

Thomas Hsiao

CONTACT INFORMATION	Email: thomas.hsiao@emory.edu ORCID: 0009-0005-7848-7992 Github: github.com/tXiao95 LinkedIn: linkedin.com/in/thsiao3/	Office: Grace Crum Rollins 270 1518 Clifton Road Atlanta, Georgia 30322
RESEARCH INTERESTS	Causal inference, spatiotemporal statistics, dimension reduction, missing data <i>Applications:</i> Environmental health, electronic health records, disease surveillance	
EDUCATION	Emory University PhD in Biostatistics, 2025 Advisor: Lance Waller MS in Biostatistics, 2024 Rice University BA in Statistics, May 2017 Advisor: Rudy Guerra	
PROFESSIONAL EXPERIENCE	2025– 2017–2019	Postdoctoral Researcher, Department of Biostatistics, Emory University Advisors: Howard H. Chang & Razieh Nabi Post-Bachelor Fellow, Institute for Health Metrics and Evaluation, University of Washington.
PREPRINTS AND MANUSCRIPTS UNDER REVIEW	[†] <i>Master's student mentee.</i> Hsiao TW , Chang HH, & Nabi R (2026). Causal Sufficient Dimension Reduction for Multiple Continuous Exposures with an Application to Environmental Mixtures. arXiv. https://doi.org/10.48550/arXiv.2606.14840 . – An earlier version received the 2026 ENAR Distinguished Student Paper Award. Li C [†] , Hsiao TW , Ebel S, Zhang R, Chang HH (2026). Temperature and Respiratory Emergency Department Visits: A Mediation Analysis with Ambient Ozone Exposure. arXiv. https://doi.org/10.48550/arXiv.2602.16970 . Pan S, Hsiao TW , Dunlop AL, Brennan PA, Chang HH, Everson T, Tan Y, Liang D, Eick SM (2026+). Uncovering chemical and non-chemical stressor interactions during pregnancy in relation to preschooler behavior problems among African American mother-child pairs.	
PEER-REVIEWED PUBLICATIONS	[†] <i>Master's student mentee.</i> Li C [†] , Hsiao TW , Warren JL, Darrow LA, Strickland MJ, Russell AG, Chang HH (2026). Maternal ambient air pollution and risk of stillbirth in Georgia, USA. <i>Environmental Epidemiology</i> , 10(4), e505. Hsiao TW & Waller LA (2026). Inverse sampling intensity weighting for preferential sampling adjustment. <i>Journal of Agricultural, Biological, and Environmental Statistics</i> . Advance online publication. https://doi.org/10.1007/s13253-026-00730-z .	

Hsiao TW, Fede L, Gocke C, Waller LA, Ali MK, Varghese JS (2026). County Prevalence, Awareness, and Control of High Blood Pressure from Health Kiosks, 2017–2024. *Hypertension*, 83 (2). Advance online publication. <https://doi.org/10.1161/HYPERTENSIONAHA.125.25829>.

Hsiao TW, Gaskins AJ, Warren JL, Darrow LA, Strickland MJ, Russell AG, & Chang HH (2026). A time-to-event analysis of the association between ambient air pollution and risk of spontaneous abortion using vital records in the U.S. state of Georgia (2005–2014). *American Journal of Epidemiology*, 195 (1), 60–69.

Varghese JS, **Hsiao TW**, Fede L, Chizak C, Gocke C, Waller LA, Ali MK (2026). National, state, and county estimates of adult overweight and obesity from electronic health records and kiosks in retail locations. *Obesity*, 34 (4), 908–916.

Hsiao TW, Liao CY, Waller LA, Paynabar K (2025). Balancing access, precision, and equity in adaptive test site allocation with an application to COVID-19 in Atlanta, Georgia. *Scientific Reports*, 15:32775.

Hsiao TW, Varghese JS, Fede L, Gocke C, Waller LA, & Ali MK (2025). Blood Pressure Measurements from Self-Service Health Kiosks in US Retail Stores, 2017–2024. *JAMA Cardiology*, 10(10), 1044–1048.

- **Highlighted in an Editor’s Note:** Khan SS, Harrington RA, & Ahmad FS (2025). Blood Pressure Measurement in Retail Stores and Population Health. *JAMA Cardiology*, 10(10), 1049.

Kendrick, P.J., *et al.* (2021). Spatial, temporal, and demographic patterns in prevalence of chewing tobacco use in 204 countries and territories, 1990–2019: a systematic analysis from the Global Burden of Disease Study 2019. *The Lancet Public Health*, 6 (7), 482–499.

Reitsma MB, *et al.* (2021). Spatial, temporal, and demographic patterns in prevalence of smoking tobacco use and attributable disease burden in 204 countries and territories, 1990–2019: a systematic analysis from the Global Burden of Disease Study 2019. *The Lancet*, 397(10292), 2337–2360.

