

---

CONTACT INFORMATION	Cotton Building 536 Victoria University of Wellington Kelburn, Wellington 6012 New Zealand	Phone: +64 4 463 5275 E-mail: <a href="mailto:Ryan.Admiraal@vuw.ac.nz">Ryan.Admiraal@vuw.ac.nz</a> Web: <a href="http://homepages.ecs.vuw.ac.nz/~admirary/">http://homepages.ecs.vuw.ac.nz/~admirary/</a>
RESEARCH INTERESTS	Social network analysis, including exponential family random graph models, two-sided matching models, revealed preference models, and sequential importance sampling; network models for contact-based disease transmission; impact assessment for water supply, sanitation, and hygiene interventions; water economics.	
EDUCATION	<b>University of Washington</b> , Seattle, WA, USA Ph.D., Statistics	(2002 – 2009)
	<b>Calvin College</b> , Grand Rapids, MI, USA B.A., Mathematics and English	(1998 – 2002)
ACADEMIC POSITIONS	<b>Victoria University of Wellington</b> , Wellington, New Zealand Senior Lecturer (equiv. Associate Professor)	(2019 – 2022)
	<b>Murdoch University</b> , Perth, WA, Australia Senior Lecturer	(2018 – 2019)
	Lecturer (equiv. Assistant Professor)	(2009 – 2017)
TEACHING	<b>Victoria University of Wellington</b>	
	<b>DATA101</b> <i>Introduction to Data Science</i>	(2019 – 2022)
	<ul style="list-style-type: none"> <li>• Coordinated first year data science course for approximately 50–100 students.</li> <li>• Topics: Types of data, principles of information systems, databases, data generation, acquisition, transmission and storage, and aspects of data ethics and security.</li> </ul>	
	<b>DATA202/DATA472</b> <i>Data Management and Programming</i>	(2019 – 2022)
	<ul style="list-style-type: none"> <li>• Co-taught second year data science course for approximately 100–125 students.</li> <li>• Topics: Principles and practice of writing code, statistical computing in R, SQL.</li> </ul>	
	<b>DATA303/DATA473</b> <i>Statistics for Data Science</i>	(2020 – 2022)
	<ul style="list-style-type: none"> <li>• Co-taught third year data science course for 20–60 students.</li> <li>• Topics: Generalised linear models, statistical inference, statistical learning.</li> </ul>	

**STAT292 *Applied Statistics 2A*** (2019 – 2022)

- Co-taught second year statistics course for approximately 250–300 students.
- Topics: Experimental design, statistical methods (hypothesis tests, generalised linear models) for binary, count, and continuous data, statistical computing in SAS.

**STAT452 *Bayesian Statistics*** (2020 – 2022)

- Co-taught postgraduate statistics course for approximately 15–20 students.
- Topics: Probability distributions, Bayes' theorem, Markov chain Monte Carlo, statistical computing in R.

**Murdoch University****MAS164/OMAS110 *Fundamentals of Mathematics*** (2013 – 2018)

- Coordinated first year mathematics course for 100–275 students.
- Topics: Algebra, systems of equations, polynomials, pre-calculus, trigonometry, exponentials and logarithms, derivatives and integrals.

**MAS222 *Probability and Statistical Inference*** (2009 – 2015, 2018)

- Coordinated second year statistics course for 10–25 students.
- Topics: Probability theory, mathematical expectation, distribution theory, sampling distributions, likelihood inference, Wald and likelihood ratio tests.

**MAS223 *Applied Statistics*** (2016 – 2018)

- Designed and coordinated second year statistics course for 30–60 students.
- Topics: Resampling methods, linear regression, model prediction, principal component analysis, discriminant analysis, cluster analysis, statistical computing in R.

**MAS224 *Biostatistical Methods*** (2009 – 2010)

- Coordinated second year statistics course for 40–50 students.
- Topics: Hypothesis tests, linear regression, logistic regression, survival analysis.

