

James Hogg

PHD STUDENT

School of Mathematical Sciences, Queensland University of Technology

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I am a statistician currently studying for a PhD in the School of Mathematical Sciences at the Queensland University of Technology (QUT). Focused on generating small area level estimates of cancer risk factors for the globally recognized Australian Cancer Atlas, my research is driven by a passion for making research more accessible, as well as a commitment to utilizing Bayesian inference and spatial modeling to enhance the field of cancer research. My teaching experience, together with the awards I've received for presentations and invited talks, attest to my proficiency in conveying complex statistical ideas to a wide audience. With my dedication to advancing the field of cancer research and a deep-seated enthusiasm for exploring the potential of Bayesian inference and spatial modeling, I am poised to make a significant contribution to either academic or industry roles.

Research interests

R, tidyverse, Stan
Spatio/hierarchical modelling
Bayesian inference
Spatial variation in cancer outcomes
Visualisations/mapping

Education and qualifications

Doctor of Philosophy, Statistics

QUEENSLAND UNIVERSITY OF TECHNOLOGY (QUT)

- Full-time equivalent
- PhD funded by the internationally-awarded Australian Cancer Atlas

Brisbane, Australia

2021 (ongoing)

Graduate Statistician (Gstat) Accreditation

STATISTICAL SOCIETY OF AUSTRALIA

2021 (ongoing)

Master of Biostatistics

UNIVERSITY OF QUEENSLAND (UQ)

- Provided by the Biostatistics Collaboration of Australia
- GPA: 7.0
- Dean's Commendation for Academic Excellence (2018 & 2019)
- Thesis complete at Cancer Council Queensland

Virtual

2018-2020

Bachelor of Music with Distinction

QUEENSLAND UNIVERSITY OF TECHNOLOGY (QUT)

- Minor in statistics (4 units)
- GPA: 6.5
- Dean's Award for Excellence (all 6 semesters)

Brisbane, Australia

2015-2017

Queensland Certificate of Education

INDOOROOPILLY STATE HIGH SCHOOL

- Overall Position (OP): 1
- Best All Rounder Award 2014
- Parents and Citizens' Music Award 2014

Brisbane, Australia

2010-2014

Employment

Supervisor (casual)

ENVIRONMENTAL PROTECTION AUTHORITY (EPA) VICTORIA

- Supervisory of QUT research assistant
- QUT and EPA collaboration to create a R Shiny app to visualise spatial data

Virtual

May 2023 - August 2023

Research assistant (part-time)

DEPARTMENT OF HEALTH, WESTERN AUSTRALIA (DOHWA)

- Consulting on bayesian modelling

Virtual

November 2022 (ongoing)

Instructor/presenter of Bayesian training

DEPARTMENT OF HEALTH, WESTERN AUSTRALIA (DOHWA)

- Three days of intensive training on Bayesian spatial temporal analysis

Perth, Australia

November 2022

Internship (full-time)

DEPARTMENT OF HEALTH, WESTERN AUSTRALIA (DOHWA)

- Project: Bayesian modelling
- Supervisors: Dr Susanna Cramb, Dr Alex Xiao
- Recommended spatio-temporal models for a wide range of health data
- Provided lengthy and detailed reports giving the details of spatio-temporal models
- Created detailed and large R code scripts to run a variety of models
- Created training materials for 3-days of intensive Bayesian spatio-temporal course

Virtual

August - November 2022

Research assistant (part-time)

QUEENSLAND UNIVERSITY OF TECHNOLOGY (QUT)

- Project: Modifiable areal unit problem (MAUP) in disease mapping
- Co-investigators: Dr Susanna Cramb, Ass. Prof. Helen Thompson

Brisbane, Australia

October 2021 - March 2022

Tutor (casual)

QUEENSLAND UNIVERSITY OF TECHNOLOGY (QUT)

- Course title: Quantitative Skills for Health Scientists (LQB286)

Brisbane, Australia

September - November 2021

Marker (casual)

UNIVERSITY OF QUEENSLAND (UQ)

- Course title: Categorical Data and Generalised Linear Models (STAT7608)
- Course title: Regression Modelling 2 (STAT7619)
- Course title: Applied Regression Analyses (PUBH7631)