Vollset SE, Goren E, Yuan CW, Cao J, Smith AE, **Hsiao T**, *et al.* (2020). Fertility, mortality, migration, and population scenarios for 195 countries and territories from 2017 to 2100: a forecasting analysis for the Global Burden of Disease Study. *The Lancet*, 396(10258), 1285–1306.

Stanaway JD, *et al.* (2018). Global, regional, and national comparative risk assessment of 84 behavioural, environmental and occupational, and metabolic risks or clusters of risks for 195 countries and territories, 1990–2017: a systematic analysis for the Global Burden of Disease Study 2017. *The Lancet*, 392(10159), 1923–1994.

Murray CJL, *et al.* (2018). Population and fertility by age and sex for 195 countries and territories, 1950–2017: a systematic analysis for the Global Burden of Disease Study 2017. *The Lancet*, 392(10159), 1995–2051.

Lozano R, *et al.* (2018). Measuring progress from 1990 to 2017 and projecting attainment to 2030 of the health-related Sustainable Development Goals for 195 countries and territories: a systematic analysis for the Global Burden of Disease Study 2017. *The Lancet*, 392(10159), 2091–2138.

Roth, GA, *et al.* (2018). Global, regional, and national age–sex–specific mortality for 282 causes of death in 195 countries and territories, 1980–2017: a systematic analysis for the Global Burden of Disease Study 2017. *The Lancet*, 392(10159), 1736–1788.

Anderson A, **Hsiao T**, & Metsis V (2017). Classification of Emotional Arousal During Multimedia Exposure. In *Proceedings of the 10th International Conference on Pervasive Technologies Related to Assistive Environments* (pp. 181–184). New York, NY, USA: ACM.

Wu, JH, Simonette RA, **Hsiao, T**, Doan HQ, Rady PL, & Tying SK (2015). Cutaneous Human Polyomavirus Small T Antigens and 4E-BP1 Targeting. *Intervirology*, 58(6), 382–385.

PENDING GRANTS	2026	NIH R01 (Role: Co-I, Submitted October 2026) - <i>MATCH: Menopause Transition and Cardiometabolic Health</i> , PI: Dr. Shivani Patel, 2027-2032.
	2026	NIH R01 (Role: Co-I, Submitted October 2026) - <i>Heterogeneity in Type 2 Diabetes and Risk of Alzheimer's Disease and Related Dementias</i> , PI: Dr. Jithin Varghese, 2027-2032.
	2026	NIEHS K99/R00 (Role: PI, Competitive Not-Discussed, Submitted Feb. 2026, Resubmission Planned Nov. 2026) - <i>High-dimensional causal mediation methods to link environmental exposures to adverse pregnancy outcomes</i> , PI: Dr. Thomas Hsiao , 2027-2031.
COMPLETED FELLOWSHIPS AND GRANTS	2020	NSF–GRFP - <i>Optimizing surveillance for localized bubonic plague transmission using compositional data</i> , 2021-2025.
	2019	Emory Laney Graduate School Fellowship, 2019-2024.
SOFTWARE PACKAGES	csdr	R package for causal sufficient dimension reduction for multiple continuous exposures
	ISIW	R package for inverse sampling intensity weighting for preferential sampling adjustment
	gallery	R package for generating test matrices for numerical experiments
ONLINE PUBLICATIONS		Bill and Melinda Gates Foundation, “2018 Goalkeepers Report,” <i>The Goalkeepers Report</i> , 2018
		Hsiao, T. , DeLira, R., Cruz, P. “U.S.–Mexico Academic Mobility.” <i>Baker Institute of Public Policy</i> , 2016.
CONFERENCE ORAL PRESENTATIONS		<i>County Prevalence, Awareness, and Control of High Blood Pressure from Health Kiosks 2017-2024</i> , Invited Talk, ECCRI Clinical Cardiovascular Research Conference, Atlanta, Georgia, USA. (October 2026)
		<i>Causal sufficient dimension reduction for studying environmental mixtures</i> , Invited Symposium, ISEE, Munich, Germany. (August 2026)

Causal sufficient dimension reduction for multiple continuous exposures, Oral Contributed Session, ENAR, Indianapolis, Indiana, USA. (March 2026)

Inverse sampling intensity weighting for preferential sampling adjustment, Topic Contributed Paper Session, JSM, Nashville, Tennessee, USA. (August 2025)

When does geostatistical design matter? Insights into the effect of preferential sampling on the MLE, Oral Contributed Session, ENAR, New Orleans, Louisiana, USA. (March 2025)

A time-to-event analysis of maternal ambient air pollution and spontaneous abortion in the US state of Georgia, 2005-2014, Oral Presentation, CAPASUS, Atlanta, Georgia, USA. (September 2023)

CONFERENCE
POSTER
PRESENTATIONS

Causal sufficient dimension reduction for environmental mixtures, Poster Session, ASA ENVR Workshop, Houston, Texas, USA. (October 2026)

Temperature and Respiratory Emergency Department Visits: an Ozone Mediation Analysis, Poster Session, ISEE, Munich, Germany. (August 2026)

