### Larry Han

Office Northeastern University

Department of Health Sciences

Robinson Hall 316D 336 Huntington Avenue Boston, MA 02115

Contact

Email: lar.han@northeastern.edu Website: larrylehan.github.io Twitter: twitter.com/lhan320

Cell: (919) 272-1491

**EDUCATION** 

Ph.D. in Biostatistics, Harvard University, May 2023

Advisors: Tianxi Cai, Lorenzo Trippa

Committee: Rui Duan, Sebastian Schneeweiss

A.M. in Biostatistics, Harvard University, May 2020

M.Phil. in Healthcare Operations, University of Cambridge, Jul 2018

Distinction

Advisor: Stefan Scholtes

M.A. in Global Affairs, Tsinghua University, Jul 2017

Outstanding Master's Thesis Award

Advisor: Michael Powers

B.S. in Public Health, Biostatistics, University of North Carolina at Chapel Hill, May 2016

Highest Honors, Highest Distinction Advisors: Michael Hudgens, Joseph Tucker

ACADEMIC APPOINTMENTS Assistant Professor of Health Sciences, Northeastern University, Aug 2023-Present

Impact Engine Fellow, Real World Healthcare Navigator, Aug 2023–Present

Postdoctoral Fellow in Health Care Policy, Harvard Medical School, May 2023-Aug 2023

Advisor: Sharon-Lise Normand

Funding

National Heart, Lung, and Blood Institute R01HL162893, May 2023–Present

Sub-award, 30% effort

Principal Investigators: Sharon-Lise Normand & Sara Pasquali

Modern Analytics to Improve Quality & Outcome Assessments Following Congenital Heart Surgery

World Health Organization Social Innovation in Health Research Grant, 2019–2022

Co-Principal Investigator, \$190,000 USD annually

National Institutes of Health T32 COMET Training Grant, 2020–2022

Coordinator: Jeffrey Katz, Distinguished Chair in Orthopaedic Surgery, Harvard Medical School

National Institutes of Health T32 Big Data to Knowledge Training Grant, 2018–2020

Coordinator: John Quackenbush, Department Chair, Harvard Biostatistics

Honors & Awards

2023 National Committee on U.S.-China Relations, Track II Dialogue on Healthcare, Rapporteur 2023 American Statistical Association Student Paper Award, Health Policy Statistics Section

2023 International Conference on Health Policy Statistics Student Paper Travel Award

- 2022 Western North American Region of the International Biometric Society Spring Meeting Best Oral Student Paper Presentation Award
- 2022 American Statistical Association Biopharmaceutical Section Scholarship Award
- 2022 American Statistical Association Young Investigator Award, Statistics in Epidemiology
- 2022 American Causal Inference Conference New Researcher Award
- 2022 Institute of Mathematical Statistics Hannan Graduate Student Travel Award
- 2022 Rose Fellowship, Assistance Publique-Hopitaux de Paris
- 2021 John Van Ryzin Award
- 2021 American Statistical Association Biopharmaceutical Regulatory-Industry Statistics Workshop Student Poster Award
- 2021 New England Statistics Symposium Student Poster Award
- 2021 Best Student Poster, Harvard T.H. Chan Poster Day
- 2019 25 Under 25 Leaders in US-China Relations, China Hands
- 2017 Gates Cambridge Scholarship
- 2016 Schwarzman Scholarship
- 2016 Phillips Ambassadors 10-Year Anniversary Award
- 2016 Order of the Golden Fleece
- 2016 Delta Omega Award of Excellence
- 2015 Goldwater Scholarship
- 2014 Phillips Ambassadorship
- 2012 Morehead-Cain Scholarship
- 2012 National Merit Scholarship

#### Working papers, pre-prints & peer-reviewed publications

#### RESEARCH INTERESTS

Methodological: Causal inference; Conformal inference; Data integration; Federated learning; Highdimensional statistics; Natural language processing; Semi-supervised learning; Sensitivity analysis; Surrogate markers; Survival analysis; Transfer learning

Applications: Clinical trials; Comparative effectiveness; Crowdsourcing; Electronic health records; Global health; Healthcare operations; Health policy and management; Infectious diseases; Pharmacoepidemiology; Rapid testing; Social innovation; Quality measurement

