Jinghao Sun, Ph.D.

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Professional Experience

Research Associate, University of Pennsylvania — July 2026–present

Postdoctoral Researcher, University of Pennsylvania — July 2023–June 2026
Center for Causal Inference; Department of Biostatistics, Epidemiology, and Informatics, Perelman School of Medicine; Department of Statistics and Data Science, The Wharton School
Mentors: Eric J. Tchetgen Tchetgen and Douglas E. Schaubel

Education

Yale University, Ph.D. in Biostatistics — August 2017–June 2023
Yale School of Public Health; advisor: Forrest W. Crawford

Tsinghua University, B.S. in Biological Sciences — August 2012–July 2017

University of Zurich, exchange program in bioinformatics — September 2014–January 2015

Research Interests

Methodology: Causal inference, survival analysis, machine learning, clinical trials, partial identification, semiparametric inference, functional data analysis, stochastic processes.
Applications: Public health, medicine, policy, wearable devices, digital marketplaces.

Publications and Preprints

*Corresponding author.

Jinghao Sun* and E. J. Tchetgen Tchetgen. On a debiased and semiparametric efficient changes-in-changes estimator. *Journal of the Royal Statistical Society: Series B*, major revision (2026).

Jinghao Sun, D. E. Schaubel, and E. J. Tchetgen Tchetgen*. Beyond fixed restriction time: Adaptive restricted mean survival time methods in clinical trials. *Biometrika*, in press, 2026.

Jinghao Sun* and F. W. Crawford. Causal identification for continuous-time stochastic processes. *arXiv preprint, manuscript under revision*, 2024.

Jinghao Sun* and F. W. Crawford. The role of discretization scales in causal inference with continuous-time treatments. *arXiv preprint*, 2023.

Jinghao Sun*, L. V. Baelen, E. Plettinckx, and F. W. Crawford. Dependence-robust confidence intervals for capture-recapture surveys. *Journal of Survey Statistics and Methodology*, 11(5): 1133–1154, 2023.

W. Li, M. Wang, **Jinghao Sun**, Y. Wang*, and R. Jiang*. Gene co-opening network deciphers gene functional relationships. *Molecular BioSystems*, 13(11): 2428–2439, 2017.

Honors and Awards

Best Student Paper Award, Lifetime Data Science Conference — 2023
Tyroler Student Prize Paper Award Finalist (Top 5), Society for Epidemiologic Research — 2023
Travel Scholarship, Society for Epidemiologic Research — 2023
World Scholar in Biomedical Sciences, Yale University — 2017, 2018
Exchange Scholarship for Excellent Undergraduates, Tsinghua University — 2014
Merit-Based Scholarship, Tsinghua University — 2013

Teaching

Teaching Fellow, Yale University Fall 2020, 2021
BIS 534: Stochastic Models and Inference for the Biomedical and Social Sciences.
Instructor: Forrest W. Crawford. Graduate course on statistical inference for stochastic process models from finite realizations, with applications in infectious disease dynamics, evolution and phylogenetics, physiology, health care operations, and social networks.

Teaching Fellow, Yale University Fall 2019
BIS 623: Advanced Regression Models.
Instructor: Yize Zhao. Graduate course covering multiple regression, diagnostics, model selection, and penalized regression.

Mentoring

Xiaohan Liu, rotation Ph.D. student in Biostatistics, University of Pennsylvania Spring 2025
Co-mentor with Eric J. Tchetgen Tchetgen. Project: causal inference in single-arm trials under unmeasured confounding.

Presentations

Invited talks

Joint Statistical Meetings, Portland, OR 2024
Capture-recapture surveys: Sample dependence, partial identification, and robust confidence intervals.

New England Statistics Symposium, Boston, MA 2023
Causal identification for continuous-time stochastic processes.

Lifetime Data Science Conference, Raleigh, NC 2023
Causal identification for continuous-time stochastic processes.

Eastern North American Regional Meeting of the International Biometric Society, Nashville, TN 2023
Causal identification for general continuous-time stochastic processes.

New England Statistics Symposium, Providence, RI 2021
Partial identification and dependence-robust confidence intervals for capture-recapture surveys.

Selected contributed talks and posters

Joint Statistical Meetings, Nashville, TN 2025
Efficient and Neyman-orthogonal changes-in-changes estimators for causal inference in panel data.

American Causal Inference Conference, Detroit, MI 2025
Beyond fixed restriction time: Adaptive restricted mean survival time methods in clinical trials (poster).

Joint Statistical Meetings, Washington, DC 2022
Identification for treatment effects of general continuous-time stochastic processes.

American Causal Inference Conference, Berkeley, CA 2022
Discretization bias in causal inference with trajectory data (poster).

Software

`AdaRMST` Author and maintainer
R package implementing adaptive restricted mean survival time methods for clinical trials, with emphasis on robustness under non-proportional hazards.

`crc.partialid` Author and maintainer
R package for partial identification analysis for capture-recapture experiments.

Professional Activities

Journal reviewer: Epidemiologic Methods; Journal of Asthma; Journal of Econometrics; Journal of Survey Statistics and Methodology; Journal of the American Statistical Association; PLOS Digital Health; SIAM Journal on Mathematics of Data Science; Statistics in Medicine.

Conference reviewer: American Causal Inference Conference; American Public Health Association Annual Meeting.

Professional societies: American Statistical Association; International Biometric Society (ENAR); International Chinese Statistical Association; New England Statistical Society; Society for Causal Inference; Society for Epidemiologic Research.