

ELIZABETH E. BRUCH

Curriculum Vitae

ADDRESS

Department of Sociology, University of Michigan
500 S. State Street, Ann Arbor, Michigan, 48109, U.S.A.

SCHOOLING

B.A., Sociology, Reed College, 1999
M.A., Sociology, UCLA, 2001
Ph.D., Sociology, UCLA, 2006
M.S., Statistics, UCLA, 2008

POSITIONS HELD

Assistant Professor of Sociology & Complex Systems, U-Michigan 2008-2016
Assistant Research Professor, Institute for Social Research, 2008-2016

Associate Professor of Sociology & Complex Systems, U-Michigan 2016-
Associate Research Professor, Institute for Social Research, 2016-

External Faculty Member, Santa Fe Institute, 2017-

FELLOWSHIPS, HONORS, AND AWARDS

Reed College Class of '21 Award recognizing "creative work of notable character,
involving an unusual degree of initiative and spontaneity," 1999
National Science Foundation Graduate Research Fellowship, 2000-2003
Robert Wood Johnson Foundation Health Policy Fellowship, 2006-2008
American Journal of Sociology Gould Prize for 2006-2007
James Coleman Outstanding Publication Award, ASA Rationality and Society, 2006
Robert Park Best Article Award, ASA Community and Urban Sociology, 2006
Fellow at the Center for Advanced Study in the Behavioral Sciences, 2013-2014
Outstanding Article Award from the ASA Mathematical Sociology Section, 2015
Merton Prize from the International Network of Analytical Sociologists, 2015
Fellow at the Institute for Advanced Study in Berlin, 2018-2019

PUBLICATIONS

Books

Mate Market: How Populations and Behavior Shape Online Dating Experiences. (Work in progress.) Under advance contract with Princeton University Press.

Classic work in economics and mathematics provide formal models of how mate preferences aggregate within marriage or dating markets. Empirical studies in sociology and demography document an association between characteristics of romantic markets, such as sex ratio of cities, and population-level outcomes (e.g., marriage rates, non-marital fertility, and patterns of assortative mating). But we know little about whether, how, and why mate-seeking experiences differ across cities. I use rich activity data from online dating sites to explore how population constraints and human behavior jointly shape online courtship.

Building on theoretical and empirical work in behavioral ecology, I focus on two distinct classes of mate-seeking behavior: *choice* (i.e., preferences and choosiness) and various forms of *competition*. I find that local markets shape dating experiences both directly, by constraining the type and number of people one is exposed to, and indirectly, through the dynamic interplay between users' behavior and experience. The project builds on classic work by Blau and Simmel to develop a general framework for understanding how social context interacts with individual activity to shape human experience.

Articles

- Bruch, Elizabeth and Robert Mare. 2006. "Neighborhood Choice and Neighborhood Change." *American Journal of Sociology* 112: 667-709.
- Bruch, Elizabeth and Robert Mare. 2009. "Preferences and Pathways to Segregation: Reply to van de Rijt, Siegel, and Macy." *American Journal of Sociology* 114:1181-98.
- Bruch, Elizabeth, and Robert Mare. 2012. "Methodological Issues in the Analysis of Residential Preferences and Residential Mobility." *Sociological Methodology* 42: 103-154.
- Bruch, Elizabeth. 2014. "How Population Structure Shapes Neighborhood Segregation." *American Journal of Sociology* 119:1221-1278.
- Bruch, Elizabeth and Jon Atwell. 2015. "Agent-Based Models in Empirical Social Research." *Sociological Methods and Research* 44:186-221.
- Bruch, Elizabeth, Fred Feinberg, and Kee Yeun Lee. 2016. "Extracting multistage screening rules from online dating activity data." *Proceedings of the National Academy of Sciences of the United States of America* 113: 10530-10535.
- Bruch, Elizabeth and Fred Feinberg. 2017. "Decision Making in Social Environments." *Annual Review of Sociology* 43: 207-227.
- Dellaert, Benedict, Joffre Swait, Vic Adamowicz, Theo Arentze, Elizabeth Bruch, Elisabetta Cherchi, Caspar Chorus, Bas Donkers, Fred Feinberg, Antony Marley, and Linda Salisbury. 2017. "Individuals' Decisions in the Presence of Multiple Goals." *Consumer Needs and Solutions* 1:1-14.

