

Zijian Guo

CONTACT INFORMATION	Hill Center 110 Frelinghuysen Road Piscataway, NJ 08854	(215) 696-0716 (C) zijguo@stat.rutgers.edu http://statistics.rutgers.edu/home/zijguo/
RESEARCH INTERESTS	High-dimensional inference, causal inference and econometrics. <ul style="list-style-type: none">• Inference for high-dimensional regression• Instrumental variable methods• Heritability and co-heritability analysis in genomics• Mediation analysis	
WORK	<i>Assistant Professor</i> Department of Statistics and Biostatistics Rutgers, the State University of New Jersey, Piscataway, NJ	Sep 2017-present
	<i>Visiting Scholar</i> Center for Statistics in Big Data, Perelman School of Medicine University of Pennsylvania, Philadelphia, PA <i>Host: Hongzhe Li</i>	August 2017
EDUCATION	<i>PhD in Statistics</i> Department of Statistics, The Wharton School University of Pennsylvania, Philadelphia, PA <i>Thesis advisor: T. Tony Cai</i>	May 2017
	<i>Bachelor of Science in Mathematics</i> Department of Mathematics The Chinese University of Hong Kong, Shatin, Hong Kong	July 2012
PAPERS	<u>Published/Accepted Papers</u> (* indicates alphabetical ordering authorship, citation=45) <ol style="list-style-type: none">1. *Cai, T. T., & Guo, Z. (2016). Confidence intervals for high-dimensional linear regression: Minimax rates and adaptivity. <i>Annals of Statistics</i>, 45(2), 615-646.2. *Cai, T. T., & Guo, Z. (2016). Accuracy assessment for high-dimensional linear regression. <i>Annals of Statistics</i>, to appear.3. Guo, Z., & Small, D. S. (2016). Control function instrumental variable estimation of nonlinear causal effect models. <i>Journal of Machine Learning Research</i>, 17(100), 1-35.4. Guo, Z., Cheng, J., Lorch, S. A., & Small, D. S. (2014). Using an instrumental variable to test for unmeasured confounding. <i>Statistics in Medicine</i>, 33(20), 3528-3546.5. Guo, Z., Kogan, R., Qiu, H., & Strichartz, R. S. (2014). Boundary value problems for a family of domains in the Sierpinski gasket. <i>Illinois Journal of Mathematics</i>, 58(2), 497-519.6. Cheng, J., Cheng N. F., Guo, Z., Gregorich, S., Amid I. I., & Gansky, S. A. (2016). Mediation analysis for count and zero-inflated count data. <i>Statistical Methods in Medical Research</i>, to appear.7. Guo, Z., Small, D. S., Gansky, S. A., & Cheng, J. (2016). Mediation analysis for count and zero-inflated count data without sequential ignorability. <i>Journal of the Royal Statistical Society: Series C</i>, to appear. <u>Revision under Review</u> <ol style="list-style-type: none">8. Guo, Z., Wang, W., Cai, T. T., & Li, H. (2016). Optimal estimation of co-heritability in	

high-dimensional linear models. *Journal of the American Statistical Association*, major revision.

9. **Guo, Z.**, Kang, H., Cai, T. T., & Small, D. S. (2016). Confidence Interval for Causal Effects with Invalid Instruments using Two-Stage Hard Thresholding. *Journal of the Royal Statistical Society: Series B*, major revision.

10. **Guo, Z.**, Kang, H., Cai, T. T., & Small, D. S. (2016). Testing Endogeneity with High Dimensional Covariates. *Journal of Econometrics*, under review.

Technical Reports

11. Lowder, E. M., Desmarais, S. L., **Guo, Z.**, Coffey, T., & Van Dorn, R. A. (2016). Receipt of disability benefits, behavioral health service utilization, and recidivism in mental health jail diversion clients. submitted to *Administration and Policy in Mental Health and Mental Health Services Research*.

SOFTWARE

Two Stage Hard Thresholding

R code is available at <http://stat.wharton.upenn.edu/~zijguo/Software.html>.

TEACHING
EXPERIENCE

Instructor

Summer 2016

The Wharton School, University of Pennsylvania
 STAT 111 : Introductory Statistics
Instructor Rating: 3.6 out of 4.0
 (The average rating of this course at UPenn is 2.6)

Recitation Instructor

Fall 2014

The Wharton School, University of Pennsylvania
 STAT 111: Introductory Statistics

Teaching Assistant

The Wharton School, University of Pennsylvania
 STAT 102: Business Statistics
 STAT 970: Mathematical Statistics
 STAT 622: Statistical Modeling
 STAT 550: Mathematical Statistics

Spring 2017
 Fall 2016
 Spring 2016
 Fall 2015

HONORS AND
AWARDS

- IMS travel Award, JSM Aug. 2017
- President Gutmann Leadership Award, University of Pennsylvania Apr. 2017
- J. Parker Bursk Prize Sept. 2016
Awarded by the Statistics Department at the Wharton School for excellence in research.
- Statistics in Epidemiology Young Investigator Award, JSM Aug. 2013
Awarded by the American Statistical Association section on Statistics in Epidemiology for the paper "Using an instrumental variable to test for unmeasured confounding."