#### WORKING PAPERS

- [6] Han, L.; Liu, Y.; Levis, A. "Federated Conformal Inference under Covariate Shift." In preparation.
- [5] Han, L.; Tang, W.; Tian, L.; Cai, T. "Multi-Institution Federated Learning of Differential COVID-19 Vaccine Efficacy." In preparation.
- [4] **Han, L.**; Zhang, Y.; Duan, R. "Heterogeneous Causal Effect Estimation in Underrepresented Populations: Federated and Transfer Learning Approaches." *In preparation*.
- [3] **Han, L.**; Hou, J.; Cai, T. "Semi-supervised Doubly Robust Estimation for Pragmatic Trial Design." *In preparation*.
- [2] **Han, L.** and Cai, T. "Cross-Institutional EHR Data Harmonization using NLP: Prediction of Long-COVID Outcomes in French and US Hospitals." *In preparation*.
- [1] Liu, M.; Han, L.; Xiong, X.; Cai, T.; Tian, L. "Federated Survival Analysis with High Dimensional and Heterogeneous Data." *In preparation*.

#### Preprints

- [3] Guo, Z.; Li, X; **Han, L.**; Cai, T. (2023+) "Robust Inference for Federated Meta-Learning." *Arxiv*. [Paper].
  - Major revision at Journal of the American Statistical Association
- [2] **Han, L.;** Li, Y.; Niknam, B.; Zubizarreta, J. (2023+) "Privacy-Preserving and Communication-Efficient Causal Inference for Hospital Quality Measurement." *Arxiv.* [Paper].
  - Minor revision at Annals of Applied Statistics
  - 2023 American Statistical Association Student Paper Award, Health Policy Statistics Section
  - 2022 Western North American Region of the International Biometric Society Spring Meeting Best Oral Student Paper Presentation Award
- [1] **Han, L.;** Duan, R.; Cai, T. (2023+) "Federated Adaptive Causal Estimation (FACE) of Target Treatment Effects." *Arxiv* [Paper].
  - Major revision at Journal of the American Statistical Association
  - 2022 American Statistical Association Young Investigator Award, Section on Statistics in Epidemiology, Joint Statistical Meetings

#### Publications

- [36] Han, L.; Zhu, S.; Zubizarreta, J. (2023). "Multiply Robust Federated Estimation of Targeted Average Treatment Effects." *Accepted at NeurIPS*. [Paper].
- [35] **Han, L.** (2023). "Breaking Free from the Hazard Ratio: Embracing the Restricted Mean Survival Time in Clinical Trials." *NEJM Evidence*. [Paper].
- [34] **Han, L.**; Arfe, A.; Trippa, L. (2023). "Sensitivity Analyses of Clinical Trial Designs: Selecting Scenarios and Summarizing Operating Characteristics." *The American Statistician*. [Paper].
  - 2021 New England Statistics Symposium Student Poster Award
- [33] **Han, L.;** Wang, X.; Cai, T. (2022). "Identifying Surrogate Markers in Real-World Comparative Effectiveness Research." *Statistics in Medicine*. [Paper].
  - 2021 John Van Ryzin Award
- [32] Day, S.; Hlatshwako, T.G., Lloyd, A., **Han, L.**; Tang, W.; Bayus, B.; Tucker, J.D. (2022). "Evaluating and Volunteering for Crowdsourced Interventions: Cross-Sectional Data on COVID-19 Safety from a University Survey." *PLOS One.* [Paper].
- [31] Weber, G.; Hong, C.; Xia, Z; ... 4CE (Han, L.); Kohane, I.; Cai, T.; Brat, G. (2022). "International Comparisons of Laboratory Values from the 4CE Collaborative to Predict COVID-19 Mortality." NPJ Digital Medicine. [Paper].
- [30] Wang, X.; Parast, L.; **Han, L.**; Tian, L; Cai, T. (2022). "Robust Approach to Combining Multiple Markers to Improve Surrogacy." *Biometrics*. [Paper].
- [29] **Han, L.;** Tang, W.; Tiarney, R.; et al. (2021). "Joint International Consensus Statement on Crowdsourcing Challenge Contests in Health and Medicine: Results of a Modified Delphi Process." *BMJ Open.* [Paper].
- [28] Nauffal, V.; Marstrand, P.; **Han, L.**; et al. (2021). "Worldwide Differences in Primary Prevention Implantable Cardioverter Defibrillator Utilization and Outcomes in Hypertrophic Cardiomyopathy." *European Heart Journal*. [Paper].
- [27] Day, S.; Li, C.; Hlatshwako, T.; Abu-Hijleh, F.; **Han, L.**; Deitelzweig, C.; Bayus, B.; Ramaswamy, R.; Tang, W.; Tucker J. (2021). "Assessment of a Crowdsourcing Open Call for Approaches to University Community Engagement and Strategic Planning During COVID-19." *JAMA Network Open.* [Paper].
- [26] Wang, C.\*; **Han, L.\***; Stein, G.; et al. (2020). "Crowdsourcing in Health and Medical Research: A Systematic Review." *Infectious Diseases of Poverty.* [Paper]. \*Co-first authors
- [25] Sidhu, K.; **Han, L.**; Picard, K.; et al. (2020). "Ventricular Tachycardia in Cardiolaminopathy: Characteristics and Considerations for Device Programming." *Heart Rhythm.* [Paper].

