

Zhichao Jiang

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. Identification and sensitivity analysis of contagion effects with randomized placebo-controlled trials, Imai, K. and **Jiang, Z.*** (Accepted) *Journal of the Royal Statistical Society: Series A*.
2. Measurement errors in the binary instrumental variable model, **Jiang, Z.** and Ding, P. (Accepted) *Biometrika*.
3. A sensitivity analysis for missing outcomes due to truncation-by-death under the matched-pairs design, Imai, K., and **Jiang, Z.*** (2018) *Statistics in Medicine*, **37**, 2907–2922.

4. Using missing types to improve partial identification with application to a study of HIV prevalence in Malawi, **Jiang, Z.** and Ding, P. (2018) *Annals of Applied Statistics*, **12**, 1831–1852.
5. Identification of causal effects in the presence of measurement error and latent confounding, Li, W., **Jiang, Z.**, Geng, Z. and Zhou, XH. (2018) *Biometrical Journal*, **60**, 498–515.
6. The Directions of Selection Bias, **Jiang, Z.** and Ding, P. (2017) *Statistics and Probability Letters*, **125**, 104–109.
7. Robust modeling using non-elliptically contoured multivariate t distributions, **Jiang, Z.**, Ding, P. (2016) *Journal of Statistical Planning and Inference*, **177**, 50–63.
8. Principal causal effect identification and surrogate endpoint evaluation by multiple trials, **Jiang, Z.**, Ding, P. and Geng, Z. (2016) *Journal of the Royal Statistical Society: Series B (Statistical Methodology)*, **78**, 829–848.
9. When is the difference method conservative for mediation? (With discussion), **Jiang, Z.** and VanderWeele, T. J. (2015) *American Journal of Epidemiology*, **182**, 105–108.
10. Bounds or sensitivity analysis? Which to prefer for mediation? (Rejoinder to discussion), **Jiang, Z.** and VanderWeele, T. J. (2015) *American Journal of Epidemiology*, **182**, 115–117.
11. Qualitative evaluation of associations by the transitivity of the association signs, **Jiang, Z.**, Ding, P. and Geng, Z. (2015) *Statistica Sinica*, **25**, 1065–1079.
12. Causal mediation analysis in the presence of a mismeasured outcome, **Jiang, Z.** and VanderWeele, T. J. (2015) *Epidemiology*, **26**, e8–e9.
13. Additive interaction in the presence of a mismeasured outcome, **Jiang, Z.**, VanderWeele T. J. (2015) *American Journal of Epidemiology*, **181**, 81–82.
14. Monotone confounding, monotone treatment selection, and monotone treatment response, **Jiang, Z.**, Chiba, Y. and VanderWeele, T. J. (2014) *Journal of Causal Inference*, **2**, 1–12.
15. Generate gene expression profile from high-throughput sequencing data, Liu, H., **Jiang, Z.**, Fang, X., Fu, H., Zheng, X., Cha, L. and Li, W. (2011) *Frontiers of Mathematics in China*, **6**, 1131–1145.

PREPRINTS AND WORKING PAPERS

- Causal mediation analysis in the presence of a misclassified binary exposure, **Jiang, Z.** and VanderWeele, T. J. *Under revision at Epidemiological Methods*.
- Causal inference with interference and noncompliance in two-stage randomized experiments, Imai, K., **Jiang, Z.*** and Malani, A. *Submitted to Journal of the American Statistical Association*.
- Identifiability of causal effects within principal strata using an auxiliary variable, **Jiang, Z.** and Ding, P. *Submitted to Journal of the American Statistical Association*.
- Estimating complier average causal effects from multiple data sources, Chen, S., **Jiang, Z.** and Imai, K.

INVITED PRESENTATIONS

- 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

PROFESSIONAL ACTIVITIES

Journal reviews : *Biometrics, Biostatistics, Statistics in Medicine, Computational Statistics and Data Analysis, Journal of the American Statistical Association, 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