Mei-Yu Lai

Email : mlai22@jhu.edu
Web: https://meiyulai.github.io

Summary

- Data analyst with 2+ years of computational genomics and statistician with 4+ years of clinical consultation.
- Published 1 co-author manuscript in medical journal and recently will submit 2 manuscripts, 2nd author in medical journal and 1st author in statistical journal.

Research Interest

Statistical modeling, machine learning, computational genomics, and statistical methods for analysis of high-throughput genomic data.

Education

National Taiwan University (NTU) Taiwan
M.S. in Biometry Sep 2010 - June 2012

- Thesis: Interval estimation for the bilateral conformance proportion under the linear regression model.

Chung Yuan Christian University Taiwan
B.S. in Applied Mathematics Sep 2006 - June 2010

- Honors Thesis: Comparison of imputation methods for missing values in longitudinal data.

Research Experience

Institute of Statistical Science, Academia Sinica Taiwan
Research Assistant Aug 2012 - June 2016

- **Relapse-related genes and their interactions in breast cancer**
  Analyzed gene expression datasets to understand biological pathways and decide treatment strategy.
- **Association between NGS-SNP and overall survival in HR-positive breast cancer patients**
  Analyzed SNP data using Haploview/SAS software.
- **Statistical methodology development**
  Developed a simulation-based approach and applied to a clinical trial of Polycystic Ovary Syndrome (PCOS).
- **PCOS trial (NCT00172523)**
  Contributed to design clinical trial protocols and analyzed the clinical data.
- **GENIUS trial (NCT01579630)**
  Analyzed survival data in a multiple regression of the Cox model. The results were presented in American Society of Clinical Oncology (ASCO) and World Conference on Lung Cancer (WCLC) in 2015.
- **Circulating tumor cells with colorectal cancer**
  Determined an optimal cut-off point in ROC analysis as the best experimental condition for the clinical study.
- **Website construction for calculating sample sizes**
  Worked with colleagues on building an in-house website for sample size calculations in a variety of designs.

Publications

[1] Yang PK, Hsu CY, Chen MJ, **Lai MY**, Li ZR, Chen CH, Chen SU, and Ho HN. The efficacy of 24-month metformin for improving menses, hormone and metabolic profiles in polycystic ovary syndrome. *The Journal of Clinical Endocrinology and Metabolism* 2018; **103**(3):890-899. [Link]

[2] Chang HJ, Yang UC, **Lai MY**, Chen CH, and Fann YC. High BRCA1 gene expression increases the risk of early onset distant metastasis in ER+ breast cancers. (submitted)

[3] **Lai MY**, Hsu CY, and Chen CH. One- and two-stage designs for stratified non-inferiority or equivalence clinical trials with count data. (submit soon) [Link]

Awards

College Student Research Award June 2010

- Top 1 undergraduate research project in Department of Applied Mathematics.

Academic Excellence Award Sep 2006 - June 2010

- Top 3 of class in semester.

Teaching Experience

Teaching Assistant
Statistics Education Center, NTU

- **Statistics** Spring 2011 and Fall 2012
  - Handled a recitation section and taught students statistical software, R and SAS.
  - Prepared teaching materials for the recitation section.
  - Helped students solve problems with homework.

Programming skills

R, Python, LaTeX, Javascript, HTML, CSS