

Professional experience

- since 2015 **Lecturer**, *University of Newcastle*.
School of Mathematical and Physical Sciences, Faculty of Science
- 2015 **Research Fellow**, *University of Sydney*.
School of Mathematics and Statistics, Faculty of Science
- 2014–2015 **Postdoctoral Fellow**, *Australian National University*.
Mathematical Sciences Institute, College of Physical & Mathematical Sciences
- 2013–2014 **Research Associate**, *University of Sydney*.
School of Mathematics and Statistics, Faculty of Science
- 2011–2013 **Postgraduate Teaching Fellow**, *University of Sydney*.
School of Mathematics and Statistics, Faculty of Science
- 2010–2013 **Tutor and Demonstrator Training Program Mentor**, *University of Sydney*.
Faculty of Science
- 2008–2013 **Tutor**, *University of Sydney*.
School of Mathematics and Statistics and Discipline of Business Analytics
- 2005–2008 **Peer Assisted Study Sessions Facilitator and Team Mentor**, *University of Sydney*.
Business School

Visiting positions

- 2015–2017 **Honorary Lecturer**, *University of Sydney*.
School of Mathematics and Statistics, Faculty of Science

Publications

Refereed journal articles

1. **Tarr G**, Müller S and Welsh AH (2017). mplot: An R package for graphical model stability and variable selection procedures. *Journal of Statistical Software*. arxiv.org/abs/1509.07583
2. Konarska M, Kuchida K, **Tarr G** and Polkinghorne RJ (2017). Relationships between marbling across principal muscles. *Meat Science*, 123 67–78. DOI: 10.1016/j.meatsci.2016.09.005
3. **Tarr G**, Müller S and Weber NC (2016). Robust estimation of precision matrices under cellwise contamination. *Computational Statistics & Data Analysis*, 93 404–420. DOI: 10.1016/j.csda.2015.02.005
4. **Tarr G**, Weber NC and Müller S (2015). The difference of symmetric quantiles under long range dependence. *Statistics & Probability Letters*, 98 144–150. DOI: 10.1016/j.spl.2014.12.022
5. Dancer D, Morrison K and **Tarr G** (2015). Measuring the effects of peer learning on students' academic achievement in first year business statistics. *Studies in Higher Education*, 40(10) 1808–1828. DOI: 10.1080/03075079.2014.916671
6. **Tarr G**, Müller S and Weber NC (2012). A robust scale estimator based on pairwise means. *Journal of Nonparametric Statistics*, 24(1) 187–199. DOI: 10.1080/10485252.2011.621424
7. **Tarr G** (2012). Small sample performance of quantile regression confidence intervals. *Journal of Statistical Computation and Simulation*, 82(1) 81–94. DOI: 10.1080/00949655.2010.527844

Software

8. **Tarr G**, Müller S and Welsh AH (2016). mplot: Graphical model stability and model selection procedures. R package. github.com/garhtarr/mplot
9. **Tarr G** (2016). StatStar: An interactive statistics education portal. statstar.io
10. **Tarr G** (2015). pairsD3: D3 scatterplot matrices. R package. github.com/garhtarr/pairsD3
11. **Tarr G** and Patrick E (2015). edgebundleR: Circle plots with bundled edges. R package. github.com/garhtarr/edgebundleR

Other Articles

12. **Tarr G** (2017). Model selection in R. *Biometric Bulletin*, 34(1). International Biometric Society.
13. **Tarr G** (2017). Interactive Data Analysis in R. *International Biometric Society Australasian Region Newsletter*, 19. International Biometric Society.
14. **Tarr G** (2016). Getting data into R. *Biometric Bulletin*, 33(3). International Biometric Society.
15. **Tarr G** (2016). Parallel computation in R. *Biometric Bulletin*, 33(2). International Biometric Society.
16. **Tarr G** (2015). Quantile based estimation of scale and dependence. *Bulletin of the Australian Mathematical Society*, 92(1), 173-175. DOI: 10.1017/S0004972715000283
17. Pethick, Thompson, Polkinghorne, Bonny, **Tarr**, Treford, Sinclair, Frette, Wierzbicki, Crowley, Gardner, Allen, Nishimura, McGilchrist, Farmer, Meng, Scollan, Duhem and Hocquette (2015). Prédiction de la qualité de la viande de ruminants (Prediction of the meat quality of ruminants). *Viandes et produits Carnés (Meat and meat products)*, November 2015.
18. Hendry GD, **Tarr G** and Morrison K (2015). The benefits of peer review versus peer observation: Facilitators' experiences in a peer assisted study program. Paper presented at *2015 International Business & Education Conferences*, June 7-11 London, UK. cluteinstitute.com/proceedings
19. **Tarr G** and Müller S (2015). Much more than U -statistics: A symposium to celebrate Neville C. Weber. *Statistics Society of Australia Newsletter*, June 2015.