**MAS353 *Statistical Design and Data Analysis*** (2010 – 2011, 2014)

- Coordinated third year statistics course for 30–40 students.
- Topics: Hypothesis tests, general linear model, linear mixed effects models, generalised linear models.

**MAS514 *Research Methods in Mathematics and Statistics*** (2017)

- Designed and coordinated honours statistics course for 1 student.
- Topics: Types of network data; network graphs, structure, and statistics; models for network data, including exponential family random graph models.

**MAS540 Mathematics for Teaching Secondary (7–10) (2017)**

- Co-designed and coordinated postgraduate mathematics course for 30 students.
- Topics: Algebra, systems of equations, polynomials, pre-calculus, trigonometry, exponentials and logarithms, derivatives and integrals, mathematics history.

**MAS4012 Bayesian Statistics (2011)**

- Designed and coordinated honours statistics course for 4 students.
- Topics: Bayesian probability, derivation of posterior distributions, Markov chain Monte Carlo (including Gibbs sampler, Metropolis, and Metropolis-Hastings algorithms), statistical computing in R.

**BBS300 Empirical Research for Business (2017 – 2018)**

- Designed and coordinated third year statistics course for 35–60 students.
- Topics: Experimental design, descriptive statistics, linear regression, parametric and non-parametric tests for means for multiple samples.

**ICT513 Data Analytics (2017 – 2018)**

- Designed and coordinated master's statistics course for 7–15 students.
- Topics: Linear regression, multivariate statistics, model prediction, statistical computing in R.

**University of Washington****STAT 220 Principals of Statistical Reasoning (2008)**

- Coordinated first year statistics course for 70 students.

**STUDENT  
SUPERVISION****Ph.D. Students**

- Louise Croeser (co-supervised with Treena Burgess, Giles Hardy, and Paul Barber) (2016 – 2021)
- Shu Hui Koh (co-supervised with Mike Jones and Steve Wylie) (2013 – 2017)

**Honours Students**

- David Mundy (co-supervised with Neil Loneragan) (2019 – 2020)
- Shu Teng "Sharlene" Chew (2017)
- Claire Greenwell (co-supervised with Neil Loneragan and James Tweedley) (2017)
- Jeanette Hui Ling Koh (co-supervised with Ian James) (2014)
- Cara Allan (co-supervised with Andrew Thompson and Mark Ferguson) (2012)
- Tamra Kidner (co-supervised with Patricia Fleming) (2012)
- Oliver Berry (2011)
- Elyse Corless (2011)

**PUBLICATIONS**

30. **Admiraal, R.**, Urama, K., and Manzambi, O. Assessing income non-response for willingness-to-pay surveys in a middle and low income country context. (*In preparation*)
29. Croeser, L., **Admiraal, R.**, Barber, P., Burgess, T.I., and Hardy, G.E.S.J. The role of *Phytophthora* and water stress in predisposing a Mediterranean-type tree species to canker disease. (*In preparation*)

