

# James Hogg

PHD STUDENT

School of Mathematical Sciences, Queensland University of Technology

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*I am a current PhD student in the School of Mathematical Sciences at the Queensland University of Technology (QUT) under the supervision of Distinguished Professor Kerrie Mengersen, Dr Susanna Cramb, Professor Peter Baade and Dr Jessica Cameron. My PhD work is funded by the internationally-awarded Australian Cancer Atlas, where my role is to develop Bayesian methodology to generate small area level cancer risk factor estimates. I am passionate about accessible research, Bayesian inference, and spatial modelling, and am dedicated to making a positive impact in the field of cancer research.*

## Research interests

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

## Education and qualifications

### 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

### 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

### Doctor of Philosophy, Statistics

QUEENSLAND UNIVERSITY OF TECHNOLOGY (QUT)

- PhD funded by the internationally-awarded Australian Cancer Atlas

Brisbane, Australia

2021 (ongoing)

### Graduate Statistician (Gstat) Accreditation

STATISTICAL SOCIETY OF AUSTRALIA

2021 (ongoing)

## Experience

### Marking (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

### Tutor (casual)

QUEENSLAND UNIVERSITY OF TECHNOLOGY (QUT)

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

Brisbane, Australia

September - November 2021

### 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

### Organiser and host

STANCONNECT 2022: STAN THROUGH SPACE AND TIME

Virtual

July - 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

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

QUEENSLAND UNIVERSITY OF TECHNOLOGY (QUT)

- Organiser of fortnightly internal talks on Bayesian research

Brisbane, Australia

June 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

## Research assistant (part-time)

DEPARTMENT OF HEALTH, WESTERN AUSTRALIA (DOHWA)

- Consulting on bayesian modelling

Virtual

November 2022 (ongoing)

# Selected research presentations

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## Short talk

ACEMS FINAL RETREAT

- Title: Modelling cancer risk factors in Australia

Moreton Island, Australia

November 2021

## 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

QANZIAM CONFERENCE

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

QUT, Brisbane, Australia

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

## 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

CENTRE FOR DATA SCIENCE SHOWCASE

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

QUT, Brisbane, Australia

September 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

## 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

## Invited talk

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

- Title: Mapping Cancer: The Australian Cancer Atlas

Virtual

December 2022

# Awards

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## Star Graduate

MASTERS OF BIOSTATISTICS

December 2022

## Honourable Mention for Best Student Presentation

QANZIAM CONFERENCE

June 2022

## Best Oral Presentation Award

SECOND EARLY CAREER RESEARCHER CANCER EPIDEMIOLOGY CONFERENCE

November 2022

## Professional memberships

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Statistical Society of Australia (SSA)  
International Society of Bayesian Analysis (ISBA)  
Centre for Data Science (CDS)  
Health Equity Research with Outcomes (HERO)

## Software

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R, Stata, Python  
MS Office Suite, Latex, Endnote, Mendeley  
Git Bash  
Stan, WinBUGS, JAGS

## Referees

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### Doctor Jessica Cameron

*Cancer Council Queensland*

RESEARCH FELLOW-SPATIAL MODELLING, DESCRIPTIVE EPIDEMIOLOGY

- Email: JessicaCameron@cancerqld.org.au
- Phone: +61 7 3634 5387

### Professor Peter Baade

*Cancer Council Queensland*

SENIOR MANAGER, DESCRIPTIVE EPIDEMIOLOGY

- Email: PeterBaade@cancerqld.org.au
- Phone: +61 7 3634 5317

### Doctor Michael Waller

*University of Queensland*

BCA PROGRAM COORDINATOR, SENIOR LECTURER

- Email: m.waller@uq.edu.au
- Phone: +61 7 3365 5552