Causal sufficient dimension reduction for multiple continuous exposures, Tom Ten Have Poster Competition, ACIC, Salt Lake City, Utah, USA. (May 2026)

Adjusting for varying sampling effort in species distribution modeling of Western monarchs, Poster Presentation, JSM, Portland, Oregon, USA. (August 2024)

Risk reduction in former smokers: an analysis from the Global Burden of Disease 2017 Study, Poster, 49th Union World Lung Health Conference, The Hague, Netherlands. (October 2018)

OTHER
PRESENTATIONS

Causal sufficient dimension reduction for estimating and interpreting environmental mixtures, Gateway Exposome Coordinating Center (GECC) Methods Meeting, University of Southern California, Online. (Upcoming, November 2026)

Causal sufficient dimension reduction for estimating and interpreting environmental mixtures, EMERGE Lab Meeting, Emory University Gangarosa Department of Environmental Health. (July 2026)

Causal sufficient dimension reduction for estimating and interpreting environmental mixtures, ENVISION Lab Meeting, Emory University Gangarosa Department of Environmental Health. (March 2026)

Statistical methods for understanding and addressing preferential sampling in model-based geostatistics, Emory Biostatistics Dissertation Defense, Emory University Department of Biostatistics and Bioinformatics. (March 2025)

Methods for fast spatial inference under preferential sampling, Emory Biostatistics Dissertation Proposal, Emory University Department of Biostatistics and Bioinformatics. (March 2023)

Estimation of age-specific fertility rates and comparison to World Population Projections, Annual Gates Family Planning Seminar, Bill and Melinda Gates Foundation. (August 2018)

Estimation of smokeless tobacco burden in the Global Burden of Disease Study 2017, Bloomberg Tobacco Advisory Group Meeting, Institute for Health Metrics and Evaluation. (July 2018)

Tobacco attributable burden in the Global Burden of Disease Study 2017, Risk Factors External Review Week, Institute for Health Metrics and Evaluation. (March 2018)

Crisis intervention: the reproducibility of psychological science, Oshman Engineering Design Showcase, Rice University. (May 2017)

PEER REVIEW	<i>Environmetrics, Spatial Statistics, American Journal of Epidemiology, Epidemiology, BMC Public Health, Environment International, Environmental Research, International Journal of Health Geographics, PLOS One</i>	
PROFESSIONAL ACTIVITIES AND SERVICE	2027	(PENDING) Organizer/Chair of JSM 2027 Invited Paper Session: <i>Causal Inference for Continuous Exposures in the Real World</i>
	2026	Chair of ISEE 2026 Symposia S22: <i>Contemporary Issues in Estimating Joint Health Effects of Multiple Exposures: New Applications and Methods</i>
	2026	Chair of ENAR 2026 Session 58: <i>Advancements in Spatial-Transcriptomics Analysis and Modeling Techniques</i>
	2026	ENAR 2026 Early Career Workshop Series (ECWS) Member
	2024	Emory BIOS Theory Qualifying Exam Review Instructor
	2023	Emory BIOS Theory Qualifying Exam Review Instructor
	2023	Emory BIOS Individual Tutor for 2nd Year Coursework
	2022	Emory BIOS Theory Qualifying Exam Review Instructor
	2022	Incoming PhD Student Math Bootcamp Instructor (Real Analysis and Linear Algebra)
HONORS AND AWARDS	2026	ENAR Distinguished Student Paper Award
	2026	Emory Postdoctoral Academic Appreciation Award
	2024	Livingston Award (Top PhD Student in Emory BIOS Department)
	2023	Certificate of Excellence from 2023 CAPASUS Conference
	2023	2nd Place Emory BIOS Senior Student Presentation
	2019	Emory Laney Graduate School Fellowship
	2016	NSF Research Experience for Undergraduates (REU) Award
	2015	Molecular Basis in Infectious Disease (MBID) Training Grant
	2015	UTSA Honors College Dean's Scholarship
	2012	Fountainhead Essay Contest National Semifinalist

TEACHING
EXPERIENCE

- 2025 **Teaching Assistant**, SIS MID: Spatial Statistics in Epidemiology and Public Health, Emory University
- 2023 **Teaching Assistant**, SIS MID: Spatial Statistics in Epidemiology and Public Health, University of Washington
- 2022 **Teaching Assistant**, BIOS 711: Advanced Statistical Inference, Emory
- 2021 **Teaching Assistant**, BIOS 707: Advanced Linear Models, Emory
- 2021 **Teaching Assistant**, BIOS 512: Probability Theory, Emory
- 2021 **Teaching Assistant**, Incoming PhD Bootcamp (Real Analysis and Linear Algebra), Emory
- 2020 **Teaching Assistant**, BIOS 541: R Programming, Emory
- 2018 **Instructor**, Applied Modeling IHME Bootcamp
- 2016 **Grader**, Market Models and Computational Finance, Rice
- 2014 **Supplemental Instructor**, General Chemistry, UTSA