28. **Admiraal, R.**, Millen, J., Patel, A., and Chambers, T. Identification of at-risk individuals using network measures of centrality. *Social Networks*. (In preparation)
27. Claybrook, J., Loneragan, N.R., Hart, A.J., **Admiraal, R.**, and Lymbery, A. The ecology of *Octopus* aff. *O. tetricus* and prevalence of gnathostomatid nematodes in nearshore waters of temperate Western Australia. (In preparation)
26. Chambers, T., Anglemyer, A., Millen, J., Patel, A., Barrett, N., **Admiraal, R.**, Wilson, N., and Baker, M. A Government-funded, co-designed community trial of a Bluetooth-enabled card for contact tracing in New Zealand *Informatics for Health and Social Care*. (Under review)
25. Mundy, D., Loneragan, N.R., **Admiraal, R.**, and Hart, A.J. Estimating variation in abalone growth and shell morphology across a sea ranch in south-western Australia. *Frontiers in Marine Science*. (Revise and resubmit)
24. **Admiraal, R.**, Millen, J., Patel, A., and Chambers, T. (2022). A case study of Bluetooth technology as a supplemental tool in contact tracing. *Journal of Healthcare Informatics Research*. doi:10.1007/s41666-021-00112-9
23. Croeser, L., **Admiraal, R.**, Barber, P., Burgess, T.I., and Hardy, G.E.S.J. (2021). Reflectance spectroscopy to characterise the response of *Corymbia calophyllas* to *Phytophthora* root rot and waterlogging stress. *International Journal of Forestry Research* 1-19. doi:10.1093/forestry/cpab045
22. Greenwell, C.N., Born, K.S., Dunlop, J.N., Hodgson, A., **Admiraal, R.**, and Loneragan, N.R. (2021). Social facilitation for conservation planning: Understanding Fairy Tern behaviour and site selection in response to conspecific cues. *Endangered Species Research* 45:147–157. doi:10.3354/esr01127
21. Greenwell, C.N., Dunlop, J.N., **Admiraal, R.**, and Loneragan, N.R. (2021). The secret life of Fairy Terns: Breeding chronology and life history observations of *Sternula nereis* in south-western Australia. *Pacific Conservation Biology* 27(2):143–154. doi:10.1071/PC20056
20. Obregón, C., **Admiraal, R.**, van Putten, I., Hughes, M., Tweedley, J.R., and Loneragan, N.R. (2020). Who you speak to matters: Information sharing and the management of a small-scale fishery. *Frontiers in Marine Science* 7:578014:1–16. doi:10.3389/fmars.2020.578014
19. Zirakbash, T., **Admiraal, R.**, Boronina, A., Anda, M., and Bahri, P.A. (2020) Assessing interpolation methods for accuracy of design groundwater levels for civil projects. *Journal of Hydrologic Engineering* 25(9). doi:10.1061/(ASCE)HE.1943-5584.0001982
18. Germanov, E.S, Marshall, A.D, Hedrawan, I.G., **Admiraal, R.**, Rohner, C.A., Argeswara, J., Raka, W., Himawan, M.R., and Loneragan, N.R. (2019). Microplastics on the menu: Plastics pollute Indonesian manta ray and whale shark feeding grounds. *Frontiers in Marine Science* 6(679):1–21. doi:10.3389/fmars.2019.00679
17. Sequeira, A.R., **Admiraal, R.**, Herculano, L.M.L., Conceição, F.B., Monguela, A.S., McHenry, M.P., Kobryn, H.T., and Doepel, D. (2019). Assessing the short-term outcomes of a piped water supply intervention in peri-urban Mozambique. *Journal of Water, Sanitation and Hygiene for Development* 9(2):348–355. doi:10.2166/washdev.2019.158
16. Greenwell, C.N., Loneragan, N.R., **Admiraal, R.**, Tweedley, J.R., and Wall, M. (2019). Octopus as predators of abalone on a sea-ranch. *Fisheries Management and Ecology* 26(2):108–118. doi:10.1111/fme.12328