- [24] Marston, N.; **Han, L.**; Olivotto, I.; et al. (2020). "Clinical Characteristics and Cardiovascular Outcomes in Childhood-Onset Hypertrophic Cardiomyopathy Compared with Adult-Onset Disease." European Heart Journal. [Paper].
- [23] Marstrand, P.; **Han, L.**; Day, S.; et al. (2020). "Hypertrophic Cardiomyopathy with Left Ventricular Systolic Dysfunction: Insights from the SHaRe Registry." *Circulation*. [Paper].
- [22] McCoy, T.; Han, L.; Pellegrini, A.; et al. (2020). "Stratifying Risk for Dementia Onset Using Large-Scale Electronic Health Record Data: A Retrospective Cohort Study." Alzheimer's & Dementia: The Journal of the Alzheimer's Association. [Paper].

#### • Featured article

- [21] Lakdawala, N.; Olivotto, I.; Day, S.; **Han, L.**; et al. (2020). "Associations Between Female Sex, Sarcomere Variants and Clinical Outcomes in Hypertrophic Cardiomyopathy." *Circulation: Genomic and Precision Medicine*. [Paper].
- [20] Halpaap, B.; Tucker, J.; Mathanga, D.; Juban, N.; Awor, P.; Saravia, N.; **Han, L**; et al. (2020). "Social Innovation in Global Health: Sparking Location Action." *Lancet Global Health*. [Paper].
- [19] **Han, L.;** Fine, J.; Robinson, S.; Boyle, A.; Freeman, M.; Scholtes, S. (2019). "Is Seniority of Emergency Physician Associated with the Weekend Effect?" *Emergency Medicine Journal*. [Paper].
  - [Invited commentary] from the President of the Royal College of Emergency Medicine
- [18] Eberly, L.; Day, S.; Ashley, E.; Jacoby D.; Jefferies; J.; Colan, S.; Rossano, J.; Semsarian, C.; Pereira, A.; Olivotto, I.; Ingles, J.; Seidman, C.; Channaoui, N.; Cirino, A.; **Han, L.**; Ho, C.; Lakdawala, N. (2019). "Association of Race with Disease Expression and Clinical Outcomes Among Patients with Hypertrophic Cardiomyopathy." *JAMA Cardiology*. [Paper].
- [17] Liu, F.; Qin, Y.; Meng, S.; Zhang, W.; Tang, W.; Han, L.; et al. (2019). "HIV Self-Testing among MSM in China: A Qualitative Implementation Research Study." *Journal of Virus Eradication*. [Paper].
- [16] Li, K.; Tang, W.; Wu, D.; Huang, W.; Feng, W.; Lee, A.; Feng, H.; Pan, S.; **Han, L.**; Mak, V.; Yang, L; Tucker, J. (2019). "Pay-it-forward Dual Gonorrhea/Chlamydia Test Uptake among MSM in China: A Pragmatic, Quasi-Experimental Study." *The Lancet Infectious Diseases*. [Paper].
- [15] **Han, L.;** Chen, A.; Wei, S.; et al. (2018). "Crowdsourcing in Health & Health Research: A Practical Guide." World Health Organization. [Paper].
- [14] Qin, Y.\*; **Han, L.\***; Babbit, A.; et al. (2018). "Experiences Using and Organizing HIV Self-Testing." Journal of the International AIDS Society. [Paper].

