

Wenjie Hu

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Education and academic positions

University of Pennsylvania

Postdoctoral researcher

Philadelphia, USA

2024.08 - up to now

Peking University

Ph.D. in Statistics

Beijing, CN

2019.09 - 2024.06

University of Cambridge

Visiting scholar in Statistical Laboratory

Cambridge, UK

2023.01 - 2024.01

Peking University

B.S. in Mathematics and Applied Mathematics

Beijing, CN

2015.09 - 2019.06

Research Interests

Causal inference with unmeasured confounding; Missing data; Data fusion; Semiparametric theory; Graphical models; Selective inference.

Publications

† indicates joint first author or equal contribution.

PUBLISHED

1. J. Sun[†], **W. Hu**[†] and X.-H. Zhou (2024). Drug Efficacy Estimation for Follow-on Companion Diagnostic Devices Through External Studies. *Statistics in Medicine* 43.29, pp. 5605–5617
2. **W. Hu**, X.-H. Zhou and P. Wu (2025). Identification and estimation of treatment effects on long-term outcomes in clinical trials with external observational data. *Statistica Sinica* 35, pp. 959–980. DOI: 10.5705/ss.202023.0006
3. P. Wu, Z. Tan, **W. Hu** and X.-H. Zhou (2024). Model-assisted inference for covariate-specific treatment effects with high-dimensional data. *Statistica Sinica* 34, pp. 459–479. DOI: 10.5705/ss.202022.0089
4. W. Miao, **W. Hu**, E. L. Ogburn and X.-H. Zhou (2023). Identifying effects of multiple treatments in the presence of unmeasured confounding. *Journal of the American Statistical Association* 118.543, pp. 1953–1967. DOI: 10.1080/01621459.2021.2023551
5. W. Miao, W. Li, **W. Hu**, R. Wang and Z. Geng (2022). Invited commentary: estimation and bounds under data fusion. *American Journal of Epidemiology* 191.4, pp. 674–678. DOI: 10.1093/aje/kwab194
6. C. You, Y. Deng, **W. Hu**, J. Sun, Q. Lin, F. Zhou, C. H. Pang, Y. Zhang, Z. Chen and X.-H. Zhou (2020). Estimation of the time-varying reproduction number of COVID-19 outbreak in China. *International journal of hygiene and environmental health* 228, p. 113555. DOI: 10.1016/j.ijheh.2020.113555

PREPRINTS & UNDER REVISION

1. **W. Hu**, R. Wang, W. Li and W. Miao (2024). Semiparametric Efficient Fusion of Individual Data and Summary Statistics. *Minor revision invited by JASA*. arXiv: 2210.00200
2. Z. Gao[†], **W. Hu**[†] and Q. Zhao (2023). A constructive approach to selective risk control. *Major revision invited by Statistical Science*
3. X. Feng[†], **W. Hu**[†], P. Yang, T. Li and X.-H. Zhou (2024). Identifying average causal effect in regression discontinuity design with auxiliary data. *Submitted to JASA*. arXiv: 2412.20840
4. K. Jiang[†], **W. Hu**[†], S. Yang, X. Lai and X.-H. Zhou (2024). Improve Sensitivity Analysis Synthesizing Randomized Clinical Trials With Limited Overlap. *Major revision invited by Statistics in Medicine*. arXiv: 2409.07391
5. **W. Hu**, K. Jiang, H. Zhou, E. W. Steyerberg and X.-H. Zhou (2025). Methods for fusion of randomized trial with real world data: a review on estimation and sensitivity analysis. *Submitted to Statistics in Medicine*
6. Y. Zhu, **W. Hu**, B. Zhang, Y. Qiu and Y. Chen (2025). Robust bias calibration for causal inference under unmeasured confounding. *Submitted to JASA*

WORKING PAPERS

1. **W. Hu**, H. Zhou, S. Yang and X.-H. Zhou (2025). Synergizing Treatment Effect Assessment: Unifying Multiple Outcomes through RCT-RWD Integration for Enhanced Efficiency and Expanded Scope.
2. **W. Hu**, Y. Zhu, B. Zhang, Y. Qiu and Y. Chen (2025). Multi-site distributional inference of causal effect in the presence of unmeasured confounding.
3. **W. Hu**, J. Hu and Y. Chen (2025). Identifying causal effect for multiple treatments and outcomes with the existence of unmeasured confounding.

Awards and Fellowships

Award for Excellent Students	2018, 2020, 2022
School of Mathematical Science Scholarship	2020, 2021
Minglue Scholarship	2020
President Scholarship	2022, 2023
BICMR Mathematical Award for Graduate Students	2022
Outstanding Graduate of Beijing	2024

Presentations

- Oct 2025. *Identifying average causal effect in regression discontinuity design with auxiliary data*. University of Maryland.
- August 2025. *Identifying causal effect for multiple treatments and outcomes in the presence of unmeasured confounding*. JSM 2025.
- June 2025. *Multi-site distributional inference of causal effect in the presence of invalid negative control outcomes*. ICSA 2025.
- September 2023. *Identification and Estimation of Treatment Effects on Long-term Outcomes in Clinical Trials with External Observational Data*. Pacific Causal Inference Conference.
- January 2023. *Paradoxes and resolutions for semiparametric fusion with individual and summary data*. University of Cambridge.

May 2021. *Identifying effects of multiple treatments in the presence of unmeasured confounding*. Peking university.

Teaching Experience

Statistical Inference, Teaching Assistant

Fall 2019, 2020, 2021

Introduction to Causal Inference, Teaching Assistant

Spring 2020

Introduction to Semiparametric Theory, Teaching Assistant

Summer school 2021

Professional Service

Peer review for scientific journals: *Statistics in Medicine*, *Journal of Computational and Graphical Statistics*, *Journal of the Royal Statistical Society (Series B, Statistical Methodology)*.