

PERSONAL INFORMATION

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0. SKILLS SUMMARY

Employment Experience

7 years **Academic/Lecturer**

20+ years **Consultant**

20+ years **Research Scientist**

20+ years **Software/Computer Programmer**

25 years **Educator**

Qualitative Skills

Project Leader; Staff Manager; Research Student Supervisor; Student Course Advisor; Student Career Advisor; International tertiary student submissions assessor; University Open day program organiser and representative; International journal peer reviewer; International journal editor; Author; Academic Research Collaborator; Professional Industry Stakeholder Collaborator; Conference chair, organiser, committee member; Invited speaker technical Invited speaker and panelist; STEAM mentoring programs; STEAM ambassador; Academic committee member; Budget management and advisor; Excellent analytical, strategic conceptual thinking, strategic planning, and execution skills; In-depth understanding of current and emerging technologies such as artificial intelligence, and machine learning and how the industry is utilising them; Ability to influence across the business without direct report line authority; Excellent communication skills; 25 years experience in data security

Technical Expertise

Research Focus: Circular distributions; Cylindrical distributions; Time-series; Partial likelihoods; Zero-inflated distributions; Inference for zero-inflated distributions; GAMs; GLMMs; HMMs; Statistical ecology methods; Hypothesis tests for two-sample occupancy models; Equivalence test. Analysis of high-dimensional data sets; Statistical ecology methods and applications; Spatiotemporal modelling for highly heterogeneous and large scale data eg biological and gene data. Machine learning methods; Computational algorithms; Classification methods; Multivariate methods. Biostatistics, epidemiology and medical statistics

Neuroscience, Teaching, Research, Consulting: Big Data: Mining, AI, biological data • Inference Data mining and pattern recognition • Generalised Linear mixed models (GLMMs) • Mixture models • Time-series, AR modelling • Graphical analysis • Data Visualization • Multivariate and functional data analysis methods eg cluster analysis, principal components analysis, and discriminant analysis • Hidden Markov Models (HMMs) • Cylindrical distribution models (CDMs) • Generalised estimating equations (GEEs) • Functional models.

Machine learning, AI. machine learning techniques: clustering, dimensionality reduction, variable selection, cross validation, neural networks, gradient boosting, linear and logistic regression

Ecology, Biosecurity, Agricultural, Environmental Sciences, Teaching, Research, Consulting: Occupancy modelling • Survey design • Frailty models • Analysing longitudinal data • Power analyses • Generalised linear modelling • Generalised linear mixed modelling • Generalised additive modelling • Capture-recapture statistics • Spatially explicit capture-recapture modelling • Distance sampling • Survival analysis • Heavily censored data • Species distribution modelling • REML • Frailty models.

Software and Programming Expertise

I am a software programmer in industry, and in academic research and education. For example, my R package, *twostage* (in publication) that I coded which implements my statistical methods for occupancy estimation in ecology. An example of programming for commercial purposes includes software in VBA.

Programming, Research, Analysis, Modelling, Database & Spreadsheet, Teaching

R, Shiny, Python, C++, HTML, Stata, VBA, Ruby, SQL, Matlab, Mathematica, Genstat, Stata, SPSS, Minitab, MS Excel at Risk, MS Access

Unix/Linux proficiency: command line tools, shell scripting

Website Development

HTML, Javascript, Ruby for Github

Word Processing, Editing, Presentations

Latex, Beamer, Overleaf, MS Word, Adobe Acrobat, Adobe Photoshop, MS Powerpoint

1. EMPLOYMENT:

PROFESSIONAL, ACADEMIC

AND RESEARCH

2018–2021 **Lecturer & Researcher**

Department of Mathematics and Statistics
La Trobe University, Melbourne, Australia

2016–2017 **Lecturer & Researcher**

School of Mathematics and Statistics
University of Melbourne, Melbourne, Australia

2016–2017 **Postdoctoral Research Fellow**

School of Biosciences
University of Melbourne, Melbourne, Australia

Project: How can the score test be consistent?

2015 **Postdoctoral Research Fellow**

School of Mathematical and Geospatial Sciences
RMIT University, Melbourne, Australia

Project title: New statistical approaches for analysing species distributions.

