David Tyler Frazier

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Academic Positions

Assistant Professor, *Monash University* 2014-2020

Associate Professor, *Monash University* 2020-2023

Professor, *Monash University* 2023

External Grants

Australian Research Council (ARC) Discovery Project (DP170100729): $391,000; "The Validation of Approximate Bayesian Computation: Theory and Practice," (with Gael M. Martin, Christian P. Robert and Eric Renault). 2017–2021.

ARC Discovery Early Career Researcher Award Fellowship (DE200101070): $376,496; "Consequences of Model Misspecification in Approximate Bayesian Computation." 2020–2022.

ARC Discovery Project (DP200101414): $393,000. "Loss-based Bayesian Prediction," (with Gael M. Martin, Rob J Hyndman and Worapree Maneesoonthorn). 2020–2022.

ARC Discovery Project (DP250101069): $460,000. "Controlling Feedback in Big Multi-Module Statistical and Econometric Models," (with Michael S. Smith, and David J. Nott). 2025–2028.

International Centre for Mathematical Sciences (Workshop): $42,000. 2026.

Research Awards

Monash Business School: Dean's Award for Excellence in Research by an Early Career Researcher. 2017.

Australian Centre for Excellence in Mathematics and Statistics (ACEMS): Outstanding Research Award. 2018.

Academy of Social Sciences in Australia (ASSA): Paul Bourke Award for Early Career Research Excellence. 2019.

Monash Business School: Dean's Award for Research Excellence. 2022.

Australian Academy of Science (AAS): Moran Medal for Research Excellence. 2023.

Research Articles

Manuscripts Under Revision

6. **Frazier, David T.,** and D.J. Nott. "Guaranteed Accuracy of Semi-Modular Posteriors" arXiv:2301.10911 (2025). Accepted conditional on replication study: *Journal of the*

American Statistical Association.

5. **Frazier, David T.,** R. Kohn, and C. Drovandi. "Calibrated Generalized Bayesian Inference" arXiv:2302.06031 (2025). Revision Requested: *Journal of the American Statistical Association*.

4. B. Antoine, E.M. Renault, **D.T. Frazier**. "Coordinated Testing for Identification Failure and Correct Model Specification", - Available at SSRN 5164644, (2025). Revision Requested: *Journal of Econometrics*.

3. **Frazier, David T.,** C. Drovandi, and D.J. Nott. "Better Together: pooling information in likelihood-free inference." arXiv:2212.02658 (2022). Second Revision Submitted: *Bayesian Analysis*.

2. Weerasinghe, Chaya, **David T. Frazier**, Ruben Loaiza-Maya, and Christopher Drovandi. "Robustifying Approximate Bayesian Computation." arXiv preprint arXiv:2504.04733 (2025). Revision Requested: *Journal of Computational and Graphical Statistics*

1. Maneesoonthorn, Worapree, **David T. Frazier**, and Gael M. Martin. "Probabilistic Predictions of Option Prices Using Multiple Sources of Data." arXiv preprint arXiv:2412.00658 (2024). Revision Requested: *Journal of Applied Econometrics*

Publications

41. McLatchie, Yann, Edwin Fong, **David T. Frazier**, and Jeremias Knoblauch. "Predictive performance of power posteriors." *Biometrika*, (2025).

40. Smith, Michael Stanley, Weichang Yu, David J. Nott, and **David T. Frazier**. "Cutting Feedback in Misspecified Copula Models." *Journal of the American Statistical Association*, (2025)

39. Zhang, Lina, **David T. Frazier**, Don S. Poskitt, and Xueyan Zhao. "Decomposing Identification Gains and Evaluating Instrument Identification Power for Partially Identified Average Treatment Effects." Accepted: *Econometric Reviews*.

38. **Frazier, David T.**, Eric Renault, Lina Zhang, and Xueyan Zhao. "Weak Instruments in Discrete Choice Models." *Journal of Econometrics* (2024).

37. **Frazier, David T.**, Christopher Drovandi and David J. Nott. "Synthetic Likelihood in Misspecified Models." *Journal of the American Statistical Association* (2024).

36. Weerasinghe, Chaya, Ruben Loaiza-Maya, Gael M. Martin, and **David T. Frazier**. "ABC-based Forecasting in State Space Models." In press: *International Journal of Forecasting* (2024), 1-20.

35. **Frazier, David T.**, and David J. Nott. "Cutting feedback and modularized analyses in generalized Bayesian inference." *Bayesian Analysis* (2024).

34. Kelly, R.P., Nott, D.J., **Frazier, D.T.,** Warne, D.J., and Drovandi, C. "Misspecification-robust sequential neural likelihood." *Transactions on Machine Learning Research* (2024).

33. Ramírez-Hassan, Andrés, and **David T. Frazier**. "Testing model specification in approximate Bayesian computation." *Journal of Computational and Graphical Statistics* (2024).

32. **Frazier, David T**, Martin, Gael M., Rubén Loaiza-Maya, and Koo, Bonsoo. "Loss-Based Variational Bayes Prediction." *Journal of Computational and Graphical Statistics* (2024).