Theses

20. **Tarr G** (2014). *Quantile Based Estimation of Scale and Dependence*. PhD Thesis. University of Sydney, Australia.
21. **Tarr G** (2009). *Quantile Regression Confidence Intervals: Theoretical Exposition and Empirical Findings*. Honours Thesis. University of Sydney, Australia.

Workshops

1. Model selection with R.
 - *Australian National University*, Canberra, Australia, 10-11 April 2017 (29 participants)
 - *University of Western Australia*, Perth, Australia, 23-24 November 2015 (30 participants).
2. Analytics for industry.
 - *Teys Australia*, Brisbane, Australia, 24-26 July and 22-23 August 2017 (11 participants).
 - *Meat and Livestock Australia*, Brisbane, Australia, 15-19 May 2017 (8 participants).
 - *Australian Country Choice*, Brisbane, Australia, 7-11 November 2016 (11 participants).
3. Data visualisation, interactive data analysis and statistical programming. *BiolInfoSummer*, Sydney, Australia, 11 December 2015 (90 participants).
4. Introduction to R. *Meat and Livestock Australia*. 19-20 October 2013 (2 participants).

Teaching

University of Newcastle

- STAT1070 Statistics for the Sciences, first year service course (2016 semester 1, 650 students; 2016 semester 2, 900 students; 2017 compressed mode summer session, 210 students)
- STAT3010 Statistical Inference, third year statistics course (2017 semester 1, 12 students)
- STAT3170 Surveys and Experiments, third year statistics course (2017 semester 1, 10 students)

University of Sydney

- MATH1905 Statistics (Advanced), introduction to statistics at an advanced level (2013 6 weeks, 200 students)
- PHAR1811 Foundations of Pharmacy, introductory statistics for first year pharmacy students (2011, 2012 and 2013 2 weeks, 280 students/year)
- PHAR2821 Drug Discovery and Design B, correlation and regression for second year pharmacy students (2012 and 2013 2 weeks, 260 students/year)

Research higher degree, honours and summer scholar supervision

- since 2016 Auxiliary supervision of Yu Xiang (Kevin) Wang, *TBD*, PhD Thesis, University of Sydney.
- since 2017 Auxiliary supervision of Holly Cuthbertson, *Infra-red thermography and radio frequency identification for detection of stress in lairage*, PhD Thesis, University of Sydney.
- 2015-16 Co-supervision of Lachlan O'Neil, *Observing and predicting trends in one day cricket* Summer Scholar, University of Newcastle.
- 2015-16 Co-supervision of Matthew Clapham and Charlotte Gooding, *Comparison of the standard and alternative odds ratios*. Summer Scholars, University of Newcastle.
- 2014-15 Secondary supervision of Yu Xiang (Kevin) Wang, *Frequentist model selection and model averaging techniques*. Summer Scholar, Australian National University.
- 2014-15 Secondary supervision of Timothy Bilton, *Model selection in linear mixed models using the lasso*. Summer Scholar, Australian National University.

Achievements

Grants and funding

- NSW Department of Industry, Conference Sponsorship Program, 2017. \$3,300
- University of Newcastle, Early Career Researcher Higher Degree by Research Scholarship, 2016. \$80,000
- International Biometric Society Australasian Region Travel Grant, 2016. \$3,000
- University of Newcastle, CARMA funding, 2016. \$2,000
- University of Newcastle, ECA Networking/Conference Grant, 2017. \$2,000
- University of Newcastle, New Staff Grant, 2016. \$7,500
- Meat and Livestock Australia, travel grant for MLA project L.EQT.1605, International collaboration on beef and lamb carcass grading to underpin consumer satisfaction, 2015. \$3,000
- University of Newcastle, PVC Conference Assistance Grant, 2015 and 2016 \$4,000
- Australian National University Early Career Researcher Travel Grant, 2015. \$2,100
- Statistical Society of Australia Golden Jubilee Travel Grant, 2013. \$1,000
- University of Sydney Statistics Research Group funding, 2011–2013. \$3,100
- University of Sydney Postgraduate Research Support Scheme funding, 2011–2012. \$2,900
- Australian Postgraduate Award, University of Sydney, 2010-2013. \$81,500

