

Lizhong Chen

Contact Information

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Address: 1G, Royal Parade, Parkville VIC 3052

Research interests

Bioinformatics: limma, edgeR; Generalized linear model; Model selection; Model averaging; Dimensional reduction; High dimensional data.

Employment

03/2022 - Present **Walter and Eliza Hall Institute of Medical Research (WEHI)**
Research Officer at the Bioinformatics Division
Supervisor: Prof. Gordon K Smyth

Education

02/2017 - 02/2022 **The University of Melbourne**
Doctor of Philosophy (PhD) in Statistics
Supervisors: A/Prof. Guoqi Qian, Prof. Yuriy Kuleshov, Dr Tingjin Chu
Thesis: Model selection and averaging by Gibbs sampler with a tropical cyclone seasonal forecasting application [Minerva Access]

09/2013 – 07/2016 **Peking University**
Master of Science (M.S.) in Mathematics
Mentor: A/Prof. Houhong Fan
Thesis: A Report on Computations of Cohomology Rings and Homotopy Groups of Lie Groups

09/2009 – 06/2013 **Peking University**
Bachelor of Science (B.S.) in Mathematics

Publications

- 2022 Model selection and averaging in high dimensional data using Gibbs sampler with Guoqi Qian, in preparation.
- 2022 Improving Methodology for Tropical Cyclone Seasonal Forecasting in the Australian and the South Pacific Ocean Regions by Selecting and Averaging Models via Metropolis–Gibbs Sampling, *Remote Sensing*, 14 (22), 5872. [doi] with Guoqi Qian and Yuriy Kuleshov.

Softwares

IBGS (Iterated Blockwise Gibbs Sampler)

<https://github.com/lizhongc/IBGS>

statmod (statmod: Statistical Modeling)

<https://cran.r-project.org/web/packages/statmod/index.html>

edgeR (Empirical Analysis of Digital Gene Expression Data in R)

DOI: 10.18129/B9.bioc.edgeR

Talks and Presentations

- 23/08/2022 **edgeR quasi-likelihood: correcting deviance for bias**
Bioinformatics division seminar, WEHI
- 30/05/2023 **Extending edgeR for small counts and large samples**
Bioinformatics division seminar, WEHI

Teaching experiences

- 07/2017 - 02/2022 **Tutor, The University of Melbourne**
Linear Algebra, Accelerated Mathematics I/II, Complex Analysis, Multivariate Statistical Techniques
- 07/2018 - 07/2021 **Assignment and Exam Marker, The University of Melbourne**
Statistical Modelling, Mathematical statistics,
- 09/2013 - 07/2016 **Teaching assistant, Peking University**
Mathematical analysis I/II, Calculus I, Advanced algebra I.

Honors and scholarships

- 2017 Melbourne Research Scholarship (The University of Melbourne).
- 2016 Outstanding Graduate of Beijing
- 2016 Outstanding Graduate of Peking University
- 2015 Guanghai Scholarship (Peking University)
- 2014 National Scholarship (Peking University)
- 2009 Second-Class Freshmen Scholarship (Peking University)

Referee services

- 2022 **Applied mathematical modelling**