2009–2014 **PhD Candidate**

School of Mathematics and Statistics
University of Melbourne, Melbourne, Australia

2006–2014 **University Teaching Assistant (Tutor), Lab Instructor, Examiner**

School of Mathematics and Statistics
University of Melbourne, Melbourne, Australia

2009–2012 **Doctoral Data Research Scientist, Project Lead, Statistical Consultant**

Parks Victoria, Melbourne, Australia

Project title: Fox Control Program

Predoctoral Positions

2008 **Research Fellow**

School of Food and Land Sciences
University of Melbourne, Melbourne, Australia Deakin University, Melbourne, Australia

Project title: Estimating Annual probability of infection for quantitative microbial risk assessment

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- 2004–2007 **Biometrician, Research Associate, Supervisor, Statistical Consultant, Programmer, Research Fellow, Project Lead**
 Department of Environment, Land, Water and Planning (DELWP) (previously Department of Primary Industries)
 Victorian State Government, Melbourne, Australia
- 2001–2003 **Epidemiologist, Data Scientist, Biostatistician, Statistical Consultant, Programmer, Research Fellow, Project Lead**
 Cancer Epidemiology Centre
 Cancer Council of Victoria, Melbourne, Australia
- 2001–2003 **Teaching Assistant, Lab Instructor, Examiner**
 School of Mathematics and Statistics
 University of Melbourne, Melbourne, Australia
- 2000 **Bachelor of Science Honours in Statistics**
 School of Mathematics and Statistics
 University of Melbourne, Melbourne, Australia
- 2000 **Research Assistant, Statistical Consultant**
 Statistical Consulting Centre
 School of Mathematics and Statistics
 University of Melbourne, Melbourne, Australia
- 1998–2000 **Tutor (Primary and Secondary - Sciences)**
 Melbourne, Australia
- 1999 **Research Assistant**
 School of Medicine
 University of Crete, Crete, Greece
- 1999 **Translator International Science Journal (Greek to English)**
 Athens, Greece
- 1999 **Business and Marketing Consultant and Analyst**
 Athens, Greece
- 1998–1999 **Tutor (Primary, Secondary, Tertiary - Sciences)**
 Athens and Crete, Greece
- 1999 **Fashion Stylist & Retail Customer Service**
 Athens and Crete, Greece
- 1992–1998 **Fashion Stylist & Retail Customer Service**
 Melbourne, Australia

2. APPOINTMENTS: HONORARY

AND SERVICE

- 2016–2021 **Honorary Research Fellow**
 School of Mathematics and Statistics
 University of Melbourne, Melbourne, Australia

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- 2019 **Visiting Research Academic and Fellow**
Epilepsy Genetics Lab
Kirby Neurobiology Center, Boston Children's Hospital, Harvard University, USA
Department of Neurosciences, Harvard Medical School, Harvard University, USA
- 2019 **Visiting Research Academic and Fellow**
Statify (previously Mistis) Lab
Inria Grenoble Rhone-Alpes, France

3. ORGANISATIONAL ROLES

- 2018–2021 **Course Advisor Mathematics, Statistics, and Data Science** Bachelor of Science Course Program, La Trobe University, Australia
- 2018–2021 **International Student Application Assessor Mathematics, Statistics, Data Science** Bachelor of Science Course Program, La Trobe University, Australia
- 2018–2021 **International Student PhD Applicant Assessor** Department Mathematics and Statistics, La Trobe University, Australia
- 2018–2021 **Higher Degree Thesis Examiner** Department of Mathematics and Statistics, La Trobe University, Australia
- 2019–2021 **Course Program Development Committee Member** School of Engineering, Mathematics and Statistics, La Trobe University, Australia
- 2018–2020 **Fire Warden** School of Engineering, Mathematics and Statistics, La Trobe University, Australia
- 2001–2017 **Tutor at the First-Year Learning Centre**, Department of Mathematics, University of Melbourne

4. TERTIARY EDUCATION

- 2009–2015 **Ph.D. in Statistics**
School of Mathematics and Statistics
University of Melbourne, Melbourne, Australia
Thesis title: Methods for estimating occupancy.
Supervisors: Prof. Richard Huggins, A/Prof. Ray Watson, Ass. Prof. Andrew Robinson and Ass. Prof. Graham Hepworth
- 2000 **Bachelor of Science Honours in Statistics with First Class Honours**
School of Mathematics and Statistics
University of Melbourne, Melbourne, Australia
Thesis title: Methods of Meta-Analysis
Supervisors: Dr Ken Sharpe and Ass. Prof. Ian Gordon
- 1996 **Bachelor of Science (Statistics and Operations Research majors)**
School of Mathematics and Statistics
University of Melbourne, Melbourne, Australia

