Helge-Johannes Marahrens

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Professional Experience

2025 **Assistant Professor of Computational Social Science**, Keough School of Global Affairs, University of Notre Dame

2023 - 2025 **Postdoctoral Fellow**, Massive Data Institute (MDI) and Institute for the Study of International Migration (ISIM), Georgetown University

2021 **Research Engineer Intern, Core Data Science,** Facebook (Meta) Inc.

Education

2023 **Ph.D. Sociology, Indiana University;** Qualifying Exam: Stratification & Culture
Dissertation: "Global Networks and City Development, 1993-2020"
Committee: Arthur S. Alderson (chair), Andrew-Halpern Manners, Michael Schultz, Carl Nordlund, Byungkyu Lee

- *Runner-up: 2024 Distinguished Ph.D. Dissertation Award, Indiana University*

2019 **M.S. Applied Statistics,** Indiana University

2016 **M.A. Sociology,** University of Wisconsin, Milwaukee

2014 **B.A. Cultural Studies**, European University Viadrina (Germany)

Research Interests

Computational Social Science, Networks, Statistics, Globalization, Stratification, Migration

Publications

Leffel, Ben, David Smith and **Helge Marahrens.** 2025 "Destabilized growth in world-city formation: Comparing Hong Kong and Shanghai" *Journal of Urban Affairs.*

Breznau, Nate, [et al. including **Helge Marahrens**]. 2025. "The Reliability of Replications: A Study in Computational Reproductions." *Royal Society Open Science.*

Marahrens, Helge and Arthur Alderson. 2024. "The New Geography of Global Inequality and the Evolution of the World City System Since 1993." *After Globalization – The Future of World Society*, edited by Patrick Ziltener and Christian Suter. Zurich: LIT.

- *Winner of the World Society Foundation's 2022 Award*

Wycoff, Nathan, Lisa Singh, Ali Arab, Katharine Donato, and **Helge Marahrens**. 2024. "The digital trail of Ukraine's 2022 refugee exodus." *Journal of Computational Social Science*, Jul 2024:1-47.

Leffel, Ben, **Marahrens, Helge** and Arthur Alderson. 2022. "Divergence of the World City System from National Economies." *Global Networks,* 23(2):459-477.

Breznau, Nate, [et al. including **Helge Marahrens**] 2022. "Observing Many Researchers Using the Same Data and Hypothesis Reveals a Hidden Universe of Uncertainty." *Proceedings of the National Academy of Sciences,* 119(44):e2203150119.

Salganik, Matthew, [et al. including **Helge Marahrens**] 2020. "Measuring the predictability of life outcomes with a scientific mass collaboration." *Proceedings of the National Academy of Sciences* 117(15):8398-8403.

Halpern-Manners, Andrew, **Helge Marahrens** et al. 2020. "The Intergenerational Transmission of Early Educational Advantages: New Results Based on an Adoption Design." *Research in Social Stratification and Mobility,* 67:100486.

Papers Under Review

Marahrens, Helge and Arthur Alderson. "Global Networks and City Development, 1993-2020." *American Journal of Sociology. Revise & Resubmit.*

Marahrens, Helge et al. "Understanding the Role of Emotion and Sentiment in Forced Migration." *EPJ Data Science. Revise & Resubmit.*

Wycoff, Nathan, Ali Arab, Lisa Singh, Katharine Donato, and **Helge Marahrens**. "A Sparsifying Heuristic for the Variational Bayesian Lasso". *UAI 2025: The 41st Conference on Uncertainty in Artificial Intelligence.*

Work In Progress

Adem, Muna, **Helge Marahrens**, and Dina Okamoto. "Cooperation, Conflict, or Concurrence? Ethnoracial Organizations and Supreme Court Cases (1970-2021)"

Marahrens, Helge et al. "A Global Test of Google Trends for Migration Prediction."

Alderson, Arthur and **Helge Marahrens.** "Keeping up with the Joneses. How do Americans do Income Comparison?"

Marahrens, Helge. "Finance and Manufacturing Firms: Evidence for 'Multiple Globalizations'"

Kavalerchik, Anne, Dina Okamoto, Hajar Yazdiha, **Helge Marahrens**, Saishree Godbole, and Da Eun Jung. "How Local News Media Frames Immigrant Collective Action in New Immigrant Destinations from 1990-2019."

Fellowships & Awards

2024 **Runner-up: Distinguished Ph.D. Dissertation Award**, Indiana University

2022 **Grant-in-Aid of Doctoral Research Award** ($1,000), Indiana University

2022 **Sociology Department: Advanced Departmental Fellowship** ($10,000), Indiana University

2021 **Summer Affiliate Fellowship,** Complex Networks and Systems – National Science Foundation Research Traineeship (CNS-NRT) ($5,000), Indiana University

2021 **Tobias Center Research Support Grant** ($3,500), Indiana University

2020 **Summer Affiliate Fellowship,** Complex Networks and Systems – National Science Foundation Research Traineeship (CNS-NRT) ($5,000), Indiana University

2017 **Clifford C. Clogg Scholarship** ($2,600), Inter-university Consortium for Political and Social Research (ICPSR), University of Michigan

2014 **Chancellor's Graduate Student Award** ($1,000), University of Wisconsin, Milwaukee

2013 **PROMOS Stipend** ($3,000), German Academic Exchange Service

Research Experience

Assistant Editor, *American Sociological Review*, Indiana University, 2020-21

Associate Instructor, Summer Research Practicum with Dr. Dina Okamoto, Indiana University, 2019-21, Responsibility for Sampling Design and Data Administration

