

# Renwen Luo

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## Education

2022 – 2026 **PhD candidate** in Probability and Mathematical Statistics  
• *Hong Kong Baptist University*, supervised by Prof. Jianxin Pan. *Expected graduation in June 2026.*  
• Major GPA: 3.9/4.00 • **Top 1%** | CGPA: 3.8/4.00 • **Top 1%**

2025.06 – 2025.11 **Visiting PhD student at the University of Cambridge**  
• *MRC Biostatistics Unit*, supervised by Prof. Jessica Barrett and Prof. Brian Tom

2019 – 2022 **Master** in Mathematical Statistics  
• *Sichuan University*  
• Major GPA: 3.8/4.00 • **Top 1%** | CGPA: 3.75/4.00 • **Top 5%**

2015 – 2019 **Bachelor** in Natural Science in Mathematics and Applied Mathematics  
• *Sichuan University*  
• Major GPA: 3.68/4.00 • **Top 1%** | CGPA: 3.70/4.00 • **Top 5%**

## Publications

### Journals and Conferences

- 1 **Luo, R.**, Ma, C., & Pan, J. (2025). Semiparametric modeling of biomarker trajectory and variability with correlated measurement errors. *Statistics in Medicine*, 45. doi:10.1002/sim.70028
- 2 Peng, C., **Luo, R.**, Han, Y., & Pan, J. (2024). Joint mean-angle for spatial binary data. *Statistica Sinica*, 36, 1–39. doi:10.5705/ss.202023.0237
- 3 **Luo, R.**, & Pan, J. (2021). Conditional generalized estimating equations of mean-variance-correlation for clustered data. *Computational Statistics and Data Analysis*, 1978, 1–15.  
doi:10.1016/j.csda.2021.107386
- 4 **Luo, R.**, Yang, Y., Guo, B., Luo, Y., & Pan, J. (2021). Sampling estimating equation for logistic regression with multi-dimensional missing binary covariates: Application to a divorce data, o12065.  
doi:10.1088/1742-6596/1978/1/012065
- 5 Yang, Y., **Luo, R.**, Guo, B., Luo, Y., & Pan, J. (2021). Network estimation of multi-dimensional binary variables with application to divorce data, o12056. doi:10.1088/1742-6596/1978/1/012056

## Research

2022-present **Joint Modeling of Longitudinal and Survival Data**  
• Statistical modeling of trajectory and variability of systolic blood pressure and time to cardiovascular events, the work has been published on *Statistics in Medicine* (2025, 1st author).  
• Semiparametric model, martingale theory and empirical process theory

## Research (continued)

2019-2022

### Statistical Modeling of Correlated data

- Joint mean-covariance modeling of longitudinal data, spatial data, temporal spatial data. One work has been accepted by *Statistica Sinica* (2024, 2nd author). Another has been published on *Computational Statistics and Data Analysis* (2021, 1st author)
- Estimating equations, Z-estimators, high-dimensional variable selection

## Competitions and Awards

2022

- **Finalist of the 2022 Alibaba Global Mathematics Competition**, Alibaba DAMO Academy for Discovery, Adventure, Momentum and Outlook

2021

- **National Scholarship**, Ministry of Education of the People's Republic of China.

2018

- **Silver Medal in First Al-Khorezmi International Mathematical Olympiad**, Ministry of Higher Education of the Republic of Uzbekistan.
- **Merit Scholarship**, Sichuan University.

2016

- **Championship in the Sichuan University Mathematics Competition**, Sichuan University.
- **Bronze Trophy in the Chinese Mathematics Competition**, Chinese Mathematical Society.

## Project Experience

March, 2024

### Battery Material Storage Planning and Design

- Collaborative institution: Contemporary Amperex Technology Co., Limited
- Zero inflated Poisson model, linear programming, concordance index, R project and Python.

April, 2023

### Impact of Sudden Temperature Drops on Cardiovascular Diseases

- Collaborative institution: The Fifth Affiliated Hospital of Sun Yat-sen University
- Cox regression model, deep neural network for survival analysis, R project and Python.

April, 2021

### Divorce Big Data Analysis

- Collaborative institution: The Intermediate People's Court of Sichuan Province
- Generalized linear model, random forest, social network analysis and nonconvex optimization.

## Technical Skills

Programming

- R project (professional), Python and Matlab

Languages

- English (professional), Chinese (native speaker).