

Ben Rosche

ASSISTANT PROFESSOR OF COMPUTATIONAL SOCIAL SCIENCE

New York University Abu Dhabi

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Profile

I am a computational social scientist studying how social relationships, the broader environments in which they unfold, and the technologies that mediate social interaction shape individual life chances. I explore these questions across a range of domains, including social networks, families, political participation, and emerging technologies such as artificial intelligence. Throughout this work, I ask how people encounter, connect with, and influence one another, how these processes structure access to information, support, opportunity, and power, and how they scale up to produce broader patterns of inequality—and whether and how those patterns can be changed. To investigate these questions, I develop and apply methods spanning causal inference, machine learning, network analysis, multilevel modeling, and the analysis of distributional change.

Academic Appointments

New York University Abu Dhabi

ASSISTANT PROFESSOR OF COMPUTATIONAL SOCIAL SCIENCE

Abu Dhabi, UAE

2025–present

Princeton University

POSTDOCTORAL RESEARCHER

Princeton, USA

2024–2025

Organisation for Economic Co-operation and Development

DATA SCIENTIST

Paris, France

2022

Education

Cornell University

PH.D. IN SOCIOLOGY; MINOR IN COMPUTER SCIENCE

- Committee: Michael Macy, Filiz Garip, Eleonora Patacchini, Felix Elwert, and Lillian Lee.

Ithaca, USA

2024

Utrecht University

M.Sc. IN METHODS AND STATISTICS; M.Sc. IN SOCIOLOGY AND SOCIAL RESEARCH

- Methods and Statistics: GPA 3.97; top five percent of class. Sociology and Social Research: GPA 4.00; valedictorian.

Utrecht, Netherlands

2017

Mannheim University

B.A. IN SOCIOLOGY; MINOR IN ECONOMICS

- GPA 3.90; top five percent of class.

Mannheim, Germany

2014

Research Areas and Skills

Research Areas	Computational social science · social networks · inequality and stratification · artificial intelligence · family demography · educational sociology · political sociology
Methods	Causal inference · machine learning · Bayesian statistics · longitudinal, multilevel, spatial, and network methods · analysis of distributional change · survey statistics
Programming	Highly proficient in R, Python, Stata, and BUGS/JAGS/Stan · extensive experience with big data and parallel computing · HTML, CSS, JavaScript, PHP, and MySQL
Languages	German (native) · English and Dutch (fluent) · Spanish (basic)

Publications

Rosche, B. (2026). A Multilevel Model for Coalition Governments: Uncovering Party-Level Dependencies Within and Between Governments. *Political Analysis*.

Rosche, B., Bons, H., Hox, J., & de Leeuw, E. (2025). The Survey Attitude Scale as an Indicator of Survey Attitude and a Predictor of Nonresponse and Panel Dropout. *Survey Research Methods*, 19(3), 279–293.

An, W., Beauville, R., & **Rosche, B.** (2022). Causal Network Analysis. *Annual Review of Sociology*, 48.
Authors are listed alphabetically and contributed equally to the article.

Under Review

Rosche, B. (2026). Social Closure in U.S. High Schools? Patterns and Determinants of Socioeconomic Segregation in Adolescent Friendship Networks. *Under review*.

Rosche, B. (2026). Treatment Effects on Within-Group and Between-Group Inequality: A Causal Decomposition Approach. *Under review*.

Krishnamachari, M., & **Rosche, B.** (2026). Bridging the Divide: How Cross-Socioeconomic Friendships Shape Educational Aspirations. *Under review*.

Working Papers

The Precious Networks of the Rich: How the Ultra-Wealthy Prevent Progressive Tax Reforms

With Alison Schultz (Tax Justice Network), Yufang Sun (Mannheim University), and Marti Medina-Hernández (Central European University).

Social Networks and Intergenerational Mobility in the Netherlands

With Javier Bernardo-Garcia (Utrecht University) and Samuel Plach (Bocconi University).

When Friends-of-Friends Divide Us: Triadic Closure and the Making of Segregated Networks

With Cassie McMillan (Northeastern University), Talal Rahwan (NYUAD), Yasir Zaki (NYUAD), and Mohamad Altrabulsi (NYUAD).

AI and Human Collaboration in Social Dilemmas

With Hanan Salam (NYUAD), Hua Shen (NYU Shanghai), Vedant Das Swain (NYU), and Ashmit Mukherjee (NYUAD).

Graphical Neural Networks for Causal Network Analysis

With Ruiqi Yu (Princeton), Yuchen Wu (Cornell), and Matias Cattaneo (Princeton).

Not All Bridges Are Equal: Weak Ties, Social Boundaries, and Early Career Outcomes

With Mario Molina (NYUAD) and Manu Muñoz (NYUAD).

Grants

National Science Foundation

\$250,000

PRINCIPAL INVESTIGATOR; AWARD #2049207

2021–2024

- *Friendship Networks and Socioeconomic Outcomes*.