31. Botha, Imke, Matthew P. Adams, Dang Khuong Tran, Frederick R. Bennett, **David T. Frazier**, and Christopher Drovandi. "Component-wise iterative ensemble Kalman inversion for static Bayesian models with unknown measurement error covariance." *Inverse Problems* (2023)

30. **Frazier, David T.**, Christopher Drovandi, and David J. Nott. "Bayesian Synthetic Likelihood." *WileyOnline StatsRef* (2023).

29. Nott, David J., Christopher Drovandi, and **David T. Frazier**. "Bayesian inference for misspecified generative models." *Annual Review of Statistics and Its Application.* (2023)

30. Martin, Gael M., **David T. Frazier**, Rubén Loaiza-Maya, and Worapree Maneesoonthorn. "Bayesian forecasting in economics and finance: A modern review." *International Journal of Forecasting* (2023)

27. Drovandi, C., Nott, D.J. and **Frazier, D.T.** "Improving the Accuracy of Marginal Approximations in Likelihood-Free Inference via Localisation." *Journal of Computational and Graphical Statistics* (2024)

26. Atlanta, Chakraborty, David J. Nott, Christopher Drovandi, **David T. Frazier**, and Scott A. Sisson. "Modularized Bayesian analyses and cutting feedback in likelihood-free inference." *Statistics and Computing* (2023).

25. Pesonen, Henri, et al. "ABC of the Future." Section 6, "ABC forecasting with an application to optimal portfolio allocation." Gael M. Martin, **David T. Frazier**, and Worapree Maneesoonthorn. *International Statistical Review*. Volume 91, (2023), pages 243-268.

24. Martin, Gael. M, **David T. Frazier** and Christian P. Robert. "Computing Bayes: From Then 'Til Now." *Statistical Science* (2024)

23. Martin, Gael. M, **David T. Frazier** and Christian P. Robert. "Approximating Bayes in the 21st Century." *Statistical Science* (2024)

22. **Frazier, David T**, Rubén Loaiza-Maya, and Gael M. Martin. "Variational Bayes in State Space Models: Inferential and Predictive Accuracy." *Journal of Computational and Graphical Statistics* (2023)

21. **Frazier, David T.**, David J. Nott, Christopher Drovandi, and Robert Kohn. "Bayesian inference using synthetic likelihood: asymptotics and adjustments." *Journal of the American Statistical Association* (2023)

20. Drovandi, Christopher, and **Frazier, David T.** "A Comparison of Likelihood-Free Methods With and Without Summary Statistics." *Statistics and Computing* (2022)

19. Petropoulos, Fotios, et al. "Forecasting: theory and practice." Section 2.4, "Bayesian Forecasting", Martin, Gael M., and **David T. Frazier**, pages 40-43. *International Journal of Forecasting* (2022).

18. Martin, Gael M., Rubén Loaiza-Maya, **David T. Frazier**, Worapree Maneesoonthorn, and Andres Ramírez Hassan. "Optimal probabilistic forecasts: When do they work?" *International Journal of Forecasting* (2022).

17. Drovandi, Christopher, David J. Nott, and **David T. Frazier**. Discussion on "Bayesian Restricted Likelihood Methods: Conditioning on Insufficient Statistics in Bayesian Regression" by John R. Lewis, Steven N. MacEachern, Yoonkyung Lee. *Bayesian Anal.* 1-38 (2021).

16. Priddle, Jacob W., Scott A. Sisson, **David T. Frazier**, and Christopher Drovandi. "Efficient Bayesian synthetic likelihood with whitening transformations." *Journal of Computational and Graphical Statistics* (2022).

15. Czellar, Veronika, **David T. Frazier**, and Eric Renault. "Approximate Maximum Likelihood for Complex Structural Models." *Journal of Econometrics* (2021).

14. **Frazier, David T.**, and Christopher Drovandi. "Robust Approximate Bayesian Inference with Synthetic Likelihood." *Journal of Computational and Graphical Statistics* (2021).

13. Loaiza-Maya, Ruben, Gael M. Martin and **David T. Frazier**. "Focused Bayesian Prediction." *Journal of Applied Econometrics* 36, (2021); 517-543.

12. **Frazier, David T.**, and Bonsoo Koo. "Indirect Inference for Locally Stationary Models." *Journal of Econometrics* (2021)

11. **Frazier, David T.**, Christian P. Robert, and Judith Rousseau. "Model misspecification in approximate Bayesian computation: consequences and diagnostics." *JRSS:B,* (2020)

10. **Frazier, David T.**, and Eric Renault. "Indirect inference with (out) constraints." *Quantitative Economics* (2020)

9. **Frazier, David T.**, Tatsushi Oka and Dan Zhu. "Indirect Inference with a Non-smooth Criterion Function." *Journal of Econometrics* (2019)

8. **Frazier, David T.**, and Eric Renault. "Indirect Inference: Which Moments to Match?" *Econometrics* (2019)