- University of Sydney, Widening Participation Grant. Student diversity: What do we know about our students and how does it affect our teaching? With Muir M, Drury H, Morison K and White F, 2012. \$25,000
- University of Sydney, Small TIES Grant. Knowing your students: A faculty wide initiative to provide student demographic data to support curriculum change. With Morrison K, Riemer K, Clarkeburn H and Seltsikas P, 2010. \$7,856

Awards

- EJG Pitman Prize for the most outstanding talk presented by a young statistician at the Australian Statistical Conference, 2012.
- First prize for the best oral presentation by a student at the Australian Young Statisticians Conference, 2013.
- Vice-Chancellor's Award for Teaching Excellence and Contribution to Student Learning, Faculty of Science, University of Newcastle. With Renner I, 2016
- Vice-Chancellor's Award for Systems that Achieve Collective Excellence in Teaching and Learning, University of Sydney. With Morison K and Morr J, 2011.
- Excellence in Tutoring Award, University of Sydney Business School, 2010.
- Dean's Citation for Tutoring, University of Sydney Business School, 2010, 2011 and 2012.

Presentations

Keynote

1. Statistics for the sciences. *Science Teachers Association of NSW Annual Conference*, Sydney, Australia, February **2017**.

Invited

2. Assessing selection stability in regularised regression models. *10th International Conference of the ERCIM WG on Computational and Methodological Statistics (CMStatistics 2017)*, London, UK, December **2017**.
3. Visualising model selection stability in high-dimensional regression models. *Institute of Applied Statistics Sri Lanka (IASL) International Conference 2017*, Colombo, Sri Lanka, December **2017**.
4. Are consumers willing to pay for eating quality? *UNECE Workshop on Sustainable Meat Markets, Cross-border Trade and Eating Quality*, Dublin, Ireland, August **2017**.
5. Robust regularised precision matrix estimation. *International Conference on Computational Statistics (COMPSTAT)*, Oviedo, Spain, August **2016**.
6. Estimating dependence structures under cellwise contamination. *Institute of Mathematical Statistics Asia Pacific Rim Meeting*, Hong Kong, June **2016**.
7. Visualising variable selection with mplot. *International Conference on Robust Statistics*, Kolkata, India, January **2015**.
8. Modelling, prediction and statistics with reference to MSA. *International meeting on beef and lamb carcass grading to underpin consumer satisfaction*, Paris, France, August **2015**.
9. Long range dependent. *Much more than U-statistics: A symposium to celebrate Neville C. Weber*, Sydney, Australia, January **2015**.

Academic seminars

10. Model selection stability with mplot. *University of Sydney, School of Mathematics and Statistics*, Sydney, Australia, December **2016**.
11. Data visualisation, interactive data analysis and statistical programming. *University of Newcastle Statistics Seminar Series*, Newcastle, Australia, May **2016**.
12. Quantile based estimation of scale and dependence. *Australian National University, Mathematical Sciences Institute*, Canberra, Australia, February **2016**.

13. Visualising model selection stability. *Macquarie University Statistics Seminar*, Sydney, Australia, September **2015**.
14. Interactive and data adaptive model selection with mplot. *University of Newcastle Statistics Seminar Series*, Newcastle, Australia, October **2015**.
15. Robust methods and model selection. *CARMA Retreat – Priority Research Centre for Computer-Assisted Research Mathematics and its Applications*, Newcastle, Australia, September **2015**.
16. Shiny packages in R: the mplot experience. *The University of Sydney School of Mathematics and Statistics, Statistical Bioinformatics Meeting*, Sydney, Australia, January **2015**.
17. A stability based approach to model selection. *The University of Sydney Business School, Discipline of Business Analytics*, Sydney, Australia, January **2015**.
18. Visualising variable selection: the mplot package. *University of Wollongong, NIASRA Fellows Research Meeting*, Goulburn, Australia, November **2014**.
19. Robust estimation of scale and covariance with P_n and its application to precision matrix estimation. *University of Sydney, School of Mathematics and Statistics Seminar*, Sydney, Australia, September **2013**.
20. Robust estimation of scale and covariance with P_n and its application to PCA. *University of NSW, School of Mathematics and Statistics Seminar*, Sydney, Australia, April **2013**.

Industry seminars

21. Keeping up with R – modern data processing tools and visualisation. *Statistical Society of Australia Seminar*, Canberra, Australia, April **2017**.
22. Preliminary results from the stress and transport trial. *Meat Standards Australia Pathways Committee Meeting*, Brisbane, Australia, September **2016**.
23. Accuracy of the MSA model. *Meat Standards Australia Taskforce Committee Meeting*, Brisbane, Australia, May **2016**.
24. Meat colour and packaging. *Meat Standards Australia Pathways Committee Meeting*, Melbourne, Australia, April **2016**.
25. Meat colour and packaging. *Teys Australia*, Brisbane, Australia, March **2016**.
26. Robust methods and model selection. *Meat Standards Australia Pathways Committee Meeting*, Sydney, Australia, September **2014**.