5. TEACHING AND COURSE

COORDINATION

Tertiary Teaching and Coordination

- 2020 **Biostatistics** (STA2/3BS, Undergraduate, Third year)
Keywords/Topics: design and analyse experiments in the life sciences and agriculture
Department of Mathematics and Statistics, La Trobe University, Australia
- 2019 **Engineering Probability and Statistics** (STM2/3EPS, Undergraduate, Third year)
Keywords/Topics: probability and statistics applied to engineering problems
Department of Engineering, Department of Mathematics and Statistics, La Trobe University, Australia
- 2018–2020 **Statistics** (STA3AS, Undergraduate Third year, and Fourth year Honours)
Keywords/Topics: Advanced statistical methods; Sample surveys; Multivariate methods; Time series methods
Department of Mathematics and Statistics, La Trobe University, Australia
- 2018–2020 **Applied Statistical Methods** (STA2ASM, Undergraduate, Second year)
Keywords/Topics: Applied Biostatistics and Applied Medical Statistics
Department of Mathematics and Statistics, La Trobe University, Australia
- 2018 **Linear Models** (STA3LM, Undergraduate, Third year)
Keywords/Topics: Advanced statistical methods
Department of Mathematics and Statistics, La Trobe University, Australia
- 2016–2017 **Thinking and Reasoning with Data** (MAST90044, Postgraduate: Masters, PhD, and Professional)
Keywords/Topics: sampling and experimental design; reporting of statistical analyses; common statistical procedures and application of standard statistical techniques
School of Mathematics and Statistics, University of Melbourne, Australia

Predocutorial Teaching, Computer Lab Instructor and Examiner

- 2010–2017 **Statistics for Research Workers** (MAST90007, Postgraduate: Masters, PhD, and Professional)
Keywords/Topics: principles of design and research; analysis of research; use of statistical software; assess published research critically from a statistical point of view
Statistical Consulting Centre, and School of Mathematics and Statistics, University of Melbourne, Australia
- 2008–2017 **Data Analysis** (MAST10010, Undergraduate, First year)
Keywords/Topics: foundations for an understanding of the fundamental concepts of probability and statistics required for data analysis
School of Mathematics and Statistics, University of Melbourne, Australia
- 2001–2017 **Experimental Design and Data Analysis** (MAST10011, Undergraduate, First year)
Keywords/Topics: Understanding the fundamental concepts of probability and statistics from experimental design and data analysis in the health sciences
School of Mathematics and Statistics, University of Melbourne, Australia
- 2009 **Critical Thinking with Data** (UNIB10006, Undergraduate, First year)
Keywords/Topics: identify strengths and weaknesses of arguments and reports based on quantitative evidence; learn to evaluate reasoning that uses probabilistic ideas
School of Mathematics and Statistics, University of Melbourne, Australia

2008 **Experimental Design and Data Analysis for Biomedical Science** (Undergraduate, First year)
Keywords/Topics: Introductory statistics for Biomedical students
School of Mathematics and Statistics, University of Melbourne, Australia

2007–2008 **Applied Statistics** (620-270, Undergraduate, Second year)
Keywords/Topics: Statistical Inference; Correlation and regression; ANOVA; ANCOVA; Design; Contingency tables
School of Mathematics and Statistics, University of Melbourne, Australia

2007–2008 **Experimental Design/Statistical Methods** (202-208, Undergraduate, Second year)
Keywords/Topics: estimation and hypothesis testing; programming; model fitting by estimating and testing hypotheses about model parameters
School of Mathematics and Statistics, University of Melbourne, Australia

Academic and Professional Teaching/Workshops

2004 **Design of Experiments** (3 day workshop, Professional Scientists)
Department of Primary Industries, Irymple, Victoria, Australia
(Author and Presenter Workshop Invited Presenter.)

Professional and Private Teaching

1999– **Private Teacher**
(Primary, Secondary, VCE, Tertiary Undergraduate/Postgraduate/Research, Professional/Research Scientists)
Keywords/Topics: Maths, Science, Chemistry, Physics, tertiary and professional Statistics

2006–2007 **Volunteer Teaching** (Primary and Secondary level)
Drop-in After School Tutoring Centre, Hanover Centre, Footscray Library
Keywords/Topics: Reading and Comprehension, Maths and Sciences

6. CONFERENCE

PRESENTATIONS

2019 **Estimating occupancy and fitting models.** 3rd Research School on Statistics and Data Science (RSSDS), July, La Trobe University, Melbourne, Australia (Springer)

2019] **Data mining swimming behaviour of adult zebrafish** (Accepted). 3rd International Conference on Econometrics and Statistics (EcoSta 2019), National Chung Hsing University, Taiwan