15. Barnes, A., Wickham, S., **Admiraal, R.**, Miller, D., Collins, T., and Fleming, P. (2018). Characterization of inappetent sheep in a feedlot using radio tracking technology. *Journal of Animal Science* 96(3):902–911. doi:10.1093/jas/skx004
14. Koh, S.H., Li, H., Sivasithamparam, K., **Admiraal, R.**, Jones, M.G.K., and Wylie, S.J. (2018). Low root-to-root transmission of a tobamovirus, yellow tailflower mild mottle virus, and resilience of its virions. *Plant Pathology* 67(3):651–659. doi:10.1111/ppa.12758
13. **Admiraal, R.**, Sequeira, A.R., McHenry, M.P., and Doepel, D. (2017). Maximizing the impact of mining investment in water infrastructure for local communities. *The Extractive Industries and Society* 4(2017):240–250. doi:10.1016/j.exis.2017.01.014
12. Worrell, T., **Admiraal, R.**, Bateman, P.W., and Fleming, P.A. (2017). Are tourism and conservation compatible for 'island tame' species? *Animal Conservation* 20(2):155–163. doi:10.1111/acv.12301
11. Koh, S.H., Li, H., Sivasithamparam, K., **Admiraal, R.**, Jones, M.G.K., and Wylie, S.J. (2017). Evolution of a wild-plant tobamovirus passaged through an exotic host: Fixation of mutations and increased replication. *Virus Evolution* 3(1):1–6. doi:10.1093/ve/vex001
10. **Admiraal, R.** and Handcock, M.S. (2016). Modeling concurrency and selective mixing in heterosexual partnership networks with applications to sexually transmitted diseases. *Annals of Applied Statistics* 10(4):2021–2045. doi:10.1214/16-AOAS963
9. Koh, S.H., Ong, J.W.L., **Admiraal, R.**, Sivasithamparam, K., Jones, M.G.K., and Wylie, S.J. (2016). A novel member of the *Tombusviridae* from a wild legume, *Gompholobium preissii*. *Archives of Virology* 161(10):2893–2898. doi:10.1007/s00705-016-2992-7
8. Mason, S., Newsome, D., Moore, S., and **Admiraal, R.** (2015). Recreational trampling negatively impacts vegetation structure of an Australian biodiversity hotspot. *Biodiversity and Conservation* 24(11):2685–2707. doi:10.1007/s10531-015-0957-x
7. Koh, S.H., Li, H., **Admiraal, R.**, Jones, M.G.K., and Wylie, S.J. (2015). Catharanthus mosaic virus: A potyvirus from a gymnosperm, *Welwitschia mirabilis*. *Virus Research* 203(2013):41–46. doi:10.1016/j.virusres.2015.03.007
6. Kobryn, H.T., Lantzke, R., Bell, R., and **Admiraal, R.** (2015). Remote sensing for assessing the zone of benefit where deep drains improve productivity of land affected by shallow saline groundwater. *Journal of Environmental Management* 150:138–148. doi:10.1016/j.jenvman.2014.11.017
5. **Admiraal, R.** and Handcock, M.S. (2015). A log-linear modelling approach to assessing the consistency of ego reports of dyadic outcomes with applications to fertility and sexual partnerships. *Journal of the Royal Statistical Society, Series A: Statistics and Society* 178(2):363–382. doi:10.1111/rssa.12067
4. **Admiraal, R.** and Doepel, D. (2014). Using baseline surveys to inform interventions and follow-up surveys: A case-study using the Nampula Province Water, Sanitation, and Hygiene Program. *Journal of Water, Sanitation and Hygiene for Development* 4(3):410–421. doi:10.2166/washdev.2014.145