Contributed

27. Visualising model selection stability in high-dimensional regression models. *Biometrics by the Border: The International Biometric Society Australasian Region Conference*, Kingscliff, Australia, November **2017**.
28. Model selection stability with mplot. *International Biometric Conference*, Victoria, Canada, July **2016**.
29. Interactive and data adaptive model selection with mplot. *International Biometric Society Australasian Region Conference*, Hobart, Australia, December **2015**.
30. A pairwise approach to estimating precision and covariance matrices under cellwise contamination. *Robust Statistics and Extremes*, Australian National University, Canberra, Australia, September **2014**.
31. Robust estimation of precision matrices under cellwise contamination. *International Conference on Computational Statistics*, Geneva, Switzerland, August **2014**.
32. Robust scale and autocovariance estimation. *European Meeting of Statisticians*, Budapest, Hungary, June **2013**.
33. Robust covariance estimation via quantiles of pairwise means and applications. *International Conference on Robust Statistics*, Saint Petersburg, Russia, July **2013**.

34. Robust scale estimation with extensions. *Young Statisticians Conference*, Melbourne, Australia, February **2013**.
35. Robust covariance estimation with P_n . *Australian Statistical Conference*, Adelaide, Australia, July **2012**.
36. Efficient and robust scale estimation. *International Conference on Robust Statistics*, Valladolid, Spain, June **2011**.
37. Quantile regression confidence intervals: theoretical exposition and empirical findings. *Young Statisticians Conference*, Sydney, Australia, September **2009**.

Education

- 2010–2014 **Doctor of Philosophy in Science (Mathematical Statistics)**, *University of Sydney*.
Academic supervisors: Neville Weber and Samuel Müller
- 2003–2009 **Bachelor of Science (Advanced) Honours I**, *University of Sydney*.
Financial Mathematics and Statistics
- 2003–2008 **Bachelor of Commerce**, *University of Sydney*.
Econometrics and Finance

Professional service

Conference organisation

- Co-organiser of the International Conference on Robust Statistics (ICORS), July 3-7 **2017**, Wollongong, Australia.
- Organiser of the invited paper session, 'Modelling complex data', International Conference of the ERCIM WG on Computational and Methodological Statistics (CMStatistics), December 16-18 **2017**, London, UK.
- Organiser of the invited paper session, 'Advanced Graphical and Computational Methods', International Conference on Econometrics and Statistics (EcoSta), June 15-17 **2017**, Hong Kong.
- Organiser of the invited paper session, 'Health analytics and informatics', International Congress on Modelling and Simulation (MODSIM), December 3-8 **2017**, Hobart, Australia.
- Organiser of 'Much more than U -statistics: A symposium to celebrate Neville C. Weber', January 30 **2015**, Sydney, Australia (jointly with Samuel Mueller).
- Member of the scientific program committee member, SSAI Young Statisticians Conference, February 7-8 **2013**, Melbourne, Australia.
- Chair of the scientific program committee, SSAI Young Statisticians Conference, July 14-15 **2011**, Brisbane, Australia.

Committees and boards

- since 2016 Acting program convenor, Master of Data Science and Analytics, School of Mathematical and Physical Sciences, University of Newcastle
- 2016-2017 Strategic hires committee, School of Mathematical and Physical Sciences, University of Newcastle
- since 2015 Statistical and methodological advisor, Meat Standards Australia Pathways Committee
- 2014-2015 College contact, ANU early career researcher network (NECTAR)
- 2012-2013 Postgraduate representative, University of Sydney School of Mathematics and Statistics Research Committee
- 2011-2013 Postgraduate representative, University of Sydney School of Mathematics and Statistics Board

Refereeing

Computational Statistics and Data Analysis (2); Festschrift in Honour of Hannu Oja; PLOS ONE; Sri Lankan Journal of Applied Statistics; Statistica Neerlandica; Statistics & Probability Letters; Studies in Higher Education (2); The R Journal; Australian Conference on Teaching Statistics (OZCOTS); PhD Thesis (UMelb)

Professional affiliations and societies

- since 2009 Statistical Society of Australia
- since 2011 Australian Mathematical Society
- since 2014 American Statistical Association
- since 2015 International Biometrics Society
- since 2015 Priority Research Centre for Computer-Assisted Research Mathematics and its Applications (CARMA)

July 20, 2017