  \*Co-first authors
- [13] **Han, L.**; Hudgens, M.; Emch, M.; et al. (2017). "RTS,S/AS01 Malaria Vaccine Efficacy is Not Modified by Seasonal Precipitation: Results from a Phase 3 Randomized Controlled Trial in Lilongwe, Malawi." *Scientific Reports.* [Paper].
- [12] Zhang, T.\*; Liu, C.\*; Han, L.\* et al. (2017). "Community Engagement in Sexual Health and Uptake of HIV Testing and Syphilis Testing Among MSM in China: a Cross-sectional Online Survey." Journal of the International AIDS Society. [Paper]. \*Co-first authors
- [11] SESH Study Group (Han, L.); Tucker, J. (2017). "Crowdsourcing to Promote HIV Testing Among MSM in China: Study Protocol for a Stepped Wedge Randomized Controlled Trial." Trials. [Paper].
- [10] Wong, N.; Tang, W.; **Han, L.** et al. (2017). "MSM HIV Testing Following an Online Testing Intervention in China." *BMC Infectious Diseases*. [Paper].
- [9] Tang, W.; Mao, J.; Tang, S.; Liu, C.; Mollan, K.; Cao, B.; Wong, T.; Zhang, Y.; Hudgens, M.; Qin, Y.; Han, L.; et al. (2017). "Disclosure of Sexual Orientation to Health Professionals in China: Results from an Online Cross-Sectional Study." Journal of the International AIDS Society. [Paper].
- [8] Hu, J.; Gu, X.; Tao, X.; Qian, Y.; Babu, G.; Wang, G.; Liao, M.; Han, L.; Kang, D.; Tang, W. (2017). "Prevalence and Trends of HIV, Syphillis, and HCV in Migrant and Resident MSM in Shandong, China: Results from a Serial Cross-Sectional Study." PLoS One. [Paper].

- [7] **Han, L.**; Wei, C.; Muessig, K.; et al. (2016). "HIV Test Uptake Among MSM in China: Implications for Enhanced HIV Test Promotion Campaigns Among Key Populations." *Global Public Health*. [Paper].
- [6] Tang, W\*.; Han, L\*.; Best, J\*.; et al. (2016). "Crowdsourcing HIV Test Promotion Videos: A Non-inferiority Randomized Controlled Trial in China." Clinical Infectious Diseases. [Paper]. \*Co-first authors
- [5] Bien, C.; Best, J.; Muessig, K.; Wei, C.; **Han, L.**; Tucker, J. (2015). "Gay Apps for Seeking Sex Partners in China: Implications for MSM Sexual Health." *AIDS and Behavior*. [Paper].
- [4] Best, J.; Tang, W.; Zhang, Y.; **Han, L.**; et al. (2015). "Sexual Behaviors and HIV/Syphilis Testing Among Transgender Individuals in China: Implications for Expanding HIV Testing Services." Sexually Transmitted Diseases. [Paper].
- [3] **Han, L.**; Bien, C.; Wei, C.; et al. (2014). "HIV Self-Testing Among Online MSM in China: Implications for Expanding HIV Testing Among Key Populations." *Journal of Acquired Immune Deficiency Syndromes*. [Paper].
- [2] Tucker, J.; Muessig K.; Cui, R.; Bien, C.; Lo, E.; Lee, R.; Wang, K.; Han, L.; et al. (2014). "Organizational Characteristics of HIV/Syphilis Testing Services for MSM in South China: a Social Entrepreneurship Analysis and Implications for Creating Sustainable Service Models." BMC Infectious Diseases. [Paper].
- [1] Wei, C.; Muessig, K.; Bien, C.; Yang, L.; Meng, R.; **Han, L.**; Yang, M.; Tucker, J. (2014). "Strategies for Promoting HIV Testing Uptake: Willingness to Receive Couple-Based and Collecting HIV Testing Among a Cross-Sectional Online Sample of MSM in China." *Sexually Transmitted Infections*. [Paper].

#### Conferences, Seminars & Workshops

#### Session Organization

[1] International Conference on Health Policy Statistics, Scottsdale, AZ. (Invited Session Organizer, Jan 2023). "Statistical Advances and Policy Implications in Hospital Quality Measurement."

