Wenjing Zheng, Ph.D.

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Experience

- **Visiting Assistant Professor** (1/2016-present)
  Division of Biostatistics, University of California, Berkeley

- **Executive Director** (1/2016-present)
  Center for Targeted Learning in Big Data, School of Public Health, University of California, Berkeley

- **Postdoctoral Research Fellow** (10/2014-1/2016)
  Center for AIDS Prevention Studies, University of California, San Francisco

- **Graduate Student Researcher** (6/2010-5/2014)
  Division of Biostatistics, School of Public Health, UC Berkeley

- **Chateaubriand-STEM Research Fellow** (9/2012-5/2013)
  Université Paris Descartes, Paris, France and UC Berkeley

Education

2014   Ph.D. in **Biostatistics**
        School of Public Health, University of California, Berkeley

        Dissertation: Semi-parametric and Robust Methods for Complex Parameters in Causal Inference.
        (Advisor: Mark van der Laan)

2011   M.A. in **Biostatistics**
        School of Public Health, University of California, Berkeley

        Thesis: Targeted Minimum Loss Estimation: Theory and application to the study of community-based interventions.
        (Advisor: Mark van der Laan)

2007   B.A. in **Mathematics**, Highest Honors
        University of California, Berkeley

Fellowships and Awards

2016   **Young Investigator Award**
Conference on Retroviruses and Opportunistic Infections

2015   **Honorable Mention in the Student Paper Competition**
Mental Health Statistics Section of the American Statistical Association

2014   **Extraordinary Student Research Award**
Division of Biostatistics
School of Public Health, University of California, Berkeley

2012-2013   **Chateaubriand Fellowship - STEM**
Embassy of France in the United States

Project: Inference and testing under adaptive group sequential clinical trial designs.

2007   **Dorothea Klumpke Roberts Prize for Truly Exceptional Scholarship in Mathematics**
University of California, Berkeley

Teaching Experience

- **Graduate Student Instructor** (2007-2010)
  UC Berkeley

  – Design format and exercises for discussion sections to complement the lecture content, design weekly quizzes to assess learning, consult with students in office hours, and grade exams and homework. Courses include Calculus II, Honors Multivariate Calculus, Linear Algebra and Differential Equations, Precalculus, and Introductory Statistics.

Research Support

- **Sustainable East Africa Research in Community Health** (8/2014-present)
  Role: Investigator
  Responsibilities: Build social networks from contact data collected at study baseline. Develop frameworks for applying social network data to inform HIV care delivery and to further understanding of HIV related behaviors and outcomes and social structures of high-risk populations. Develop statistical methods inform to individual-based targeted PrEP and targeted linkage strategies.

- **Preterm Birth Initiative, University of California, San Francisco.** (12/2015-present)
  Role: Lead statistician.
  Responsibilities: Develop study design and analysis plans for rigorous impact evaluation of 2 large facility-level implementation projects to improve preterm birth outcomes in East Africa.

Publications

Peer-reviewed Journal Articles

- **Targeted Maximum Likelihood Estimation for the Marginal Structural Model for the Hazard Function**
  W. Zheng, Maya Petersen and Mark van der Laan
  To appear: International Journal of Biostatistics

- **Estimating the Effect of a Community-Based Intervention with Two Communities.**
  Mark van der Laan, Maya Petersen, W. Zheng
  Journal of Causal Inference. Volume 1, Issue 1, 2013 p83-106

- **Oral and Injectable Contraception Use and Risk of HIV Acquisition Among Women in the Methods for Improving Reproductive Health in Africa (MIRA) Study**
  Sandra McCoy, W. Zheng, Elizabeth Montgomery, Kelly Blanchard, Ariane van der Straten, Guy De Bruyn, Nancy Padian.
  AIDS. Volumen 27, Issue 6, 2013. p1001-1009

- **Targeted Maximum Likelihood Estimation of Natural Direct Effects.**
  W. Zheng and Mark van der Laan.
  International Journal of Biostatistics. Volume 8, Issue 1 (2012).

- **Sampling Lissajous and Fourier knots.**
  Adam Boocher, Jay Daigle, Jim Hoste and W. Zheng.
  Experiment. Math. Volume 18, Issue 4 (2009), 481-497.