Endsley, Arthur, Dan Brown, and Elizabeth Bruch. 2018. "Housing Market Activity is Associated with Disparities in Urban and Metropolitan Vegetation." *Ecosystems* 21: 1593-1607.

Bruch, Elizabeth and Mark Newman. 2018. "Aspirational Pursuit of Mates in Online Dating Markets." *Science Advances* 4: eaap9815.

Bruch, Elizabeth and Joffre Swait. 2019. "Choice Set Formation and its Implications for Segregation Dynamics." Conditionally Accepted at *Demography*.

Book Chapters

Bruch, Elizabeth and Robert Mare. 2009. "Segregation Processes." In the *Oxford Handbook of Analytical Sociology*, edited by P. Bearman and P. Hedström. Oxford University Press.

Bruch, Elizabeth, Ross Hammond, and Peter Todd. 2015. "The Co-Evolution of Decision Making and Social Environments." Chapter in *Emerging Trends in the Social and Behavioral Sciences*, edited by Robert Kaplan and Stephen Kosslyn. Hoboken NJ: John Wiley and Sons.

EXTRAMURAL RESEARCH GRANTS (PI unless otherwise noted)

"Dynamic Models of Race and Income Segregation." National Science Foundation Doctoral Dissertation Grant, 2004-05. (\$7,500)

"Neighborhood Choice and Neighborhood Change: Evaluating Dynamic Models of Residential Segregation." (with R. Berk and R. Mare) National Science Foundation, 2004-06. (\$230,000)

"Dynamic Models of Racial Residential Segregation." (with L. Quillian) National Institute of Health R-21 Award, 2010-2013. (\$275,000)

"Cognitively Plausible Models of Decision-Making." National Institute of Health K01 Award, 2014-2019. (\$653,000)

"Dynamic Systems Modeling for Demography and Public Health." National Institute of Health R-25 Curriculum Development and Training Award, 2014-2019. (\$980,000)

INVITED PRESENTATIONS TO PROFESSIONAL AUDIENCES (since 2015)

"All Things Considered? Cognitively Plausible Models of Neighborhood Choice"

- California Center for Population Research at UCLA
- Institute for Future Studies in Stockholm, Sweden

“How Heuristics and Biases Shape Segregation Dynamics”

- Penn State Residential Inequality conference, State College, PA

“Deal-Breakers and Deal-Makers: Modeling Search Strategies and Choice Behavior on Online Dating Sites”

- Columbia University Department of Sociology
- Stanford University Organizational Behavior Seminar
- Cornell University PAM/CPC Seminar Series

“Behavioral Data, Decision Processes, and Segregation Dynamics”

- Harvard University’s “Big Data and the Future of Urban Sociology” Workshop

“The Structure of Online Relationship Markets”

- Internet Dating” Plenary Session at the Annual Meetings of the American Sociological Association, Chicago, IL
- Northwestern Institute on Complex Systems, Chicago, IL
- University of Chicago Computational Social Science Seminar, Chicago, IL

“When ‘Bad is Stronger than Good’: How Perceptual Biases Shape Neighborhood Dynamics”

- “Income Inequality” Thematic Session at the Annual Meetings of the American Sociological Association, Chicago, IL

“Decision Processes in Social Environments”

- Radcliffe Workshop on Decision Processes in Urban Environments

“Modeling Mate Choice and the Structure of Dating Markets”

- Northwestern Department of Sociology, Chicago, IL
- WUSTL Economic Demography workshop, St. Louis, MI

“Competition in Online Dating Markets”

- Santa Fe Institute, Santa Fe, NM
- Indiana University Department of Cognitive Science, Bloomington IN

“Decision Processes and Network Structure”

- Stanford Workshop on Networks and Culture

“Data Science and Systems Science”

- NIH Workshop on Big Data and the Behavioral Sciences

RECENT PRESENTATIONS TO PROFESSIONAL AUDIENCES

“The Structure of Online Relationship Markets.” 2015. Presented at the Annual Meetings of the International Network of Analytical Sociologists, Boston.

