

Zhichao Jiang

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POSITIONS

Assistant Professor (Sep 2019 –)

Department of Biostatistics and Epidemiology, School of Public Health and Health Sciences
University of Massachusetts, Amherst

Postdoctoral Fellow (Sep 2018 – Sep 2019)

Department of Government and Department of Statistics, Harvard University
Advisor: Prof. Kosuke Imai

Postdoctoral Research Associate (Sep 2016 – Sep 2018)

Department of Politics and Center for Statistics and Machine Learning, Princeton University
Advisor: Prof. Kosuke Imai

Visiting Student (Sep 2013 – Sep 2014)

Department of Epidemiology, Harvard T.H. Chan School of Public Health
Advisor: Prof. Tyler J. VanderWeele

EDUCATION

Ph.D. Statistics – Peking University, 2016

Dissertation: Identification of principal stratification causal effects and surrogate evaluation
Advisor: Prof. Zhi Geng

B.S. Statistics, B.A. Economics – Peking University, 2011

RESEARCH INTERESTS

Causal mechanisms: mediation analysis, interaction;

Instrumental variable approaches: latent confounders, identifiability;

Interference: spillover effect, contagious effect and infectiousness effect;

Measurement error and misclassification in causal inference;

Missing data: non-ignorable missing data mechanisms;

Principal stratification: non-compliance, surrogate, truncation-by-death;

Randomization-based analysis of experiments.

PUBLICATIONS

* Corresponding authorship

1. **Jiang, Z.** and Ding, P. (accepted). Identification of Causal Effects Within Principal Strata Using Auxiliary Variables. *Statistical Science*

2. Imai, K., **Jiang, Z.*** and Malani, A. (accepted). Causal inference with interference and noncompliance in the two-stage randomized experiments. *Journal of the American Statistical Association*
3. **Jiang, Z.** and Ding, P. (2020). Measurement errors in the binary instrumental variable model. *Biometrika*, **107**, 238–245.
4. Imai, K. and **Jiang, Z.*** (2020). Identification and sensitivity analysis of contagion effects with randomized placebo-controlled trials. *Journal of the Royal Statistical Society: Series A*, **183**, 1637–1657.
5. Imai, K. and **Jiang, Z.** (2019). Comment: The Challenges of Multiple Causes. *Journal of the American Statistical Association*, **114**, 1605–1610.
6. **Jiang, Z.** and VanderWeele, T. J. (2019). Causal mediation analysis in the presence of a misclassified binary exposure. *Epidemiological Methods*.
7. Imai, K., and **Jiang, Z.*** (2018). A sensitivity analysis for missing outcomes due to truncation-by-death under the matched-pairs design. *Statistics in Medicine*, **37**, 2907–2922.
8. **Jiang, Z.** and Ding, P. (2018). Using missing types to improve partial identification with application to a study of HIV prevalence in Malawi. *Annals of Applied Statistics*, **12**, 1831–1852.
9. Li, W., **Jiang, Z.**, Geng, Z. and Zhou, XH. (2018). Identification of causal effects in the presence of measurement error and latent confounding. *Biometrical Journal*, **60**, 498–515.
10. **Jiang, Z.** and Ding, P. (2017). The Directions of Selection Bias. *Statistics and Probability Letters*, **125**, 104–109.
11. **Jiang, Z.**, Ding, P. (2016). Robust modeling using non-elliptically contoured multivariate t distributions. *Journal of Statistical Planning and Inference*, **177**, 50–63.
12. **Jiang, Z.**, Ding, P. and Geng, Z. (2016). Principal causal effect identification and surrogate endpoint evaluation by multiple trials. *Journal of the Royal Statistical Society: Series B (Statistical Methodology)*, **78**, 829–848.
13. **Jiang, Z.** and VanderWeele, T. J. (2015). When is the difference method conservative for mediation? (With discussion). *American Journal of Epidemiology*, **182**, 105–108.
14. **Jiang, Z.** and VanderWeele, T. J. (2015). Bounds or sensitivity analysis? Which to prefer for mediation? (Rejoinder to discussion). *American Journal of Epidemiology*, **182**, 115–117.
15. **Jiang, Z.**, Ding, P. and Geng, Z. (2015). Qualitative evaluation of associations by the transitivity of the association signs. *Statistica Sinica*, **25**, 1065–1079.
16. **Jiang, Z.** and VanderWeele, T. J. (2015). Causal mediation analysis in the presence of a mismeasured outcome. *Epidemiology*, **26**, e8–e9.
17. **Jiang, Z.**, VanderWeele T. J. (2015). Additive interaction in the presence of a mismeasured outcome. *American Journal of Epidemiology*, **181**, 81–82.
18. **Jiang, Z.**, Chiba, Y. and VanderWeele, T. J. (2014). Monotone confounding, monotone treatment selection, and monotone treatment response. *Journal of Causal Inference*, **2**, 1–12.
19. Liu, H., **Jiang, Z.**, Fang, X., Fu, H., Zheng, X., Cha, L. and Li, W. (2011). Generate gene expression profile from high-throughput sequencing data. *Frontiers of Mathematics in China*, **6**, 1131–1145.

INVITED PRESENTATIONS

- Experimental Evaluation of Computer-Assisted Human Decision Making
Pacific Causal Inference Conference, Virtue, Sep 2020
- Causal Inference with Interference and Noncompliance in the Two-Stage Randomized Experiments
Applied Statistics Workshop, Harvard University, Nov 2018
Joint Statistical Meetings, Vancouver, Canada, Aug 2018
Peking University, Beijing, China, July 2018
Atlantic Causal Inference Conference, Pittsburgh, PA, May 2018
- Using Missing Types to Improve Partial Identification with Missing Binary Outcomes
NESS, Hartford, CT, May 2019
ENAR, Philadelphia, PA, Mar 2019
EcoSta, HongKong, June 2018
- Measurement errors in the binary instrumental variable model
EcoSta, Taichung, June 2019
- Principal Surrogate Evaluation Using Multiple Trials
Department of Mathematics and Statistics, University of Massachusetts Amherst, Nov 2019
Joint Statistical Meetings, virtual conference, topic-contributed, 2020

PROFESSIONAL ACTIVITIES

Journal reviews : *American Journal of Epidemiology, Annals of Applied Statistics, Biometrics, Biometrika, Biostatistics, Biostatistics & Epidemiology, Computational Statistics and Data Analysis, Epidemiologic Methods, Journal of the American Statistical Association, Statistics in Medicine, Statistical Methods in Medical Research, Scandinavian Journal of Statistics, Journal of Causal Inference, Journal of Business & Economic Statistics, International Journal of Epidemiology.*

Consultant: The Program for Quantitative and Analytical Political Science at Princeton University, 2017-2018

Seminar organizer: Causal reading group, Harvard University, 2018

Session organizer: Causal inference with interference, *Atlantic Causal Inference Conference*, Pittsburgh, PA, May 2018

Session chair: Recent developments for causal effect estimation in observational studies, *International Chinese Statistical Association*, New Brunswick, NJ, June 2018

TEACHING

Causal inference: special topics, *Instructor*, Spring 2020, University of Massachusetts Amherst.

Introduction to data science using R, *Instructor*, Fall 2020, Spring 2021, University of Massachusetts Amherst.