7. Martin, Gael M., Brendan McCabe, **David T. Frazier**, Ole Maneesoonthorn and Christian P. Robert. "Auxiliary Likelihood-Based Approximate Bayesian Computation in State Space Models." *Journal of Computational and Graphical Statistics* (2019)

6. **Frazier, David T.**, Gael M. Martin, Brendan McCabe, and Ole Maneesoonthorn. "Approximate Bayesian Forecasting." *International Journal of Forecasting* (2019)

5. **Frazier, David T.**, Gael M. Martin, Christian P. Robert and Judith Rousseau. "Asymptotic Properties of Approximate Bayesian Computation." *Biometrika* (2018)

4. **Frazier, David T.** "Simple Semiparametric Z-Estimation for Bundled Parameter Models." *Econometric Theory* (2019)

3. Chaudhuri, Saraswata, **David T. Frazier** and Eric Renault. "Indirect Inference with Endogenously Missing Exogenous Variables." *Journal of Econometrics* (2018)

2. **Frazier, David T.**, and Eric Renault. "Efficient Two-Step Estimation via Targeting." *Journal of Econometrics* (2017)

1. **Frazier, David T.**, and Xiaochun Liu. "A New Approach to Risk-return Trade-off Dynamics via Decomposition." *Journal of Economic Dynamics and Control* (2016)

Manuscripts under Submission

Frazier, David T., and Donald S. Poskitt. "Sequential Scoring Rule Evaluation for Forecast Method Selection." arXiv preprint arXiv:2505.09090 (2025).

Kelly, Ryan P., David J. Warne, **David T. Frazier**, David J. Nott, Michael U. Gutmann, and Christopher Drovandi. "Simulation-based bayesian inference under model misspecification." arXiv preprint arXiv:2503.12315 (2025).

Frazier, David T., Ryan Kelly, Christopher Drovandi, and David J. Warne. "The Statistical Accuracy of Neural Posterior and Likelihood Estimation." arXiv preprint arXiv:2411.12068 (2024).

Frazier, David T., Jeremias Knoblauch, Jack Jewson, and Christopher Drovandi. "Exact Sampling of Gibbs Measures with Estimated Losses." arXiv preprint arXiv:2404.15649 (2024).

Frazier, David T.. "Robust and Efficient Approximate Bayesian Computation: A Minimum Distance Approach." arXiv:2006.14126 (2020).

Refereeing Service

Annals of Statistics, Bayesian Analysis, Biometrika, Computational Statistics and Data Analysis, Econometric Reviews, Econometric Theory, Journal of the American Statistical Association, Journal of Computational and Graphical Statistics, Journal of Applied Econometrics, Journal of Business and Economic Statistics, Journal of Econometrics, Journal of Financial Econometrics, Journal of Machine Learning Research, Journal of the Royal Statistical Society: Series A, Journal of the Royal Statistical Society: Series B, Journal of Statistical Software, Scandinavian Journal of Statistics, Statistics and Computing, Studies in Nonlinear Dynamics, R Journal.

Associate Editor

Bayesian Analysis

Invited, Keynote, and Plenary Talks (Since 2017)

Academic year 2025:

BayesComp, BNP.

Academic year 2024:

ISBA. Università della Svizzera italiana. High Dimensional Data Analysis (XII).

Academic year 2023:

CompStat. CIRM. University of Warwick.

Academic year 2022:

CIREQ (Montreal, Quebec). International Society for Bayesian Analysis (ISBA). University of Queensland. CIRM.

Academic year 2021:

Joint Statistical Meetings (JSM). International Society for Bayesian Analysis (ISBA). Data-Centric Engineering Reading Group, at The Alan Turing Institute, London UK. RIKEN Center for Advanced Intelligence Project.

Academic year 2020:

BayesComp. La Trobe (Maths and Stats).

Academic year 2019:

Joint Statistical Meetings (JSM). University of Sydney.

Academic year 2018:

International Society for Bayesian Analysis (ISBA). Australian Statistics Conference.

Academic year 2017:

Banff International Research Station for Mathematical innovation and Discovery (BIRS). University of New South Wales (Department of Economics and Department of Statistics). Rimini Center for Economic Analysis Bayesian Econometric Workshop (RCEA). Joint Statistical Meetings (JSM), Brown University, Computational Finance and Econometrics (CFE).

External Service

Committee Member (2019-2025) - Bayes Section of the Statistical Society of Australia (SSA)
Chair (2019-2023) - Bayes Section of SSA
Chair (2019-2024) - Australasian section of the ISBA .
Chair of scientific committee - BayesComp 2025
Scientific committee - ISBA 2026

PhD Students

Lina Zhang, Monash: 2017 – 2020. (Assistant Professor, University of Amsterdam, 2021)

Ryan Zischke, Monash: 2019 - 2022. (Research Scientist, Australian Bureau of Statistics)

Chaya P. Muhamdiramalage, Monash: 2022 – 2025. (Doherty Institute for Infection and Immunity)

Kenyon Ng, Monash: 2024 - 2025.

Floyd Everest, Monash: 2023 - 2026.

Shelly Xie, Monash: 2024 - 2026.