3. Barrington, D.J. and **Admiraal, R. (2014)**. Learning by design: Lessons from a baseline study in the NAMWASH Small Towns Programme, Mozambique. *Waterlines* 33(1):13–25. doi:10.3362/1756-3488.2014.003
  2. Rendall, M.S., **Admiraal, R.**, DeRose, A., DiGiulio, P., Handcock, M.S., and Racioppi, F. (2008). Population constraints on pooled surveys in demographic hazard modeling. *Statistical Methods and Applications* 17(4):519–539. doi:10.1007/s10260-008-0106-8
  1. **Admiraal, R.** and Handcock, M.S. (2008). networksis: A package to simulate bipartite graphs with fixed marginals through sequential importance sampling. *Journal of Statistical Software* 24(8). doi:10.18637/jss.v024.i08
- TECHNICAL  
REPORTS AND  
WORKING  
PAPERS
5. **Admiraal, R.**, Sequeira, A.R., McHenry, M.P., Doepel, D., Herculano, L.M.L., Conceição, F.B., Monguela, A.S., Urama, K., and Manzambi, O. (2015). *Using Natural Resource Wealth to Improve Access to Water and Sanitation in Mozambique: A 2012 Australian Development Research Awards Scheme Project—Final Report, October 2015*. Technical Report, Murdoch University.
  4. **Admiraal, R.**, Doepel, D., Ho, G., Schibeci, R., McGarty, C., Barrington, D.J., and McHenry, M.P. (2013). *Improving the Lives of Children and Other Vulnerable Groups: The Suitability of a Baseline Study in Water Quality, Sanitation and Hygiene to Provide Information That can be Used in Post-Intervention Evaluation*. Technical Report, Murdoch University.
  3. Beckwith, J.A., Moore, S.A., Clement, S.E., Curnow, B.D., and **Admiraal, R. (2010)**. *The impact of forest thinning on perceptions of recreational value and forest health*. Technical Report of Research Findings. Wungong Catchment Trial. Water Corporation, Perth.
  2. **Admiraal, R.** and Handcock, M.S. (2006). *Sequential importance sampling for bipartite graphs with applications to likelihood-based inference*. Technical Report no. 502, Department of Statistics, University of Washington.
  1. Rendall, M.S., Joyner, K., Peters, H.E., Yang, F.T., Handcock, M.S., and **Admiraal, R. (2006)**. *Combining population and survey data for male fertility estimation*. Working Paper no. 2006-2, Transition to Fatherhood Project, Cornell University.
- CONFERENCE  
PROCEEDINGS
1. Rendall, M.S., **Admiraal, R.**, DeRose, A., DiGiulio, P., Handcock, M.S., and Racioppi, F. (2006). Estimating first birth probabilities in Italy by combining population and survey data. In *Societa Italiana di Statistica: Proceedings of the XLIII Scientific Meeting*, Torino, 14–16 June 2006:151-154.
- PRESENTED  
PAPERS
2. Rendall, M.S., **Admiraal, R.**, Handcock, M.S., and Joyner, K. (2006). Early entry to fatherhood estimated from men’s and women’s survey reports in combination. Presented at the *National Survey of Family Growth Research Conference*, Hyattsville, MD, USA, 19–20 October.
  1. **Admiraal, R.**, Handcock, M.S., Joyner, K., Peters, H.E., Rendall, M.S., and Yang, F.T. (2006). A Bayesian approach to combining population and survey data for male fertility estimation. Presented at the *Population Association of America Annual Meeting Program*, Los Angeles, CA, USA, 20 March – 1 April.