Fellowships and Awards

Best paper awards for *Social Closure in U.S. High Schools? Patterns and Determinants of Socioeconomic Segregation in Adolescent Friendship Networks*: ASA Section on Mathematical Sociology; ASA Section on Decision-making, Social Networks, and Society; and Cornell University Department of Sociology, Robin M. Williams Jr. Best Paper Award.

2023, 2024

Robert B. McGinnis Best Paper Award, Cornell University Department of Sociology, for *A Multilevel Model for Coalition Governments: Uncovering Dependencies Within and Across Governments Due to Parties*.

2020

Cornell Sage Fellowship (\$140,000).

2018, 2023

Studienstiftung des deutschen Volkes (German National Merit Foundation) fellowship (\$75,000).

2012–2017

Invited Talks

Harvard University, Opportunity Insights Lab (Raj Chetty)

2026

Meta Research, Computational Social Science Group

2025

Complexity Science Hub, Network Inequality Lab (Fariba Karimi)

2024

Teaching and Mentoring

Modern Data Analysis for the Social and Behavioral Sciences

New York University Abu Dhabi

INSTRUCTOR

2026

- Developed and taught a semester-long undergraduate course covering exploratory data analysis and statistical inference using simulation-based, frequentist, and Bayesian methods.

Social Network Analysis

New York University Abu Dhabi

INSTRUCTOR

2026

- Developed and taught an undergraduate course bridging social science and computer science approaches to the study of networks.

Ashmit Mukherjee, Computer Science

New York University Abu Dhabi

CAPSTONE MENTOR

2026

- Mentoring a capstone project on *AI and Human Collaboration in Social Dilemmas*.

Summer School on Data Science and Wealth

PROJECT LEAD

2024

- Led an interdisciplinary research project with Ph.D. students from sociology, economics, and network science.

Malavika Krishnamachari, Information Science

Cornell University

HONORS THESIS MENTOR

2024

- Mentored an undergraduate honors thesis examining the effects of cross-SES ties on low-SES youths' educational aspirations.

Michael Macy's Social Dynamics Lab

Cornell University

LAB MANAGER

2020–2023

- Assisted students with their research projects.

Controversies about Inequality

Cornell University

TEACHING ASSISTANT

2019

Introduction to Statistics

Utrecht University

TEACHING ASSISTANT

2015–2016

Introduction to Sociology

Mannheim University

TEACHING ASSISTANT

2011–2014

Academic and Professional Service

University-wide Committee on Artificial Intelligence

New York University Abu Dhabi

SOCIAL SCIENCE AI LIAISON

2026–present

- Evaluate the impact of AI on research, teaching, and administration; contribute to the development of a new AI major; and lead AI integration initiatives across the social sciences.
- Develop an AI-powered Socratic tutor for programming instruction, AI-assisted grading tools, and interactive applications to improve student learning and engagement.

Graduate Student Admissions Committee, Department of Sociology

Cornell University

COMMITTEE MEMBER

2023

Cornell Sociology Graduate Seminar

Cornell University

ORGANIZER

2018–2019

Refereeing

REVIEWER

- *Nature Communications*; *Journal of the Royal Society Interface*; *American Journal of Sociology*; *European Sociological Review*; *Social Forces*; *Socius*; *Sociological Methods & Research*; *Sociological Methodology*; *Journal of Mathematical Sociology*; *Research in Social Stratification and Mobility*; *Social Science Research*; *Sociological Perspectives*; *American Behavioral Scientist*; *American Educational Research Journal*.

Community Leadership and Volunteering

Big Brothers Big Sisters

BIG BROTHER

2023–2024

- Met weekly with a 10-year-old boy over two years; received the James J. Byrnes Award for outstanding volunteer service to the community.

Cornell Graduate Student Improv Theater Club

Cornell University

FOUNDING PRESIDENT

2020–2024

- Hosted weekly improv sessions for 20 graduate students.

Recreational Squash Club

Cornell University

PRESIDENT

2018–2020

- Organized training and tournaments for 60 members.

Big Brothers Big Sisters

BIG BROTHER

2011–2014

- Met weekly with a 10-year-old boy over three years.

Software

R package **ineqx**, benrosche.github.io/ineqx

R package **bml**, benrosche.github.io/bml

Conference Participation

Population Association of America Annual Meeting	2018, 2021–2023
American Sociological Association Annual Meeting	2020, 2023
International Network for Social Network Analysis Conference	2018, 2021, 2023–2026
Network Science Society Conference	2021, 2023
International Network of Analytical Sociology Conference	2022, 2023, 2026
European Social Networks Conference	2026
RC28 Conference on Social Stratification	2022, 2023
American Political Science Association Annual Meeting	2019
International Multilevel Conference	2017
International Conference on Survey Nonresponse	2016

Additional Interests

In my free time, I enjoy running, playing 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.

References

Prof. Dr. Michael Macy

Distinguished 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