

# JIAHUI XIN

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## RESEARCH INTERESTS

Adaptive Clinical Trial Design; Covariate- and Response-Adaptive Randomization; Robust Inference; Precision Medicine; Markov Decision Process.

## EDUCATION

- **Renmin University of China, Institute of Statistics and Big Data** Sept. 2021 – June 2026 (Expected)  
*Ph.D. Candidate in Statistics* Beijing, China
  - GPA: 3.84/4.0
  - Supervised by **Prof. Wei Ma**.
- **University of Cambridge, MRC Biostatistics Unit** Jan. 2026 – Present  
*Visiting Ph.D. Student* Cambridge, UK
  - Hosted by **Dr. David Robertson**.
  - Working on exact inference for covariate-adjusted response-adaptive (CARA) designs in clinical trials, in collaboration with Drs. David Robertson and Stef Baas.
- **University of Science and Technology of China, Special Class for the Gifted Young** Sept. 2016 – June 2021  
*B.S. in Statistics* Hefei, China
  - Major GPA: 3.95/4.3, Total GPA: 3.75/4.3
  - Initially majored in Physics (Sept. 2017 – June 2018).



## PAPERS

- [1] **On the Achievability of Efficiency Bounds for Covariate-Adjusted Response-Adaptive Randomization.**  
**Jiahui Xin** and Wei Ma.  
*Statistical Methods in Medical Research*, 2025.
- [2] **Cross-Validation Model Averaging under Covariate-Adaptive Randomization.**  
Fuyi Tu, **Jiahui Xin** and Wei Ma.  
Under review at *Statistica Sinica*.
- [3] **Covariate-Adaptive Randomization with Many Strata: Asymptotic Theory and Statistical Inference.**  
**Jiahui Xin**, Hanzhong Liu, Feifang Hu and Wei Ma.  
Manuscript in preparation for submission to *Biometrika*; early version available on arXiv:2405.18856.
- [4] **Covariate-Adaptive Enrollment for Single-Arm Trials Using External Controls.**  
**Jiahui Xin**, Hengjia Fang, Zhiyue Huang, Satoshi Yoshida and Wei Ma.  
Working paper.

## TALKS

- **Efficient Study Design Discussion Group, MRC Biostatistics Unit, University of Cambridge** 2026  
*Invited talk* Cambridge, UK  
Title: Covariate-adaptive randomization with many strata: Asymptotic theory and statistical inference
- **Drug Information Association, Quantitative Science Forum** 2025  
*Invited talk* Nanjing, China  
Title: Covariate-adaptive enrollment for single-arm survival trials using external controls
- **Chinese Statistical Association of Young Statisticians, Ph.D. Student Forum** 2025  
*Travel award & oral presentation* Jinan, China  
Title: Inference under covariate-adaptive randomization with many strata
- **National Graduate Student Statistics Forum, Biostatistics and Epidemiology Section** 2024  
*Selected paper & oral presentation* Beijing, China  
Title: Inference under covariate-adaptive randomization with many strata

## INTERNSHIP EXPERIENCE

- **Astellas Pharma  (Clinical Biometrics Function)** June 2025 – Aug. 2025  
*Clinical Biostatistics Intern, Adaptive Strategy* Beijing, China
  - Mentors: **Dr. Zhiyue Huang** and **Satoshi Yoshida**.
  - Developed adaptive enrollment strategies for single-arm survival trials under practical covariate shift.
  - Presented project results in internal seminars, including a China–Japan joint statistics meeting and a final internship presentation within the Clinical Biometrics Function.
- **Honor Device  (R&D Management Department)** July 2021  
*R&D Intern, Audio Augmentation* Nanjing, China
  - Mentor: **Dr. Lei Fang**.
  - Augmented synthetic speech with room-reverberation simulation to boost automatic speech recognition robustness.

## TEACHING EXPERIENCE

- **Adaptive Design and Reinforcement Learning** Spring 2025  
*Teaching Assistant, Renmin University of China*
- **Advanced Statistical Computation** Fall 2024  
*Teaching Assistant, Renmin University of China*
- **Advanced Applied Statistics and Data Analysis** Spring 2024  
*Teaching Assistant, Renmin University of China*
- **Statistical Models and Inference** Fall 2022  
*Teaching Assistant, Renmin University of China*
- **Complex Analysis** Spring 2020  
*Teaching Assistant, University of Science and Technology of China*
- **Optics and Atomic Physics** Spring 2019  
*Teaching Assistant, University of Science and Technology of China*

## OTHER EXPERIENCE

- **AI and Large Language Models Workshop** Feb. 2026  
*Department of Computer Science and Technology, University of Cambridge* Accelerate Programme for Scientific Discovery
- **Causal Analyses of Complex Experiments** Dec. 2025  
*Yau Mathematical Sciences Center, Tsinghua University* Short course by Prof. Peng Ding (UC Berkeley)
- **Causal Inference and A/B Testing** July 2024 – Aug. 2024  
*Guanghua School of Management, Peking University* Business Analysis Workshop by Tencent
- **Reinforcement Learning** Dec. 2023  
*Institute of Statistics and Big Data, Renmin University of China* Short course by Prof. Chengchun Shi (LSE)
- **Topics and Recent Advances in Causal Inference** June, July & Dec. 2023  
*Yau Mathematical Sciences Center, Tsinghua University* Short course by Prof. Peng Ding (UC Berkeley)
- **Semiparametric Learning** July 2023  
*Institute of Statistics and Big Data, Renmin University of China* Short course by Prof. Yanyuan Ma (Penn State)

## SKILLS

- **Programming & Tools:** R, C++, Python, Julia, Linux, Git

## REFERENCES

- **Dr. Wei Ma**   
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Institute of Statistics and Big Data  
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- **Dr. David Robertson**   
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