


Rex Parsons

Brisbane, QLD, Australia

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 GitHub: RWPParsons  LinkedIn: rexwp

Education

Queensland University of Technology (QUT)

2020–Present

Biostatistics PhD

Title: High dimensional data for predicting inpatient falls.

Supervisors: Dr Susanna Cramb, Prof Steven McPhail and Dr Ahmad Abdel-hafez

University of Newcastle

2019–2020

Medical Statistics MMedStat 6.88/7 GPA

University of Queensland

2015–2017

Biomedical Science BSc and Honours (Neuroscience)

Title: The Role of Melatonin on Hippocampal Rhythmicity.

Supervisors: Dr Oliver Rawashdeh and Dr Prasad Chunduri.

Employment

Senior Research Assistant

Oct 2021–Present

Centre for Data Science (QUT)

Brisbane, Australia

- Spatial data analysis with R and ArcGIS to understand inequity in accessibility to acute and rehabilitation care for traumatic brain injury, presented as a shiny app.
- Development of an R-package (DSSP) for fitting Bayesian spatial models with direct sampling.

Senior Research Assistant

Nov 2020–Feb 2022

Australian Centre for Health Services Innovation (QUT)

Brisbane, Australia

Statistical analysis for:

- Health economics research for Department of Veteran affairs.
- Risk factors associated with COVID-19 with the COVID Critical Research Group.
- Clinical trial analysis and risk model implementation projects with Metro North Health Hospital and Health Service.

Research & Development Scientist

Mar 2020–Aug 2020

Ellume

Brisbane, Australia

- Immunoassay and algorithm development for SARS-CoV-2 Serology rapid diagnostic test.
- Redesigned the algorithm development workflow which improved generalisability and drastically reduced the time required to optimise.
- Algorithm developed was used for FDA application for serological diagnostic and was the best performing diagnostic test approved by FDA.

Healthcare Data Analyst

Jun 2019–Mar 2020

City Fertility

Brisbane, Australia

- Dashboard development using shiny and direct odbc for up-to-date analytics on KPIs.
- Streamlining monthly reporting processes for marketing and services given using R.
- Data acquisition, cleaning and statistical analysis for clinician-led research projects.
- Clinical prediction model development for In-Vitro-Fertilisation treatment success.

Project Coordinator

Mar 2018–Jun 2019

UnitingCare Medical Imaging

Brisbane, Australia

- Occupational lung disease and radiology research.
- Questionnaire development with Qualtrics.
- Data analysis and visualisations.
- Applying and reporting to funding body.

Research Assistant

Jan 2016–Mar 2018

Ellume

Brisbane, Australia

- Immunoassay development for influenza virus and Group A streptococcus rapid diagnostic test.
- Worked in a team to rapidly iterate and develop medical devices.

Technical Skills

Proficient: R, Shiny, Data Analysis and Visualisation, Statistical Modelling, Functional Programming

Competent: Python, SQL, Machine Learning, Git, Object-Oriented Programming

Novice: Dask, PyTorch

Statistical Software Development

simMetric

CRAN Jan 2022

- An R package that provides several useful metrics (and their Monte Carlo standard errors) for the assessment of statistical methods in simulation studies.
- This allows for easy integration with other simulation study frameworks and the tidyverse-style workflow.

circacompare

CRAN Feb 2021

- An R package that allows users to analyse circadian datasets using nonlinear regression models.
- Documented with a vignette; also available as a shiny app and in python

Teaching

Queensland University of Technology

Brisbane, Australia

- MXN500: Statistical Data Analysis (Sessional Tutor) Semester 1, 2021
- SEB113: Quantitative Methods in Science (Sessional Tutor) Semester 2, 2021
- PUN108: Clinical Informatics for Intelligent Healthcare (Guest Lecturer) Semester 2, 2021