#### Session Chair

- [3] Joint Statistical Meetings, Toronto, Canada. (Session Chair, Aug 2023). "Surrogate Markers: Identification, Use, and Challenges." (Invited Session Organizer: Layla Parast)
- [2] Joint Statistical Meetings, Washington, D.C. (Session Chair, Aug 2022). "Matching Design and Sensitivity Analysis for Causal Inference." (Contributed Session)
- [1] Eastern North American Region of the International Biometric Society Spring Meeting, Virtual (Session Chair, Mar 2021). "Medical Devices." (Contributed Session)

#### INVITED SEMINARS

- [23] Applied Statistics Workshop, Harvard University, Institute for Quantitative Social Sciences, Cambridge, MA. (Invited Speaker, Sep 2023). "Promises and Perils of Multiply Robust Federated and Transfer Learning to Estimate Causal Effects."
- [22] Northeastern University, Health Sciences Seminar, Boston, MA. (Invited Speaker, Mar 2023). "The Blessings of Federation for Causal Inference."
- [21] Boston University, Biostatistics Seminar, Boston, MA. (Invited Speaker, Mar 2023). "The Blessings of Federation for Causal Inference."
- [20] University of California-Berkeley / University of California-San Francisco, Computational Precision Health Seminar, Berkeley, CA. (Invited Speaker, Feb 2023). "The Blessings of Federation for Causal Inference."
- [19] Vanderbilt University Medical Center, Biostatistics Seminar, Nashville, TN. (Invited Speaker, Feb 2023). "The Blessings of Federation for Causal Inference."
- [18] Harvard Medical School, Pharmacoepidemiology Seminar, Boston, MA. (Invited Speaker, Feb 2023). "The Blessings of Federation for Causal Inference."
- [17] University of Washington, Biostatistics Seminar, Seattle, WA. (Invited Speaker, Feb 2023). "The Blessings of Federation for Causal Inference."

- [16] University of Pennsylvania, Biostatistics, Epidemiology, and Informatics Seminar, Philadelphia, PA. (Invited Speaker, Jan 2023). "The Blessings of Federation for Causal Inference."
- [15] University of Virginia, Data Science Seminar, Charlottesville, VA. (Invited Speaker, Jan 2023). "The Blessings of Federation for Causal Inference."
- [14] University of Michigan-Ann Arbor, Biostatistics Seminar, Ann Arbor, MI. (Invited Speaker, Jan 2023). "The Blessings of Federation for Causal Inference."
- [13] North Carolina State University, Statistics Seminar, Raleigh, NC. (Invited Speaker, Dec 2022). "The Blessings of Federation for Causal Inference."
- [12] University of Cambridge Judge Business School, Healthcare Operations Seminar, Online. (Invited Speaker, Nov 2022). "Data-adaptive Heterogeneous Causal Effect Estimation via Trees."
- [11] University of Utah, Biostatistics Seminar, Online. (Invited Speaker, Dec 2022). "The Blessings of Federation for Causal Inference."
- [10] University of Paris, Bioinformatics Seminar, Paris, France. (Invited Speaker, Nov 2022). "Cross-Institutional EHR Data Harmonization using NLP."
- [9] Harvard Medical School, Design of Experimental and Observational Studies Seminar, Boston, MA. (Invited Speaker, Jun 2022). "Privacy-Preserving and Communication-Efficient Causal Inference for Hospital Quality Measurement."
- [8] Johns Hopkins Causal Inference Working Group, Virtual. (Invited Speaker, Sep 2021). "Distributed Causal Inference."
- [7] Harvard Chan Poster Day, Virtual (Speaker, Feb 2021). "On the Evaluation of Surrogate Markers in Real World Data Settings."
- [6] Harvard-MIT Center for Regulatory Science Doctoral Student Symposium, Virtual (Speaker, Feb 2021). "Distributed Causal Learning."
- [5] University of Michigan Statistics for Individualized Healthcare Lab, Virtual. (Invited Speaker, Dec 2020). "Distributed Learning for Causal Modelling."
- [4] London School of Hygiene & Tropical Medicine Centre for Evaluation Seminar Series, London, UK. (Invited Speaker, May 2018). "Crowdsourcing in Health and Medicine: Developing a Practical Guide and Systematic Review."
- [3] University of Cambridge Judge Business School, Healthcare Operations Seminar, Cambridge, UK. (Inivited Speaker, March 2018). "Surviving the Weekend Effect: a Competing Risks Analysis of Excess Weekend Mortality at Addenbrooke's Hospital."
- [2] Tsinghua University Schwarzman Scholars Symposium, Beijing, China. (Invited Speaker, June 2017). "Human Survival."
- [1] UNC Project-Malawi, Lilongwe, Malawi. (Invited Speaker, Mar 2016). "Survival Analysis from a Phase 3 RCT: RTS,S/AS01 Malaria Vaccine Efficacy in Lilongwe, Malawi and its Interaction with Seasonal Precipitation."