Book Chapters

- **Targeted Covariate-Adjusted Response-Adaptive LASSO-based Randomized Controlled Trials**.
  Antoine Chambaz, Mark van der Laan and W. Zheng.
  Book: *Modern Adaptive Randomized Clinical Trials: Statistical, Operational, and Regulatory Aspects.* Edited by Alex Sverdlov (CRC Press 2015).

- **Cross-validated Targeted Minimum-Loss-Based Estimation**.
  W. Zheng and Mark van der Laan.
  Book: *Targeted Learning: Causal Inference for Observational and Experimental Data.*
  Edited by Mark van der Laan and Sherri Rose (Springer 2011).

Under review

- **Drawing Valid Inference in Covariate-Adjusted Response-Adaptive Designs using Data-Adaptive Estimators**
  W. Zheng, Antoine Chambaz and Mark van der Laan

- **Targeted Maximum Likelihood Estimation for Mediation Analysis with Time-Varying Mediator and Exposure**
  W. Zheng and Mark van der Laan

- **Marginal Structural Models with Counterfactual Effect Modifiers**
  W. Zheng, Zhehui Luo and Mark van der Laan

Technical Reports

- **Drawing Valid Targeted Inference When Covariate-adjusted Response-adaptive RCT Meets Data-adaptive Loss-based Estimation, With An Application To The LASSO**
  W. Zheng and Antoine Chambaz, Mark van der Laan.
  http://biostats.bepress.com/ucbbiostat/paper339/

- **Targeted Covariate-Adjusted Response-Adaptive LASSO-Based Randomized Controlled Trials**
  Antoine Chambaz, Mark van der Laan and W. Zheng.
  http://biostats.bepress.com/ucbbiostat/paper323/

- **Causal Mediation in a Survival Setting with Time-Dependent Mediators.**
  W. Zheng and Mark van der Laan.
  http://biostats.bepress.com/ucbbiostat/paper295/

- **Targeted Maximum Likelihood Estimation of Natural Direct Effects.**
  W. Zheng and Mark van der Laan.
  http://biostats.bepress.com/ucbbiostat/paper288/

- **Asymptotic Theory for Cross-validated Targeted Maximum Likelihood Estimation**.

W. Zheng and Mark van der Laan.
http://www.bepress.com/ucbbiostat/paper273

In preparation

- **Sensitivity-constrained binary classification using Super Learner**
  W. Zheng, Maya Petersen and Mark van der Laan

- **Applying machine learning to develop cost-effective Targeted PrEP strategies with maximized population level effect.**
  W. Zheng, Maya Petersen and Mark van der Laan

Professional Presentations

- Poster presentation: Conference on Retroviruses and Opportunistic Infections. Boston, MA, February 2016.
  Title: **Local Social Network Features Predict HIV Testing Uptake in a Rural Ugandan Community**

- Oral and poster presentation: Infectious Disease Research: Quantitative Methods and Models in the Era of Big Data. Bethesda, MD, November 2015.
  Title: **Machine Learning Applied to Social Network Data to Develop Targeted HIV Testing and Prevention Strategies**

- Invited Session, Eastern North American Region/International Biometric Society Spring Meeting, Miami, FL, March 2015
  Title: **Robust and Data-Adaptive Estimation in Covariate-Adjusted Response-Adaptive RCT.**

- Topic Contributed Session, Joint Statistical Meetings, Montreal, Quebec, August 2013
  Title: **Mediation Analysis with time-varying exposure and mediators**

- Invited Session, Annual Meeting of the Statistical Society of Canada, Edmonton, Alberta, May 2013
  Title: **Targeted Maximum Likelihood Estimation**

- Invited session, Atlantic Causal Inference Conference, Ann Arbor, MI, May 2011:
  Title: **Causal Inference for Community Based Studies with Few Communities**.

Referee Services

Annals of Statistics, Statistical Methods in Medical Research, Statistics in Medicine, International Journal of Epidemiology, American Journal of Epidemiology, Journal of Biopharmaceutical Statistics, Epidemiology, Biometrics, Journal of Causal Inference.

Editorial Services

Journal of Causal Inference

Languages

Fluent in Chinese and Spanish.

Last updated: March 11, 2016