2018 **How can the score test be consistent?.** International Statistical Ecology Conference (ISEC) 2018, St Andrews, Scotland

2010 **Comparison of four bootstrap-based interval estimators of species occupancy and detection probabilities.** (Accepted) International Statistical Ecology Conference (ISEC), University of Kent, UK

2009 **Comparison of four bootstrap-based interval estimators of species occupancy and detection probabilities.** (Accepted) International Biometrics Society Australasian Region Conference (IBS), Taupo, New Zealand

Predoctoral

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- 2008 **Estimators of Annual Probability of Infection, Karavarsamis, N..** Speaker, Australasian Statistical Conference (ASC), Melbourne, Australia
- Conference Delegate**
- 2005 The 55th Session of the International Statistical Institute (ISI) . Sydney, NSW Australia. Conference Delegate. Funding: Denise Lievesley Young Statisticians Award, and Department of Primary Industries
- 2004 International Biometrics Conference joint Statistical Society of Australia (SSAI). Cairns, QLD, Australia. Conference delegate. Funding: Department of Primary Industries (DPI)
- 2001 The Australasian Epidemiological Conference and the Biostatistics Conference. Sydney, NSW, Australia

7. INVITED PRESENTATIONS

AND WORKSHOPS: ACADEMIC

RESEARCH AND

PROFESSIONAL

Invited Academic Research Presentations

- 2019 **Circular statistics and data mining for Zebrafish models**
Location: Boston Children's Hospital and Department of Neuroscience, Harvard University, USA
- 2019 **Estimating occupancy and the two-stage approach**
Location: INRIA Seminar Series. Grenoble, France
- 2019 **Circular statistics and data mining for Zebrafish models**
Location: INRIA Seminar Series. Grenoble, France
- 2019 **Estimating occupancy and fitting models**
Location: Monash Statistics Seminar Series, Monash University, Australia
- 2019 **Circular statistics for Zebrafish**
Location: Joint Harvard and La Trobe University Special Seminar, La Trobe University, Australia
- 2019 **Estimating occupancy and the two-stage approach**
Location: RMIT Data Analytics Seminar Series. RMIT University, Australia
- 2018 **How can the score test be consistent?**
Location: La Trobe–Kyushu Joint Seminar Series, La Trobe University, Australia
- 2018 **How can the score test be consistent?**
Location: Statistical Seminar Series, La Trobe University, Australia
- 2014 **Methods for Estimating Occupancy** (PhD Completion Seminar)
Location: School of Mathematics and Statistics, University of Melbourne, Australia
- 2013 **Occupancy Models**
Location: Fortnightly seminar series. School of Mathematics and Statistics, University of Melbourne, Australia

2009–2012 **Regular Journal Club Presenter**

Location: School of Mathematics and Statistics, University of Melbourne, Australia

2010 **Methods for Occupancy**

Location: Seminar Series, ACERA, University of Melbourne, Australia

Professional and Predoctoral Workshops

2004 **Design of Experiments.** Intensive Workshop. Department of Primary Industries, Irymple, Victoria, Australia

2003 **Energy-adjustment methods for nutrient data.** Invited Speaker. Work-in-Progress (WIP) Statistics Seminar Series. Centre for Genetic Epidemiology & School of Public Health, University of Melbourne, Australia

8. MAJOR PROJECTS:

ACADEMIC, RESEARCH AND

PROFESSIONAL

2018–2020 **Project Leader and Chief Statistician/Data Scientist** (Harvard University and Boston Children's Hospital and Department of Neuroscience)

Project: Circular and Cylindrical distributions for correlated time series data: Zebrafish for new pathways of neuroscience in gene brain mapping childhood epilepsy

2018–2020 **Project Leader and Chief Statistician/Data Scientist** (Harvard University and Boston Children's Hospital and Department of Neuroscience)

Project: High-throughput data analysis, spatiotemporal methods, Machine learning, Data Mining for heterogeneous and large scale data on zebrafish for new pathways of neuroscience in gene brain mapping childhood epilepsy

2016–2017 **Project Leader and Chief Statistician/Data Scientist** (School of Biosciences, and School of Mathematics and Statistics, University of Melbourne, Australia)

Project: How can the score test be consistent? Funding: Australian Research Council

2015 **Project Leader and Chief Statistician/Data Scientist** (RMIT, Australia)

Project: New statistical approaches for analysing species distributions

Funding: Australian Research Council

2009–2010 **Project Leader and Chief Statistician** (School of Mathematics and Statistics, University of Melbourne, Australia)

Project: Fox Control Program in Victoria

Stakeholders: Parks Victoria, and School of Mathematics and Statistics (University of Melbourne, Australia)

Funding: PhD Stipend, Parks Victoria

2008 **Project Leader and Chief Statistician** Melbourne School of Land and Environment, University of Melbourne, Australia

Project: Estimating Annual probability of infection for quantitative microbial risk assessment

Funding: ARC Industry Linkage Grant.