#### Conference Presentations

- [27] Forum on the Integration of Observational and Randomized Data, Washington, D.C. (Invited Speaker, Nov 2023). "Federated Transfer Learning and Applications in Data Integration for Real World Evidence."
- [26] INFORMS, Phoenix, AZ. (Community-Committee's Choice Session, Oct 2023). "Federated Transfer Learning to Estimate the Quality of Congenital Heart Centers."
- [25] Boston Pharmaceutical Symposium, Boston, MA. (Invited Talk, Oct 2023). "Sensitivity Analysis of Clinical Trial Designs."
- [24] RAND Center for Causal Inference Symposium, Online. (Speaker, Aug 2023). "Multiply Robust Federated Estimation of Targeted Average Treatment Effects."
- [23] Joint Statistical Meetings, Toronto, Canada. (Invited Speaker, Aug 2023). "Federated Transfer Learning for Heterogeneous Causal Effects in Underrepresented Populations."
- [22] Joint Statistical Meetings, Toronto, Canada. (Invited Speaker, Aug 2023). "Privacy-Preserving and Communication-Efficient Hospital Quality Measurement."

#### • American Statistical Association Student Paper Award, Health Policy Statistics Section

- [21] Institute of Mathematical Statistics New Researchers Conference, Toronto, Canada. (Speed Talk, Aug 2023). "Federated Transfer Learning for Heterogeneous Causal Effects in Underrepresented Populations."
- [20] MedInfo, Sydney, Australia. (Co-author, Jul 2023). "TAXN: Translate Align Extract Normalize, a multilingual extraction tool for clinical texts."
- [19] Eastern North American Region of the International Biometric Society Spring Meeting, Nashville, TN. (Oral, Mar 2023). "Federated and Transfer Learning Approaches to Causal Inference."
- [18] 15<sup>th</sup> International Conference of the European Consortium for Informatics and Mathematics Working Group on Computational and Methodological Statistics, London, U.K. (Invited Speaker, Dec 2022). "Heterogeneous Causal Effect Estimation: Federated and Transfer Learning Approaches."
- [17] Banff Workshop, Oaxaca, Mexico. (Invited Speaker, Aug 2022). "Extensions to Real-World Data and Multiple Surrogate Markers."
- [16] Joint Statistical Meetings, Washington, D.C. (Oral, Aug 2022). "Federated Adaptive Causal Estimation (FACE) of Target Treatment Effects."

## • American Statistical Association Young Investigator Award, Section on Statistics in Epidemiology

- [15] 31<sup>st</sup> International Biometric Conference, Riga, Latvia. (Invited Speaker, Jul 2022). "Identification and Evaluation of Surrogate Markers."
- [14] Western North American Region of the International Biometric Society Spring Meeting, Virtual. (Oral, Jun 2022). "Privacy-Preserving and Communication-Efficient Causal Inference for Hospital Quality Measurement."

#### • Best Oral Student Paper Presentation Award

[13] American Causal Inference Conference, Berkeley, CA. (Oral, May 2022). "Privacy-Preserving and Communication-Efficient Causal Inference for Hospital Quality Measurement."

#### • NSF New Researcher Award

[12] Eastern North American Region of the International Biometric Society Spring Meeting, Houston, TX. (Oral, Mar 2022). "Distributed Causal Inference."

#### • Institute of Mathematical Statistics Hannan Graduate Student Travel Award

- [11] New England Statistics Symposium, Virtual. (Invited Speaker, Oct 2021). "Identifying Real-World Surrogate Markers for Replicating Clinical Trials."
- [10] New England Statistics Symposium, Virtual. (Poster, Oct 2021). "Optimal Sensitivity Analysis for Clinical Trial Design."

#### Munich Re / HSB Best Poster Award

[9] American Statistical Association Biopharmaceutical Section Regulatory-Industry Statistics Workshop, Virtual (Poster, Sep 2021). "On the Evaluation of Surrogate Markers in Real World Data Settings."