Research Assistant

Indiana University

Social Comparison & Happiness, Arthur S. Alderson, 2017-19
Big Data and Network Science, Weihua An, 2017
New York Times Web Scraping, Brian Powell, 2017

University of Wisconsin, Milwaukee

Water Poverty in American Cities, Oriol Mirosa, 2016
Science and Technology Survey, Gordon Gauchat, 2015

Teaching Experience

Associate Instructor, Responsibility for Lab Section of Course

Indiana University

Statistical Techniques in Sociology II: Sociology S650

- Graduate Course with Professor Andrew-Halpern Manners (2023)

Statistical Techniques in Sociology I: Sociology S554

- Graduate Course with Professor Patricia McManus (2018, 2019) and Professor Michael Schultz (2022)

University of Wisconsin, Milwaukee

Introduction to Statistical Thinking in Sociology

Associate Instructor, Sole Responsibility for Course, Indiana University

Understanding Social Data (2018, Formerly: Charts, Graphs, and Tables)

Teaching Assistant

University of Michigan, Inter-university Consortium for Political and Social Research (ICPSR) Summer Program

Data Science and Text Analysis (2020)

Indiana University
Introduction to Sociology (2016, 2017)
Deviance and Social Control (2017)
University of Wisconsin, Milwaukee
Introduction to Sociology (2014, 2015)

Instructor of Python Workshop

Massive Data Institute (Georgetown University)
Advanced Models Using Text (2023)
Network Methods for an Interconnected World (2024)
Exploratory Data Analytics & Visual Analytics (2024)
Combining Multiple Data Sources for Richer Insights (2025)
Network Science Institute (Indiana University)
Introduction to Network Analysis in Python with network (2022)
Workshop in Methods from the Social Science Research Commons (Indiana University)
Introduction to Python for Social Scientists (2018-2020)
Introduction to APIs for Social Scientists (2018-2020)
Introduction to Text Mining for Social Scientists (2018-2020)

Graduate Level Statistics & Methods Courses

2019 Statistical Computing (Julia Fukuyama, Indiana University)
Statistical Consulting (JangDong Seo, Indiana University)
2018 Introduction to Networks II (Stanley Wasserman, Indiana University)
Applied Linear Models II (Arturo Valdivia, Indiana University)
Exploratory Data Analysis (Brad Luen, Indiana University)
2017 Advanced Natural Language Processing (Damir Cavar, Indiana University)
Applied Linear Models I (Arturo Valdivia, Indiana University)
Measurement, Scaling, and Dimensional Analysis (William Jacoby, ICPSR)
Multivariate Statistical Methods: Advanced Topics (Robert Henson, ICPSR)
Longitudinal & Panel Data Analysis (Patricia McManus, Indiana University)
2016 Social Network Analysis (Weihua An, Indiana University)
Categorical Data Analysis (Scott Long, Indiana University)
Causal Inference in Social Research (John Roberts, UW-Milwaukee)
2015 Advanced Quantitative Analysis (Marcus Britton, UW-Milwaukee)
Advanced Statistical Methods in Sociology (Gordon Gauchat, UW-Milwaukee)

Presentations

2023 "City Development During Globalization," American Sociological Association Annual Meeting
2022 "Global Networks and City Development, 1993-2020," American Sociological Association Annual Meeting
2022 "Spatial Dependencies in the World-City System, 1993-2020," Midwest Sociological Society Annual Meeting
2022 "Industry Differences in the World-City System, 1993-2020," Southern Sociological Society Annual Meeting
2022 "The Limits of Central Place Theory to Describe the World-City System," North Central Sociological Association Annual Meeting

2022 "The New Geography of Global Inequality and the Evolution of the World City System", World Society Foundation Online Conference
2021 "Global Networks and City Development, 1993-2020", Tobias Center Research Symposium
2021 "Global Networks and City Development", Computational Social Science Workshop, Meta Inc. (Formerly: Facebook Inc.)
2020 "Keeping Up With the Joneses: How Do Americans Do Income Comparison?" (with Art Alderson), American Sociological Association Annual Meeting
2020 "The Public Framing of Immigrant-Related Collective Action in New Immigrant Destinations" (with Dina Okamoto), American Sociological Association Annual Meeting
2019 "Income Comparison and Social Location in the United States" (with Art Alderson), American Sociological Association Annual Meeting

Academic Service

President (2022) and Vice President (2021) of the Machine Learning for Research Club at Indiana University
Presider (2022) Global and Transnational Roundtable: Networks, American Sociological Association Annual Meeting
Organizer (2018-2020) Public Sociology Forum
Coordinator (2017) Politics, Economics, and Culture Workshop, Indiana University
Coordinator (2017) Indiana Intensive Didactic Seminars (IIDS - Methods Workshop), Indiana University
Presider (2016) The Power of Perception: Identity and Presentation in New Media, Midwest Sociological Society (MSS) Annual Meeting
Presider (2014) Section on Political Economy of the World-System Roundtable Session, American Sociological Association Annual Meeting

Professional Memberships

American Statistical Association (since 2016)
American Sociological Association (since 2015)
Alpha Kappa Delta (since 2015)
Southern Sociological Society (2017-2019)
Midwest Sociological Society (2016-2017, 2022)
North Central Sociological Association (2019, 2022)

References

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