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- 2006–2007 **Project Co-Leader and Chief Statistician** (Department of Primary Industries, Australia)
 Project: Validating the yield performance of alternatives to methyl bromide for pre-plant fumigation
 Stakeholders: TEAP and UNEP
- 2003–2005 **Chief Investigator and Chief Statistician** (Department of Primary Industries, Australia)
 Project: Reducing Spoilage and Contamination Risks of Fresh Vegetables in China and Australia, Chinese Collaboration
 Stakeholders: China, Department of Primary Industries
- 2004 **Chief Investigator and Chief Statistician** (Department of Primary Industries, Australia)
 Project: Importation Risk Analysis for Apples from New Zealand
 Stakeholders: Australian Government
- 2001–2003 **Senior Investigator and Senior Statistician** (Cancer Council of Victoria, Australia)
 Project: Melbourne Collaborative Cohort Study (MCCS) - 10 year follow-up, commenced 1990
- 2001–2003 **Senior Investigator and Senior Statistician** (Cancer Council of Victoria, Australia)
 Project: Eating Patterns and Food Consumption Survey and Methods Development, MCCS
- 2001–2003 **Project Leader, Chief Statistician and Chief Programmer** (Cancer Council of Victoria, Australia)
 Project: Nutrient Analysis Methods Development and Testing. Software testing (Visual Basic-VBA) and software development in STATA
 Stakeholders: Commercial product
- 1999 **Chief Statistician** (University of Crete, Greece)
 Project: European Union Seven Countries Study
 Stakeholders: European Union

9. FUNDING

Grants, awards and funding

- 2019–2020 **Discovery Early Career Researcher Award (DECRA) Fellowship Support Program**
 La Trobe University, Australia
- 2019–2020 **DECRA CANDIDATE** (300000 AUD)
 Australian Research Council (ARC))
- 2019 **Fulbright Postdoctoral Researcher Finalist** (40000 USD)
 Destination: USA
 Collaboration with Boston Children's Hospital and Department of Neuroscience at Harvard University (USA))
- 2019 **Academic Research Travel Grant** (10,000 AUD)
 Destination: Statify Lab, INRIA, Grenoble, France; Epilepsy Genetics Lab, Boston Children's Hospital, USA; School of Mathematical Sciences, Harvard University, USA; Department of Statistics, University of Rosario, Argentina
 Funder: Department Mathematics and Statistics, La Trobe University
- 2018 **Conference Presenter Travel Grant** (10,000 AUD)
 Destination: International Statistical Ecology Conference (ISEC), St Andrews, Scotland
 Funder: Department Mathematics and Statistics, La Trobe University

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- 2018 **Research and Establishment Funding** (3,000 AUD)
Australian-French Association for Research and Innovation (AFRAN)
- 2016 **Establishment Grant** (6,000 AUD)
School of Mathematics and Statistics, University of Melbourne
- 2015 **Ph.D. Thesis Write Up Grant** (6,000 AUD)
School of Mathematics and Statistics, University of Melbourne, Australia
- 2010–2012 **Ph.D. Stipend** (30,000 AUD)
Assessment of the Victorian Fox Control Program, Parks Victoria, Australia
- 2008 **Conference Presenter Funding** (5,000 AUD)
Destination: Australasian Statistical Conference/International Biometrics Conference
Funder: Department of Land and Food Sciences, University of Melbourne