#### • Best Poster Award

[8] Eastern North American Region of the International Biometric Society Spring Meeting, Virtual (Oral, Mar 2021). "On the Evaluation of Surrogate Markers in Real World Data Settings."

#### • John Van Ryzin Award

- [7] American Society of Tropical Medicine & Hygiene 68th Annual Meeting, National Harbor, Maryland. (Invited Symposium Panelist, Nov 2019). "Social Innovation for Infectious Diseases of Poverty: Sparking Local Innovation."
- [6] INFORMS Healthcare: Transforming Health with Data, Mind, and Body, Cambridge, MA. (Invited Panelist, July 2019). "Is Seniority of Emergency Physician Associated with the Weekend Mortality Effect?"

- [5] 12<sup>th</sup> Program in Quantitative Genomics Conference on Biobanks: Study Design and Data Analysis, Harvard Medical School, Boston, MA. (Poster, Nov 2018). "Excess Mortality Associated with Junior Doctor Treatment at the Weekend: An Analysis of Electronic Medical Records in the UK."
- [4] 20<sup>th</sup> International Union Against Sexually Transmitted Infections Asia-Pacific Conference, Okayama, Japan. (Oral, Dec 2016). "A Global Qualitative Systematic Review of HIV Self-testing."
- [3] 65<sup>th</sup> Annual American Society of Tropical Medicine & Hygiene Conference, Atlanta, GA. (Poster, Nov 2016). "RTS,S Malaria Vaccine Efficacy Does Not Vary with Seasonal Precipitation: Results from a Phase 3 RCT in Lilongwe, Malawi."
- [2] 21<sup>st</sup> International AIDS Conference, Durban, South Africa. (Poster, July 2016). "The Social Context of HIV Self-testing: A Global Qualitative Evidence Synthesis."
- [1] World Health Organization, Social Innovation in Health Initiative, Blantyre, Malawi. (Oral, June 2018). "Co-Creating a Research Culture and Guide for Social Innovation."

#### TEACHING

#### TEACHING AWARDS

- 2022 Certificate of Distinction in Teaching, Harvard Faculty of Arts and Sciences
- 2021 Certificate of Distinction in Teaching, Harvard T.H. Chan School of Public Health
- 2020 Certificate of Distinction in Teaching, Harvard T.H. Chan School of Public Health

#### Instructor

#### Ph.D. Qualifying Exam Summer Course, Instructor, Summer 2021

- Teaching content review and problem-solving in probability and inference to Harvard Biostatistics Ph.D. students in preparation for the theory and methods portion of the qualifying exam
- Class size: 15

#### HNRS 396: Infectious Diseases, Instructor, Spring 2016

- One of eight undergraduates selected to build the curriculum and teach a course, titled "The Re-emergence of Infectious Diseases: From Cholera to Ebola and Beyond"
- Class size: 10

#### TEACHING FELLOW

#### STAT 286: Causal Inference with Applications, TF, Fall 2022

- Harvard Statistics Department's graduate-level course on causal inference, taught by Prof. Kosuke Imai
- TF rating: 4.7/5.0; class size: 50

#### STAT 293: Design of Experimental/Non-experimental Studies, TF, Spring 2022

- Harvard Statistics Department's graduate-level reading course on causal inference, focusing primarily on discussing new papers, taught by Prof. Jose Zubizarreta
- TF rating: 4.9/5.0; class size: 15

#### BST 223: Applied Survival Analysis, TF, Spring 2022

- Harvard Biostatistics Department's masters-level survival analysis course, taught by Prof. Sebastien Haneuse
- TF rating: 4.9/5.0; class size: 100

#### BST 222: Statistical Inference, Head TF, Fall 2019, 2020, 2021, 2022

- Head TF responsible for developing content and teaching labs for the masters' level statistical inference course, taught by Prof. Rui Duan (2021, 2022) and David Wypij (2019, 2020)
- TF ratings: 4.7/5.0 (2019); 4.8/5.0 (2020); 4.7/5.0 (2021); class size: 70

#### BST 238: Advanced Topics in Clinical Trials, Head TF, Spring 2021

- Designing content and teaching select lectures for advanced topics in clinical trials, e.g., surrogate endpoints; group sequential methods; meta-analyses, taught by Prof. David Wypij
- TF rating: 4.7/5.0; class size: 20