- Chung Chi College Departmental Prize, CUHK 2011
- Dr. Chao Yong Chi-hsing Scholarship in Mathematics, CUHK 2011
- Chung Chi Traveling Award in Mathematics, CUHK 2011
- Chung Chi Ivy League Exchange Scholarship, CUHK 2010
- Caring Alumni Student Exchange Scholarship, CUHK 2010
- Dean's List, College of Arts and Science, UPenn 2010
- Dean's Honors List, Faculty of Science, CUHK 2008, 2009
- Chung Chi College Scholarship, CUHK 2009
- Honors at Entrance to the Chinese University of Hong Kong (4 years) 2008

TALKS

- Topic contributed talk, Joint Statistical Meetings, Baltimore, USA, "*Optimal Estimation of Co-Heritability in High-Dimensional Linear Models*", Aug. 2017
- Invited talk, IMS-China 2017, Nanning, China (Cancelled), June. 2017
- Invited talk, Statistical Foundations of Uncertainty Quantification for Inverse Problem, Cambridge, "*Inference for Functionals in High-dimensional Linear Models*", June. 2017
- Seminar, Center for Statistical Methods in Big Data, University of Pennsylvania, "*Inference with High-dimensional Covariates and Possibly Invalid Instruments*", Apr. 2017
- Seminar, Institute of Data science, Fox Business School, Temple University, "*Inference for High Dimensional Linear Models: Fundamental Limits and Algorithms*", Feb. 2017
- Department seminar, Department of Biostatistics, UC Berkeley, "*Inference for High Dimensional Linear Models: Fundamental Limits and Algorithms*", Feb. 2017
- Department seminar, Department of Statistics & Biostatistics, Rutgers, "*Inference for High Dimensional Linear Models: Fundamental Limits and Algorithms*", Feb. 2017
- Department seminar, Department of Statistics, University of Michigan, "*Inference for High Dimensional Linear Models: Fundamental Limits and Algorithms*", Jan. 2017
- Department seminar, Department of Statistics, University of Minnesota, "*Inference for High Dimensional Linear Models: Fundamental Limits and Algorithms*", Jan. 2017
- Department seminar, Department of Statistics, UIUC, "*Inference for High Dimensional Linear Models: Fundamental Limits and Algorithms*", Jan. 2017
- Department seminar, DPMMS, University of Cambridge, "*Inference for High Dimensional Linear Regression: Fundamental Limits and Algorithms*", Jan. 2017
- Department seminar, Department of Statistics, UC Santa Barbara, "*Inference for High Dimensional Linear Models: Fundamental Limits and Algorithms*", Jan. 2017
- Invited talk, Mathematical Meeting in Statistics, Fréjus, France, "*Optimal Estimation of Genetic Correlation in High-dimensional Linear Models*", Dec. 2016
- Econometrics Lunch, Department of Economics, University of Pennsylvania, "*Confidence Intervals for Treatment Effects in High-Dimensional Linear Models*", Nov. 2016
- Contributed talk, Joint Statistical Meetings, Chicago, USA, "*Accuracy Assessment for High-dimensional Linear Regression*", Aug. 2016
- Contributed talk, Eastern North American Region, Austin, USA, "*Confidence Intervals for High-Dimensional Linear Regression: Minimax Rates and Adaptivity*", Mar. 2016
- Poster presentation, John W. Tukey Conference, Princeton University, "*Confidence Intervals for High-Dimensional Linear Regression: Minimax Rates and Adaptivity*", Sept. 2015
- Contributed talk, Joint Statistical Meetings, Seattle, USA, "*Distance Matrix Estimation from Noisy Observation of Low Rank Position Matrix*", Aug. 2015
- Contributed talk, Joint Statistical Meetings, Boston, USA, "*Instrumental Variable Approach*"

for Mediation Analysis of Count Model", Aug. 2014

- Topic Contributed talk, Joint Statistical Meetings, Montreal, Canada, "*Instrumental Variable Approach for Mediation Analysis of Zero-Inflated Count Model*", Aug. 2013
- Poster presentation, Atlantic Causal Inference Conference, Harvard University, "*Control Function Instrumental Variable Estimation of Nonlinear Causal Effect Models*", May. 2013

ACADEMIC
SERVICE

- Reviewer, *Annals of Statistics* (4 times)
- Reviewer, *Statistica Sinica*
- Reviewer, *IEEE International Symposium on Information Theory*
- Reviewer, *Journal of Applied Statistics*
- Reviewer, *Biometrics* (twice)
- Reviewer, *Journal of Machine Learning*

MEMBERSHIPS

- American Statistical Association
- Institute of Mathematical Statistics
- International Chinese Statistical Association
- The Econometric Society