

Richard Bean

e richard.bean at gmail.com

m +61-431-893-907

Education

Ph.D. Mathematics 1998 - 2001. University of Queensland, Department of Mathematics.

B.Sc. (First Class Honours and University Medal) Computer Science and Mathematics. 1994 - 1997. University of Queensland.

Employment

Research Fellow, University of Queensland, July 2019 – current.

- The Redback Technologies Research Centre is a research enterprise created in partnership between Redback Technologies and The University of Queensland. The research centre is focused on data aggregation and analytics in the field of power and energy systems. The integrating of meters, digital controls and cloud computing will enable new data products for direct use by multiple disparate industries.

Data Scientist, Redback Technologies, July 2016 – June 2019.

- Prediction of solar and load data on a large network of inverters. Development of algorithms in R for battery scheduling and optimization, embedded network operation and virtual power plants. Data cleaning, outlier detection and statistical analysis.

Senior Epidemiologist, Preventive Health Branch, Queensland Health, July 2015 – June 2016.

- Analysis of survey data and burden of disease data for the biennial Chief Health Officer's Report and other reports. STATA programming.

Senior Research Officer, Health Protection Branch and Communicable Diseases Branch, December 2015 – June 2016.

- Epidemiology of food-borne illness outbreaks involving salmonella and campylobacter

Advanced Research Officer, Health Protection Unit/Branch, Queensland Health, February 2014 – December 2015.

- Analysis of public health data and report preparation; finding public health datasets to perform preventative health programs rather than reactive health programs; administration of Department of Health's ArcGIS Online system; developing and analysing public health targets and key performance indicators. Health areas included asbestos, lead, Aboriginal and Torres Strait Islander health, food-borne illnesses, medicines and poisons, and water programs. Analysing epidemiology of food-borne illness outbreaks and statistical analysis of areas including asbestos and food.

Research Assistant, School of Geography, Planning and Environmental Management, University of Queensland, November 2013 – June 2019 (various times)

- Analysing data from Brisbane's CityCycle scheme from 2010 to date and co-authoring papers analysing journeys by land use, topography, cycleway density, and weather. Co-authored an article in The Conversation.

Senior Analyst, Australian Energy Market Operator, February 2013 – June 2013.

- Reviewing AEMO's National Electricity Forecasting Report data and models
- Assessing the impact of mandatory electricity restrictions and analysing weather correction models

Senior Analyst, ROAM Consulting, April 2007 – December 2012.

- Mathematical modelling of the Australian NEM (National Electricity Market) and New Zealand Electricity Market (NZEM).
- Writing reports on market forecasting and analysis for a wide range of commercial and government clients
- Development of statistical methodologies for assessing reliability in interconnected power systems; detailed analysis of outages of power stations and their effect on reliability in the 2010 Minimum Reserve Levels project
- Programming in Microsoft VBA, C++, writing spreadsheets in Excel and maintaining databases in Access, including SQL work.

Research Officer, Institute for Molecular Bioscience, University of Queensland, December 2003 - March 2007.

Postdoctoral Associate, Institute for Studies in Theoretical Physics and Mathematics, Tehran, Iran, April 2002 - October 2003.

Lecturer, Sharif University of Technology, Tehran, Department of Mathematics, Second Semester 2002.

Research Assistant and Officer (Statistics), Department of Mathematics, University of Queensland April 2001 - March 2002.

- Developing and optimizing algorithms related to graph theory, combinatorics, operations research, and statistics; analysing microarray data.
- Programming in C, Fortran, Matlab, R, and Python

Achievements, awards and memberships

- Associate Fellow of the Institute of Combinatorics and Its Applications
- Life Member of the Combinatorial Mathematical Society of Australasia
- Co-convenor of Brisbane CBD Bicycle Users Group

Other interests

Chess, cycling, travel