- PRESENTATIONS
12. **Admiraal, R.** and Handcock, M.S. (2016). Modeling concurrency and selective mixing in heterosexual partnership networks with applications to sexually transmitted diseases. Presented at the *Joint Statistical Meetings*, Chicago, USA, 30 July – 4 August.
  11. **Admiraal, R.**, Sequeira, A.R., McHenry, M.P., Doepel, D., Herculano, L.M.L., Conceição, F.B., Monguela, A.S., Urama, K., and Manzambi, O. (2015). How infrastructure can benefit from the presence of mining: A case study in water delivery in Mozambique. Presented at the *Australian Development Research Awards Scheme Programme Roadshow: “Making Growth Inclusive: The Role of Mining in the Post-2015 Development Agenda for Africa”*, Abuja, Nigeria, 6 October.
  10. **Admiraal, R.**, Sequeira, A.R., McHenry, M.P., Doepel, D., Herculano, L.M.L., Conceição, F.B., Monguela, A.S., Urama, K., and Manzambi, O. (2015). Using natural resource wealth to improve access to water and sanitation. Presented at the *Australian Development Research Awards Scheme Programme Roadshow: “Making Growth Inclusive: The Role of Mining in the Post-2015 Development Agenda for Africa”*, Maputo, Mozambique, 2 October.
  9. **Admiraal, R.**, Sequeira, A.R., McHenry, M.P., and Doepel, D. (2015). Maximising the impact of mining investment in water infrastructure for local communities. Presented at the *4<sup>th</sup> Annual Africa Australia Research Forum: Teamwork in Africa—Working Together for Positive Outcomes*, Perth, Australia, 2 September.
  8. James, I., Koh, J., and **Admiraal, R.** (2015). Analysis of times to threshold based on sequential observations and weighted Cox models. Presented at the *36<sup>th</sup> Annual Conference of the International Society for Clinical Biostatistics*, Utrecht, Netherlands, 23–27 August.
  7. Morrison-Saunders, A., **Admiraal, R.**, McHenry, M.P., and Doepel, D. (2014). Planning for HIV prevention in the extractive industry in Africa through enhanced environmental impact assessment. Presented at the *37<sup>th</sup> African Studies Association of Australasia and the Pacific Conference: “Africa: Diversity and Development”*, Dunedin, New Zealand, 25–26 November.
  6. Mason, S., Newsome, D., Moore, S., and **Admiraal, R.** (2014). Response of vegetation to recreational trampling damage in a global biodiversity hotspot: indicative data from three national parks. Presented at the *MEDECOS XIII International Mediterranean Ecosystems Conference: “Crossing Boundaries Across Disciplines and Scales”*, Olmué, Chile, 6–9 October.
  5. **Admiraal, R.** and Handcock, M.S. (2014). Modeling concurrency and selective mixing in heterosexual partnership networks with applications to sexually transmitted diseases. Presented at the *University of California at Los Angeles Department of Statistics Seminar Series*, Los Angeles, CA, USA, 21 January.
  4. **Admiraal, R.** and Handcock, M.S. (2013). Generating heterosexual partnership networks with degree distributions and mixing totals estimated from egocentric data. Presented at the *SSAI WA Branch Seminar Series*, Perth, WA, Australia, 12 March.

3. **Admiraal, R.** and Handcock, M.S. (2012). Assessing the consistency of ego reports of dyadic outcomes with applications to fertility and sexual partnerships. Presented at the *SSAI WA Branch Seminar Series*, Perth, WA, Australia, 13 March.
2. **Admiraal, R.** and Handcock, M.S. (2010). Revealed preference models for network inference. Presented at the *Australian Statistical Conference 2010: "Statistics in the West: Understanding Our World"*, Perth, WA, Australia, 1 December.
1. **Admiraal, R.**, Handcock, M.S., and Morris, M. (2008). Models for selective mixing and concurrency in dynamic heterosexual networks. Presented at the *SIAM Annual Meeting*, San Diego, CA, USA, 8 July.

STATISTICAL  
SOFTWARE

2. Handcock, M.S., **Admiraal, R.**, Yeung, F., and Goyal, S. (2021). *rpm: Modeling of revealed preferences matchings*. Version 0.6.
1. **Admiraal, R.** and Handcock, M.S. (2008). *networksis: an R package used to simulate bipartite graphs and graph statistics through sequential importance sampling*. Version 2.1-2.

GRANTS

2. Australian Development Research Awards Scheme (May 2013 – Oct. 2015)  
*Using natural resource wealth to improve access to water and sanitation (Mozambique)*  
AUD 538,642
1. Australia Africa Universities Network (Mar. 2014 – Oct. 2014)  
*Integrating HIV and gender-related issues into environmental assessments for Australian mining companies operating in Africa*  
AUD 14,000

PROFESSIONAL  
ORGANISATIONS  
AWARDS AND  
RECOGNITION

New Zealand Statistical Association

Nominee, Murdoch University Vice Chancellor's Awards for Excellence in Learning and Teaching (2012, 2018)

- Ranked in the top 10% of teaching staff on student surveys and nominated by students.

Dorothy M. Gilford Teaching Award (2008)

- Awarded by the University of Washington Department of Statistics for outstanding performance by a graduate student as a pre-doctoral instructor or teaching assistant.