10. SCHOLARSHIPS AND PRIZES

- 2009–2014 **Ph.D. Scholarship** (24,000 AUD)
University of Melbourne, Australia
- 2010 **Melbourne abroad travelling scholarship (MATS)** (15,000 AUD)
Destination: ISEC, University of St Andrews, Scotland
Funder: School of Mathematics and Statistics, University of Melbourne, Australia
- 2010 **The Overseas Research Student Belz Award Scheme** (15,000 AUD)
Destination: NCH University, Taiwan
Funder: School of Mathematics and Statistics, The University of Melbourne, Australia
- 2009 **Travel Award: Conference presentation** (10,000 AUD)
Destination: International Biometrics Society Australasian Region Conference (IBS), Taupo, New Zealand
Funder: School of Mathematics and Statistics, University of Melbourne
- 2005 **Denise Lievesley Young Statisticians Award** (5,000 AUD)
Destination: International Statistical Institute (ISI) conference, Sydney, NSW
Funder: Statistical Society of Australia
- 2004 **Conference Travel Award** (7,000 AUD)
Destination: International Biometrics (IBC) and Australasian Statistical (ASC), Cairns, Queensland, Australia
Funder: Department of Primary Industries, Victoria, Australia
- 2001 **Conference Travel Award** (6,000 AUD)
Destination: Australasian Epidemiological Association (AEA) and Biostatistics Conference, Sydney, NSW, Australia
Funder: Cancer Epidemiology Centre (CEC), Cancer Council of Victoria, Australia

11. PROFESSIONAL

DEVELOPMENT: COURSES,
SEMINARS, AND WORKSHOPS

Employed as Academic

-
- 2019 **Database and SQL Training**
Intensive three day professional course
La Trobe University, Australia
- Pre-doctoral and Doctoral Candidate**
- 2014 **Academic Writing Bootcamp**
Intensive three day academic writing camp with outcome a completed journal article
University of Melbourne, Australia
- 2013–2014 **Shut-up-and-Write**
Weekly guided group academic writing classes using the Pomodoro timing method
University of Melbourne, Australia
- 2008 **Introduction to R programming and graphics**
Australasian Statistical Conference/International Biometrics Conference, Melbourne, Australia
- Professional**
Employee at Department of Primary Industries
- 2005 **Design and Analysis of Repeated Surveys**
Two-day workshop organised by IASS and Australian Bureau of Statistics
International Statistical Institute (ISI) conference, Sydney, NSW
- 2004 **A special workshop on Improving Survey Data Quality**
One-day workshop presented by Denise Lieveley organised by Statistical Society of Australia
University of Melbourne, Australia
- Employee at Cancer Council of Victoria
- 2001–2003 **Work In Progress** Weekly seminar series organised jointly by the Centre for Genetic Epidemiology (Cancer Council of Victoria) and Centre for Public Health (University of Melbourne)
- 2003 **Survival analysis and medical demography**
Two-day course by Bendix Carstensen from the Steno Diabetes Center, Copenhagen, and Department of Biostatistics, University of Copenhagen, Denmark
Clinical Epidemiology and Biostatistics Unit, Royal Children's Hospital, and Department of Public Health, University of Melbourne, Australia
- 2002 **What's in your Genes** Introductory genetics course
The Murdoch Children's Research Institute, Department of Paediatrics at University of Melbourne, and The Co-operative Research Centre for Discovery of Genes for Common Human Diseases
- 2002 **Time Track**
Three-day course on time management presented by 'Success Technologies'
- 2001 **Effective Communication**
Two-day course on strategic guidelines for negotiation presented by the training and consulting firm CMA
- 2001 **Biostatistics**
Two-day short course
Australasian Epidemiology and Biostatistics Conference, Sydney, NSW, Australia
- 2000 **Stata NetCourse 101**
An Introduction to Stata
- 2000 **Stata NetCourse 151**
An Introduction to Stata Programming

2000 **Stata NetCourse 361**
An Introduction to Survival Analysis with Stata

12. PROFESSIONAL SERVICE

ROLES, OUTREACH, AND PRESS

Professional Service and Memberships

2001– **Member** Statistical Society of Australia

2018–2019 **Statistics Seminar Founder and Administrator**, Department of Mathematics and Statistics, La Trobe University, Australia

2019 **Invited Speaker** Subject Selection Fair 2019, La Trobe University, Australia

2019 **Q&A Panel Member** Women in Mathematics Day La Trobe University, joint WIMISG event in honour of Maryam Mirzakhani the first female Fields Medallist

2018 **Chair, Statistics Session, AMSI Summer Scholar Conference** University of Melbourne, Australia

2018 **Invited Speaker** Australian Mathematical Sciences Institute (AMSI) Choose Maths Day, La Trobe University, Australia

2018 **Founder and Administrator** Statistics Journal Club, Department of Mathematics and Statistics, La Trobe University, Australia

2018 **Discussion Panel Member** AMSI Choose Maths, La Trobe University, Australia

2018 **Ambassador Mathematics & Statistics Education** at La Trobe University, 55th Annual Conference, Mathematical Association of Victoria, La Trobe University, Australia