Published Papers

1. LVM de Assis, L Harder, José Thalles Lacerda, **R Parsons**, [5 authors], H Oster **bioRxiv (2022)**
Rewiring of liver diurnal transcriptome rhythms by triiodothyronine (T3) supplementation.
2. **R Parsons**, SM Cramb SM McPhail **BMJ Open (2021)**
Clinical prediction models for hospital falls: a scoping review protocol.
3. Bassi GL, [8 authors], **R Parsons**, [20 authors], Fraser JF **Crit Care Explor (2021)**
Risk Factors for 28-Day in-Hospital Mortality in Mechanically Ventilated Patients with COVID-19: An International Cohort Study.
4. GH Goh, PJ Mark, D Blache, D Binks, **R Parsons**, O Rawashdeh, SK Maloney **J Therm Biol (2021)**
Diet-altered body temperature rhythms are associated with altered rhythms of clock gene expression in peripheral tissues in vivo.
5. **R Parsons**, R Parsons, N Garner, H Oster, O Rawashdeh **Bioinformatics (2020)**
CircaCompare: a method to estimate and statistically support differences in mesor, amplitude and phase, between circadian rhythms
6. **R Parsons**, K Newbigin, D Deller, R Edwards, R McBean **Respirology (2019)**
Stonemasons with silicosis: Preliminary findings and a warning message from Australia.
7. C Haran, R McBean, **R Parsons**, D Wong **J Med Imaging Radiat Oncol (2019)**
Five-year trends of bone scan and prostate-specific membrane antigen positron emission tomography utilization in prostate cancer: A retrospective review in a private centre.
8. R McBean, B O'Kane, **R Parsons**, D Wong **J Med Imaging Radiat Oncol (2019)**
Lu177-PSMA therapy for men with advanced prostate cancer: Initial 18 months experience at a single Australian tertiary institution.
9. **Wesley Dust Disease Research Centre.** **ACARP (2019)**
A Clinical, Radiological and Occupational Review of Coal Mine Dust Lung Disease in Queensland.
10. O Rawashdeh, **R Parsons**, E Maronde **Neural Plast (2018)**
Clocking in time to gate memory processes: The circadian clock is part of the ins and outs of memory.

Conferences

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| 1. Impact Makers (Brisbane, Australia) | Speaker (2021) |
| <i>Inpatient fall prediction models: a scoping review</i> | |
| 2. Pacific Society for Reproductive Medicine (Pattaya, Thailand) | Poster (2019) |
| <i>A machine learning approach to embryo selection in the context of In Vitro Fertilisation (IVF)</i> | |
| 3. Australasian Chronobiology Society (Brisbane, Australia) | Speaker (2018) |
| <i>A method to statistically validate observed differences between circadian rhythms.</i> | |
| 4. Imaging@Brisbane (Brisbane, Australia) | Poster (2018) |
| <i>Novel Application of T1 and T2 Mapping on MRI Imaging to Mediastinal Masses: Internal Differentiation of a Thymoma and Lymphoma</i> | |

Awards

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| 1. SuperHERO award winner for outstanding engagement/collaboration | (2021). |
| 2. AWS Activate Winner of the Queensland AI Hub Medical Datathon and \$25,000 AWS credit | (2020). |
| Solution: A deep learning approach to rapid assessment and triage of Chest-X-rays. | |
| 3. Digital Health CRC Industry Scholarship Recipient: \$45,000 p.a. for four years during PhD studies | (2020). |

Grants

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| 1. Emergency Medicine Foundation | \$37,667 (2022) |
| <i>(Associate Investigator) Applications of a novel neurosurgical service accessibility index to improve emergency care of people sustaining a road trauma-related traumatic brain injury in Queensland</i> | |
| 2. ACARP and DNRME | \$315,770 (2019) |
| <i>A Clinical, Radiological and Occupational Review of Coal Mine Dust Lung Disease in Queensland.</i> | |

Outreach and community involvement

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| – Statistics Society of Australia - QLD Branch Council member & student representative. | 2022–Present |
| – Peer facilitator for Peers & Pizza: a regular HDR mental health and wellbeing event. | 2020–Present |
| – Member of AusHSI HDR working group | 2020–Present |
| – Student representative on AusHSI management committee | 2020–2022 |