#### BST 214: Principles of Clinical Trials, Head TF, Spring 2020, 2021

- Revising content for a clinical trials course for clinicians and policymakers interested in the scientific, policy, and management aspects of clinical trials, taught by Prof. David Wypij
- TF rating: 4.8/5.0 (2020); 4.9/5.0 (2021); class size: 70

#### GLBL 394: International Relations, TA, Spring 2015, 2016

 One of 15 students who led a weekly seminar-style recitation section of 300 undergraduates on international relations (recitation size: 20)

#### Advising & Mentoring

#### INDEPENDENT STUDY SUPERVISION

#### Zhu (Lucy) Shen

- Harvard University, Department of Biostatistics, Ph.D. Candidate, Mar 2022-Present

#### Yi Liu

- North Carolina State University, Department of Statistics, Ph.D. Candidate, Apr 2023-Present

#### SERVICE

# EXTERNAL PROFESSIONAL ACTIVITIES

#### American Statistical Association Statistics in Epidemiology Young Investigator Award, Paper Award Committee, 2023

 Reviewing and scoring papers for the American Statistical Association Young Investigator Award for the Joint Statistical Meetings

#### Data Science in Action: Machine Learning for Self-Driving Cars, 2023

 Mentored high school students from underrepresented backgrounds in statistics and machine learning

#### Rhodes-Schwarzman, Orientation Facilitator, 2019-Present

- Facilitating the *Leading Lives* workshop for incoming and outgoing Schwarzman Scholars

#### Morehead Cain Foundation, Selections Interviewer, 2018–Present

- Interviewing and evaluating high school applicants for the nation's first merit scholarship

#### Carolina Collective Initiative, Steering Committee, May-Aug 2020

- Organized an open call and judged ideas for the reopening of UNC campus during COVID-19

#### University Service

#### Northeastern Health Sciences, Committee, Sep 2023–Present

- Planning curriculum and advising for students in the MS in Real World Evidence
- Forging collaborative research and teaching opportunities with Applied Psychology unit

#### Harvard Biostatistics Student Committee, Co-President, Aug 2021–May 2023

- Organizing town hall meetings and small group discussions to represent Ph.D. student interests, including recruitment, qualifying exams, academics, student-life, and mental health

#### Harvard DEIB Committee, Representative, Aug 2020–May 2023

- Developed qualitative focus groups and quantitative surveys for Harvard Biostatistics Department efforts in Diversity, Equity, Inclusion, and Belonging (DEIB)
- Spearheading a new mentorship program connecting underrepresented minorities with mentors

#### Harvard Graduate Asian Baptist Student Koinonia, President, Aug 2019-May 2023

- Organizing Bible study outreach and fellowship for Harvard and Boston-area graduate students

#### Harvard Graduate Student Council, Representative, Sep 2018-May 2021

Evaluating funding proposals for GSAS conferences and activities

#### Cambridge Judge Teaching Committee, Representative, Jan-June 2018

 Assessed student and professor feedback for courses at Cambridge Judge Business School and developed a guidance for improving research programs

#### Journal of Schwarzman College, Co-Founder and Editor, Sep 2016–July 2017

 Established Schwarzman College's first journal aggregating global perspectives on China and developed a framework for a quarterly print publication

#### Tsinghua Graduate Student Union, Representative, Aug 2016–July 2017

- Translated over 300 museum exhibit labels for the Tsinghua University Art Museum
- English voice-over for Xinhua Net's explanatory video of China's Two Sessions conference

#### Editorial Service

#### Associate Editor

Journal of Causal Inference, 2023-Present

#### Ad-hoc Reviewer

#### **Biostatistics**

- Biometrics  $(2\times)$
- Biostatistics
- Statistics in Medicine  $(2\times)$
- Clinical Trials
- Trials

#### Healthcare Operations

- Management Science

#### Public Health

- AIDS Care
- BMC Medical Research Methodology
- BMC Public Health
- BMJ Open
- Global Public Health
- Scientific Reports
- Sexually Transmitted Infections

#### ${\rm Skills}$

#### Languages & Software

- Native fluency in English and Mandarin Chinese
- R, SAS, Python (NetworkX), MatLab

#### Athletic Activities

- American Junior Golf Association All-Star
- Completed a US Army Special Forces Selections and Assessment training course