

I am a computational sociologist focusing on social inequality, social networks, and family demography. In my research, I apply and develop quantitative and computational methods to study fundamental sociological questions in new ways and gain insights across a variety of research fields. My work examines how friendship, family, and political dynamics shape individual life chances and broader patterns of inequality. I am particularly interested in how individuals' selection into and interactions within these environments collectively generate emergent dynamics of social stratification. Methodologically, my expertise spans causal inference, relational dynamics, multilevel modeling, and the analysis of group heterogeneity.

Employment

Since 2025 **New York University Abu Dhabi (UAE)**
Assistant Professor of Computational Social Science

2024-2025 **Princeton University (USA)**
Postdoctoral Researcher

2022 **Organization for Economic Cooperation and Development (FRA)**
Data Scientist

Publications

An, W., Beauville, R., **Rosche, B.** (2022). Causal Network Analysis.
Annual Review of Sociology, 48. (IF: 10.5)

The authors are listed alphabetically and contributed equally to the article.

Rosche, B., Bons, H., Hox, J., de Leeuw, E. (2025).

The survey attitude scale as an indicator of survey climate and a predictor of nonresponse and attrition. *Survey Research Methods*. (IF: 4.8)

Revise and Resubmit

Rosche, B. (2025). Social Closure in U.S. High Schools? Patterns and Determinants of Socioeconomic Segregation in Adolescent Friendship Networks.

R&R at American Sociological Review (IF: 14.3) [Diss. Ch. 1]

Rosche, B. (2025). A multilevel model for coalition governments: Uncovering party-level dependencies within and between governments.

R&R at Political Analysis (IF: 8.9) [Diss. Ch. 3]

Working papers

Rosche, B. (2025). Treatment effects on within-group and between-group inequality. A causal decomposition approach.

Ongoing research

– *The precious networks of the rich. How the ultra-wealthy prevent progressive tax reforms.*
with Alison Schultz (Tax Justice Network), Yufang Sun (Mannheim University), Marti Medina-Hernández (Central European University), and Alzira Minikeeva (University of London)

Grants

2021-2024 **National Science Foundation (\$250,000)**
Friendship Networks and Socioeconomic Outcomes
Role: Principal Investigator, Award #2049207

Areas of interest

– Computational Social Science
– Stratification/Inequality
– Social Networks
– Family Demography
– Educational Sociology
– Political Sociology

Education

Cornell University (USA) 2024

– Ph.D. in Sociology and Computer Science (minor)

Committee:

Michael Macy (Cornell Soc./Information Science)

Filiz Garip (Princeton Sociology/Public Policy)

Eleonora Patacchini (Cornell Economics)

Felix Elwert (UW-Madison Sociology/Statistics)

Lillian Lee (Cornell Computer Science)

Utrecht University (NL) 2017

– M.Sc. in Methods and Statistics
GPA: 3.97, graduated in the top five percent of my class

– M.Sc. in Sociology and Social Research
GPA: 4.00, valedictorian

Mannheim University (DE) 2014

– B.A. in Sociology and Economics (minor)
GPA: 3.90, graduated in the top five percent of my class

Skills

– **Statistical skills:**

Machine learning, causal inference, Bayesian statistics, longitudinal, multilevel, spatial, network, and decomposition methods

– **Programming skills:**

✓ Highly proficient in R, Python, Stata, and BUGS/JAGS/Stan.
✓ Highly experienced with large datasets and parallel computing.

Fellowships and Awards

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|------------|---|
| 2023, 2024 | Best paper award for “ <i>Social Closure in U.S. High Schools? Patterns and Determinants of Socioeconomic Segregation in Adolescent Friendship Networks.</i> ” from the <ul style="list-style-type: none">– ASA section Mathematical Sociology– ASA section Decision-making, Social Networks, and Society– Department of Sociology at Cornell University (Robin M. Williams Jr. Best Paper Award) |
| 2020 | Best paper award for “ <i>A multilevel model for coalition governments: Uncovering dependencies within and across governments due to parties.</i> ” from the <ul style="list-style-type: none">– Department of Sociology at Cornell University (Robert B. McGinnis Best Paper Award) |
| 2018, 2023 | Cornell Sage Fellowship (\$140,000) |
| 2012-2017 | Fellowship from the <i>Studienstiftung des Deutschen Volkes</i> (German National Merit Foundation) (\$75,000) |

Teaching and Mentoring

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|-----------|---|
| 2024 | Summer School on Data Science and Wealth
<i>I led an interdisciplinary research project with PhD students from sociology, economics, and network science.</i> |
| 2024 | Mentored Malavika Krishnamachari (undergraduate student in Information Science) on her honors thesis:
<i>The effect of cross-SES ties on educational aspirations of low-SES youth.</i> |
| 2020-2023 | Lab manager of Michael Macy’s Social Dynamics Lab
<i>I assisted students with their research projects.</i> |
| 2019 | Teaching Assistant for <i>Controversies about Inequality</i>
Cornell University, undergraduate level |
| 2015-2016 | Teaching Assistant for <i>Introduction to Statistics</i>
Utrecht University, undergraduate level |
| 2011-2014 | Teaching Assistant for <i>Introduction to Sociology</i>
Mannheim University, undergraduate level |

Service and Volunteering

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|------------|---|
| 2023-2024 | Big Brothers Big Sisters: Big Brother to a 10-year-old boy with weekly meetings over two years.
<i>Recipient of the James J. Byrnes Awards for outstanding volunteer service to the community</i> |
| 2023 | Served on the graduate student admission committee in the Department of Sociology at Cornell |
| 2020-2024 | Founding President of Cornell Graduate Student Improv Theater Club |
| 2018-2020 | President of the Recreational Squash Club at Cornell |
| 2018-2019 | Organized the Cornell Sociology Graduate Seminar |
| 2011-2014 | Big Brothers Big Sisters: Big brother to a 10-year-old boy, with weekly meetings over three years. |
| Refereeing | American Journal of Sociology, European Sociological Review, Social Forces, Socius, Sociological Methods and Research, Sociological Methodology, Journal of Mathematical Sociology, Research in Social Stratification |

✓ Experienced in web programming: HTML, CSS, JavaScript, PHP, and MySQL.

Languages

English (fluent), German (native), Dutch (fluent), Spanish (basic)

Personal

In my free time, I enjoy running, doing racket sports, and dancing Salsa and Bachata. I served as president of the Cornell Recreational Squash Club (2018-2020), organizing training and tournaments for 60 members, and led the Cornell Graduate Student Improv Theater Club (2020-2024), hosting weekly improv sessions for 20 graduate students.

and Mobility, Social Science Research, Sociological Perspectives.

Software

- R library **ineqx**. <https://benrosche.github.io/ineqx/>
- R library **bmlm**. <https://benrosche.github.io/bmlm/>

Conferences

Population of America Association Conference (2018, 2021, 2022, 2023), American Sociological Association Conference (2020, 2023), International Network for Social Network Analysis Conference (2018, 2021, 2023, 2024), Network Science Society Conference (2021, 2023), International Network of Analytical Sociology conference (2022, 2023), RC28 Conference on Social Stratification (2022, 2023), American Political Science Association Conference (2019), International Multilevel Conference (2017), International Conference on Survey Nonresponse (2016)

Prof. Dr. Michael Macy
Dist. Professor of Arts and Sciences
Cornell University
mwmacy@cornell.edu

Prof. Dr. Filiz Garip
Professor of Sociology
Princeton University
fgarip@princeton.edu

Prof. Dr. Felix Elwert
Professor of Sociology
University of Wisconsin-Madison
elwert@wisc.edu

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