2018 **Ambassador, Open Day activities** Department of Mathematics and Statistics, La Trobe University, Australia

2018 **Committee Member** Vice Chancellor's Luncheon, La Trobe University, Australia

2017 **Co-founder and Organiser** Mathematics & Statistics Female PhD & Academic Mentoring Program, University of Melbourne, Australia

2009–2012 **Ambassador for Open Day activities** Department of Mathematics and Statistics, University of Melbourne, Australia

2012 **Invited Speaker** Year 9 Mathematics Class, Melbourne, Australia

2009–2014 **Mentor** International Students, University of Melbourne

2009–2012 **Journal Club Founder and Organiser** School of Mathematics and Statistics, University of Melbourne, Australia

2007 **Volunteer Tutor** Hanover Center, Melbourne, Australia

2001 **Founder** Young Statisticians of Victoria, Statistical Society of Australia

2001–2004 **President** Young Statisticians of Victoria, Statistical Society of Australia

2001–2004 **Treasurer** Young Statisticians of Victoria, Statistical Society of Australia

2001–2004 **Administrator** Young Statisticians of Victoria, Statistical Society of Australia

13. ACADEMIC SERVICE

Editorial Positions

- 2018– **Technical Sub-Editor** Australian and New Zealand Journal of Statistics (Wiley)
- 2019 **Editor** Proceedings of Research School on Statistics and Data Science (RSSDS), Communications in Computer and Information Science (Springer)
- 2019 **Editor** Science Gazette, Department of Mathematics and Statistics, La Trobe University, Australia

International Journal Peer Review Positions

- 2020– Biometrics (Wiley)
- 2020– Journal of Agricultural, Biological, and Environmental Statistics (JABE) (Springer Nature)
- 2019 Proceedings of Research School on Statistics and Data Science (RSSDS), Communications in Computer and Information Science (Springer)
- 2018– Journal of Paediatric Rehabilitation Medicine (IOS Press)
- 2018– Austral Ecology, A Journal of ecology in the Southern Hemisphere, Ecological Society of Australia (Wiley)

Conference Commitments

14. SUPERVISION

Professional Staff

- 2016–2021 **Teaching Staff Supervisor**
University of Melbourne, and La Trobe University, Australia
- 2004–2005 **Supervisor Research Assistants**
Department of Primary Industries, Vic, Australia

Academic Higher Degree Research Student Supervisions

- 2019–2021 **Co-supervisor, PhD Candidate**
Department of Mathematics and Statistics, La Trobe University
- 2018–2021 **Co-supervisor PhD Candidate**
Department of Mathematics and Statistics, La Trobe University⁸⁷

Bachelor of Science Honours Research Students

- 2018 **Supervisor**
Australian Mathematical Sciences Institute (AMSI) Summer Scholar Program
Department of Mathematics and Statistics, La Trobe University
- 2018 **Supervisor**
Australian Mathematical Sciences Institute (AMSI) Summer Scholar Program
Department of Mathematics and Statistics, La Trobe University

15. COMMUNITY ACTIVITIES

2020	Philosophy Short Course, University of Melbourne
2011	Creative concept, Executive Producer and Dancer. <i>Dance Class</i> . Contemporary dance performance for 16 dancers with 6 choreographers. 1 year development from concept to performance. Gasworks Theatre Melbourne. Australia.