Virtual

July 2021 - October 2022

Professional service

Co-chair of Bayesian Research and Applications group (BRAG)

QUEENSLAND UNIVERSITY OF TECHNOLOGY (QUT)

- Organiser of fortnightly internal talks on Bayesian research

Brisbane, Australia

June 2022 (ongoing)

Volunteer

GOOD DATA INSTITUTE (GDI)

Virtual

March - June 2023

Organiser and host

STANCONNECT 2022: STAN THROUGH SPACE AND TIME

- 10 speakers from 8 countries
- Over 100 virtual attendees

Virtual

July - November 2022

Master's Thesis

CANCER COUNCIL QUEENSLAND

- Title: "Influence of individual- and area-level socioeconomic factors on breast cancer stage at diagnosis: A multilevel approach"

Virtual

March - October 2020

Selected research presentations

Invited session (planned)

64TH INTERNATIONAL STATISTICAL INSTITUTE WORLD STATISTICS CONGRESS

- Title: Advances in small area estimation for severely sparse data

Ottawa, Canada

July 2023

Invited talk

EPIDEMIOLOGY IN GOVERNMENT (EIG) SPECIAL INTEREST GROUP (SIG) MEETING

- Title: Mapping Cancer: The Australian Cancer Atlas

Virtual

December 2022

Short talk

SPARSE SYMPOSIUM

- Title: Risk factors and the Australian Cancer Atlas: the trepidation of instability and sparsity in small area estimation

Virtual

November 2022

Short talk

SECOND EARLY CAREER RESEARCHER CANCER EPIDEMIOLOGY CONFERENCE

- Title: Risk factors and the Australian Cancer Atlas: the trepidation of instability and sparsity in small area estimation

Virtual

November 2022

Poster presentation

INTERNATIONAL SOCIETY OF BAYESIAN ANALYSIS (ISBA) WORLD MEETING

- Title: Introducing a Bayesian two-stage logistic-normal model for small area estimation of proportions

Montreal, Canada

June 2022

Poster presentation

THE BAYESIAN YOUNG STATISTICIANS MEETING

- Title: Introducing a Bayesian two-stage logistic-normal model for small area estimation of proportions

Montreal, Canada

June 2022

Short talk

QANZIAM CONFERENCE

- Title: Searching for stability in Bayesian small area estimation of proportions

QUT, Brisbane, Australia

June 2022

Contributed talk

SMALL AREA ESTIMATION, SURVEYS AND DATA SCIENCE

- Title: Searching for stability: Introducing a method of small area estimation for proportions using severely sparse data

Virtual

May 2022

Short talk

ACEMS FINAL RETREAT

- Title: Modelling cancer risk factors in Australia

Moreton Island, Australia

November 2021

Selected publications

arXiv preprint (2023)

J Hogg, J CAMERON, S CRAMB, P BAADE, K MENGENSEN

- A Two-stage Bayesian Small Area Estimation Method for Proportions

Awards

First place in Hackathon

GOOD DATA INSTITUTE (GDI)

- Hackathon with BioGrow (NZ NFP)

June 2023

2023 SuperHERO

HEALTH EQUITY RESEARCH WITH OUTCOMES

April 2023

Best Oral Presentation Award

SECOND EARLY CAREER RESEARCHER CANCER EPIDEMIOLOGY CONFERENCE

November 2022

Honourable Mention for Best Student Presentation

QANZIAM CONFERENCE

June 2022

QUT Centre for Data Science and Cancer Council QLD Scholarship

DOCTOR OF PHILOSOPHY, STATISTICS

- \$30,000 p.a. for 3.5 years during PhD studies.

April 2021

Star Graduate

BIOSTATISTICS COLLABORATION OF AUSTRALIA

December 2020

Professional memberships

Statistical Society of Australia (SSA)

International Society of Bayesian Analysis (ISBA)

Centre for Data Science (CDS)

Health Equity Research with Outcomes (HERO)

Software

Statistical: R, Python, Stata

Writing: MS Office suite, Latex, Endnote, Mendeley

Terminal: Git Bash, Unix

Bayesian computation: Stan, nimble, WinBUGS, JAGS, pymc

Productivity: Sunsama, Zoom

Visualisation: Ggplot2, Canva, Lucidchart

Core R packages: tidyverse, shiny, Rmarkdown