

Natalie Karavarsamis, PhD

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Dr Natalie Karavarsamis Academic, Researcher and Data Scientist, Lecturer, Professional Statistical Consultant, Computer Programmer

🐦 @nataliekarav Orcid: orcid.org/0000-0002-5920-9736 Natalie on ResearchGate

Curriculum Vitae (CV) including a full list of publications and presentations: [click here to download](#).

Academic Roles

- Honorary Research Fellow at University of Melbourne, Australia (2016-Present).
- Lecturer at La Trobe University, Melbourne, Australia (2018-Present).
- Technical sub-editor at the Australian and New Zealand Journal of Statistics (2018-Present)
- Reviewer to several international peer-reviewed journals (2018-Present).
- Local Organising Committee Member ISEC2020 (2019-Present) <http://www.isec2020.org>

Overview

Dr Natalie Karavarsamis is statistics researcher and consultant, data scientist, coder/programmer, and lecturer. Natalie is Lecturer and Researcher of Statistics at the Department of Mathematics and Statistics at La Trobe University. Natalie is also Honorary Research Fellow at the School of Mathematics and Statistics, University of Melbourne. Natalie serves as technical sub-editor on the Australian and New Zealand Journal of Statistics, and as reviewer on a number of international peer-reviewed journals, such as, JABE, ANZSTAT, Biometrics, Austral Ecology, Journal of Pediatric Medicine.

Natalie obtained her PhD in Statistics at School of Mathematics and Statistics, University of Melbourne. Prior to completing her PhD Natalie completed a Bachelor of Science Degree and a Bachelor of Science Honours Degree graduating with First Class Honours at University of Melbourne.

Academic roles include Lecturer at School of Mathematics and Statistics (University of Melbourne), Post-doctoral Research Fellow at School of Biosciences (University of Melbourne) and with School of Mathematical Sciences (RMIT), and Research Fellow at Department of Food and Land Sciences (prior to PhD candidature) (University of Melbourne).

Natalie's research expertise is developing new statistical methodology, analysing, and modelling, for statistical ecology, sparse data, large longitudinal biological data, genetic data, neuroscience and epigenetic data, medical statistics and financial data. Demonstrated in Natalie's extensive publication record in peer-reviewed journals and books in her roles as research academic, professional statistician and consultant (list of publications in CV).

Natalie is a world leader at developing methods, models and software with modern statistical approaches. For example, for occupancy data with partial likelihoods, conditional and composite likelihoods, GLMs, Gams, IWLS. Circular statistics, cylindrical distributions and HMMs for large biological data. Natalie has developed her own R software package; her two-stage R package for modelling occupancy data (in release).

Natalie has forged global collaborations with Boston Children's Hospital and Department of Neuroscience at Harvard University (USA), with Statify at INRIA University of Caen (France), and with the School of Biosciences at University of Melbourne, the University of Kent, and La Trobe University, and elsewhere.

Natalie has twenty years industry statistical consulting experience and worked on large international industry projects for NGOs, national and international governments, and commercial industries and stakeholders (details in CV).

Natalie has delivered successful statistics courses for more than two decades, at tertiary level (undergraduate and postgraduate), professional level, and private sector (details in CV). Natalie supervises research students; Honours, Masters and PhD candidates in Statistics, Ecology, and Social Sciences, and AMSI scholars (Australian Mathematical Sciences Institute). She has extensive industry training experience in developing and delivering successful workshops, and supervises research assistants, teaching staff, tutors, and students.

Roles and Responsibilities

Natalie is academic, researcher, consultant, and educator, who performs in multiple roles with full responsibility that require managing tight and competing deadlines.

She has full teaching duties of developing, coordinating and delivery large-scale statistics and programming undergraduate and postgraduate science subjects. She is responsible for developing statistical and programming teaching curriculum and material, assessment material and examinations. Managing the online interactive teaching module. It involves responding to student queries, providing student consultation and supervising teaching staff. She is examiner and assessor of International Student applications for undergraduate and postgraduate Coursework and Research Science Degrees. She is Examiner of Honours, Masters and PhD theses. She is Science Course Advisor for Mathematics and Statistics, career advisor and student mentor. Committee member, organiser and speaker for O-week (orientation and welcome of new tertiary students). Supervisor of research students for Honours, Masters and PhD candidates. Outreach duties include ambassador for STEMM subjects and careers, as speaker for secondary college students, and tertiary students.