16. PUBLICATIONS: PEER

REVIEWED

1. Makdissi, R., Atkins, Z.S., Clemann, N., **Karavarsamis, N.** and Robert, K.A.. A skink in grasshopper's clothing: utilisation of Bayesian mimicry in juvenile *Guthaga* skinks as an antipredator defence (*under review*).
2. **Karavarsamis, N.**, Guillera-Arroita, G., Huggins, R.M. and Morgan, B. (2020). How can the score test be consistent?. *Australian and New Zealand Journal of Statistics*, 62(1):94–115. doi.org/10.1111/anzs.12288.
3. **Karavarsamis, N.** (2019). Estimating Occupancy and Fitting Models with the Two-Stage Approach. H. Nguyen (Ed.): Research School of Statistics and Data Science, RSSDS 2019, Communications in Computer and Information Science (CCIS) vol. 1150, pp. 68–80, 2019. Springer Nature Singapore Pte Ltd. doi.org/10.1007/978-981-15-1960-4_5
4. **Karavarsamis, N.** and Huggins, R.M. (2019). A two-stage approach to the analysis of occupancy data I. The Homogeneous case. *Communications in Statistics - Theory and Methods*. doi.org/10.1080/03610926.2019.1607385.
5. **Karavarsamis, N.** and Huggins, R.M. (2019). A two-stage approach to the analysis of occupancy data II. The Heterogeneous case. *Computational Statistics and Data Analysis*, 133:195–207. doi.org/10.1016/j.csda.2018.09.009.
6. Bagnall, J., Jones A., **Karavarsamis, N.** and Nguyen H. (2019). The Fully-Visible Boltzmann Machine and the Senate of the 45th Australian Parliament in 2016. *Journal of Computational Social Science*. <https://dx.doi.org/10.2139/ssrn.3287903>.
7. **Karavarsamis, N.** (2015). Methods for Estimating Occupancy. PhD thesis.
8. Mara, D., Hamilton, A.J., Sleight, A., **Karavarsamis, N.**, Razak Seidu. (2015). Tools for Risk Analysis: Updating the 2006 Guidelines. Wastewater Irrigation and Health. Earthscan.
9. **Karavarsamis, N.**, Robinson, A. P., Hepworth, G., Hamilton, A.J. and Heard, G.W. (2013). Comparison of four bootstrap-based interval estimators of species occupancy and detection probabilities. *Australian and New Zealand Journal of Statistics*, 55(3):235–252.
10. Kreidl, S., Holmes, R., Partington, D., **Karavarsamis, N.** (2012). The effect of calcium and nitrogen nutrition on the development of postharvest rots in pak choi. *Acta horticulture*, 944:73–82.
11. Mara, D., Hamilton, A.J., Sleight, A., **Karavarsamis, N.** (2011). Tools for risk assessment: updating the 2006 WHO guidelines. *Wastewater irrigation and health: Assessing and mitigating risk in low-income countries*. Earthscan, IDRC and IWMI. Editors: P. Drechsel and C.H.Scott and L. Easchild-Sally and M. Redwood and A. Bahri (89–100).
12. **Karavarsamis, N.** and Hamilton, A.J. (2010). Estimators of Annual Probability of Infection for quantitative microbial risk assessment. *Journal of Water and Health*, 8(2):365–373.
13. **Karavarsamis, N.** (2010). Safeguarding our species. *The Age; The Voice*, June, 6(6). <http://voice.unimelb.edu.au/volume-6/number-6/safeguarding-our-species>.
14. Mara D, Hamilton AJ, Sleight A, **Karavarsamis N.**, Seidu R. (2009). Tools for risk analysis: Updating the 2006 WHO guidelines. In *Wastewater Irrigation and Health: Assessing and Mitigating Risk in Low-income Countries*. 89-100. (Book Chapter).

-
15. **Karavarsamis, N.**, and Hamilton, A.(2008). Estimators of Annual Probability of Infection. Australian Statistical Conference (ASC2008), Australian Mathematical Sciences Institute (AMSI) and Statistical Society of Australia Inc. (SSAI).
 16. Porter, I.J., Trinder, L., Partington, D., Banks, J., Smith, S., Hannah, M., **Karavarsamis, N.** (2006). Special report validating the yield performance of alternatives to Methyl Bromide for pre-plant fumigation. *TEAP/MBTOC Special Report, UNEP Nairobi.*
 17. **Karavarsamis, N.** (2005). Control of downy mildew of grapevines by boosting their natural defence system, Final Report to Grape and Wine Research and Development Corporation 2004 – 2005.
 18. **Karavarsamis, N.** (2004). Reducing Spoilage and Contamination Risks of Fresh Vegetables in China and Australia, Chinese Collaboration.
 19. **Karavarsamis, N.** (2004). Submission (to Australian Government) for the Revised Draft Import Risk Analysis Report for Apples from New Zealand.
 20. Giles, G., English, D., **Karavarsamis, N.**, Thursfield, V. (2003). Cancer Survival in Victoria – Relative survival for selected cancers diagnosed from 1982 to 1997 with follow-up to 2000. *Cancer Council Monographs.*
 21. **Karavarsamis, N.** (2003). Survival in women in the Victorian breast survey management cohorts: 1986-1995. *Cancer Council Monographs.*
 22. **Karavarsamis, N.** (2003). Nutrient Analysis Software – Stata language. Commercial Release of Software.
 23. Roberts, S., **Karavarsamis, N.**, English, D., Giles, G. (2001). Hepatocellular carcinoma in Victoria Australia: survival and prognostic factors. 53rd Annual Meeting of the Association for the Study of Liver Diseases (AASLD), Boston, Massachusetts. *Hepatology.*