- Invited speakers:

Dr. Robert Salomone (UNSW),

Dr. Worapree Manesoonthorn (Melbourne Business School, MBS),

Professor Michael Smith (MBS).

REFEREEING

Journal of Machine Learning Research, Electronic Journal of Statistics, Sankhya B, Computational Statistics, Advances in Statistical Analysis

PROGRAMMING

- Proficient at programming in MATLAB, R, Julia.
- Econometrics/statistics software: STATA, Eviews, SPSS.
- LaTeX and LyX software for academic writing
- Extensive experience using high performance computer clusters, such as Sun Grid (Monash University), Katana (UNSW), and Raijin (NCI).

REFEREES

- Robert Kohn (Research), Scientia Professor
School of Economics, University of New South Wales
Contact: r.kohn@unsw.edu.au
- William Griffiths (Research), Emeritus Professor of Econometrics
Department of Economics, University of Melbourne
Contact: b.griffiths@unimelb.edu.au
- Minh Ngoc Tran (Research), Senior Lecturer
Business Analytics, The University of Sydney
Contact: minh-ngoc.tran@sydney.edu.au
- Duangkamon Chotikapanich (Research and Teaching), Professor
Department of Econometrics and Business Statistics, Monash University
Contact: Duangkamon.Chotikapanich@monash.edu