In her role as researcher, she manages deadlines associated with research and developing new statistical methodologies and submissions to peer-reviewed journal articles, as full author, first author and/or co-author in a team of collaborators, and responds to their queries. Preparing and writing grant submissions. Reviewer for journals and Technical sub-editor for peer-reviewed journals. Hosts overseas academic guests, is organising committee member and co-chair for conferences and academic/professional workshops, and travels as invited academic guest and speaker for her research to national and international audiences.

Events

- June 22–26, 2020. Local organising committee member and accepted speaker. International Statistical Ecology Conference, ISEC2020, UNSW, Sydney, Australia <http://www.isec2020.org>
- November 2019. Invited Speaker, Department of Neuroscience and Boston Children's Hospital, **Harvard University**, USA
- November 2019. Invited Speaker, **INRIA Statistics Seminar Series**, Grenoble, France
- October 18, 2019. Invited Speaker, **Monash Seminar Series**, Monash University, Melbourne, Australia
- October 3, 2019. Invited Speaker, **RMIT Data Analytics Seminar Series** (slides [here](#))
- October 7, 2019. Invited Speaker, **Subject Selection Fair 2019**, La Trobe University, Melbourne, Australia
- August 29, 2019. Organising committee member and Invited Speaker. **Women in Maths Day**, University of Melbourne, Melbourne, Australia
- July 24–26, 2019. Invited Speaker and co-Chair, **Workshop for Research School on Statistics and Data Science 2019 - RSSDS2019**, La Trobe University, Melbourne, Australia. Topics include Statistics, Data Science and allied fields such as AI and Machine Learning are invited to register. Workshop proceedings published in **Springer Communications in Computer and Information Science (CCIS)**. (webpage and poster). My slides [here](#)
- June 25–27, 2019. Conference Presenter, **EcoSta2019** Conference. National Chung Hsing University, Taiwan (conference webpage)

- June 19, 2019. Invited Speaker, **AMSI Choose Maths Day**, La Trobe University, Melbourne, Australia
- June 5, 2019. Speaker Joint Seminar, **Special seminar joint La Trobe University & Harvard University**, La Trobe University, Melbourne, Australia
- May 15, 2019. Q&A panel discussion speaker for celebrations for the inaugural **International Women in Mathematics Day**, in honour of the birthday of Maryam Mirzakhani on 12 May, the first female Fields Medalist (poster)
- December 2018. Chair - Statistics Session, AMSI Summer Scholar Conference, University of Melbourne.
- December 2018. Invited Speaker, AMSI Summer Scholar Conference, University of Melbourne.
- November 2018. Supervisor, AMSI Summer Scholar Conference, University of Melbourne.
- July 24 2018. Invited Speaker, **La Trobe – Kyushu joint seminar series**, La Trobe University, Melbourne, Australia and Kyushu University, Japan (via zoom) (slides here)
- July 4-6 2018. Conference Presentation, **ISEC 2018**, St Andrews University, Scotland (slides here)

Publications

Publications listed in my CV – [click here to download](#)

Supervision

- Two PhD candidates - Co-supervisor (2018–Present and 2020–Present)
- Two AMSI Summer Scholars - Supervisor (2018–2019)

Available for Honours, Masters and PhD supervision.

Grants & Awards (selected)

- Shortlisted Fulbright candidate, 2019.
- Early Researcher Establishment Grant, School of Mathematics and Statistics, University of Melbourne (2016–Present).
- Australian-French Association for Research and Innovation (AFRAN) (2018–Present).
- Statify (previously MISTIS) invited academic travel grant (2019).
- Academic Travel Grant, La Trobe University (2019).

Press & Gallery

2018 AMSI Choose Maths Day, La Trobe