“Competition in Online Dating Markets.” 2017. Presented in the Final Plenary at the Annual Meetings of the International Network of Analytical Sociologists, Oslo; also at the Population Association of America Meetings in Chicago.

“Demographic Variation in Pickup Lines (and their Probabilities of Success).” 2018. Joint work with Jeff Lockhart. Presented at the Population Association of America Meetings in Denver.

“How Perceptual Biases Shape Neighborhood Dynamics.” 2018. Joint work with Lydia Wileden and Arthur Endsley. Presented at the Population Association of America Meetings in Denver.

DISCIPLINARY SERVICE AND OTHER PROFESSIONAL ACTIVITIES

Editorial Board, *Sociological Methodology*, 2008-2011 and 2015-2018.

Editorial Board, *Sociological Methods and Research*, 2016-.

Consulting Editor, *Sociological Science*, 2017

Consulting Editor, *American Journal of Sociology*, 2011-2013.

Council Member, *Methodology Section*, American Sociological Association, 2018-2020

Reviewer for the *American Journal of Sociology*, *Sociological Methodology*, *Social Forces*, *Sociological Methods and Research*, *Demography*, *Population Research and Policy Review*, and the *American Sociological Review*.

Advisory

Member, Institute of Medicine Committee on the Assessment of Agent-Based Models to Inform Tobacco Product Regulation. 2013-2015.

Member, Committee on Population Statistics (COPS) for the Population Association of America, 2018-2021.

Professional Meetings

Co-Organizer, “The Evolution of Search in Human Societies,” Google Ventures 2019

Co-Organizer, “Decision Processes on Networks,” Triennial Choice Symposium, 2019

Co-Organizer, “Mapping the Future of Analytical Sociology” Stockholm, 2017

Organizer, “Complex Systems,” Session at the American Sociological Association Meetings in Montreal, 2017

Organizer, “Modeling Population Dynamics,” Session at the Population Association of America Meetings in Chicago, 2017

Organizer, “Big Data and Population Processes” Session at the Population Association of America Meetings in Chicago, 2017

Co-Organizer, “Decision Processes in Urban Contexts,” Invited Workshop at the Radcliffe Institute for Advanced Study

Discussant of session on “Segregation and Contextual Inequality” at the Annual Meetings of the Population Association of America, 2016.

Organizer and Presider of “Simulation Models for Understanding Health and Mortality” at the Population Association of America, 2016.

Steering Committee member, OBSSR Summit on Best Practices in Modeling for Public Health, Bethesda, MD. 2015.

Program Committee member, International Conference on Computational Social Science, Helsinki Finland. 2015.
Organizer of “Population Processes” session at the Annual Meetings of the American Sociological Association. 2014.
Co-organizer of “Models Big and Small,” Center for the Study of Complex Systems at the University of Michigan. 2014.
Senior Program Committee member, International Conference on Social Informatics (SocInfo). 2014.
Organizer and Presider of “Behavioral Data and the Future of Stratification Research” [Thematic session] at the Annual Meetings of the American Sociological Association. 2013.
Organizer and Presider of “Residential Mobility and Neighborhood Change” at the Annual Meetings of the Population Association of America. 2009.
Discussant of session on “Segregation” at the Annual Meetings of the Population Association of America, 2007.

Research Networks

Member, National Institute of Health’s Network on “Inequality, Complexity and Health,” 2010-2014.
Member, University of Chicago’s “Inequality: Measurement, Interpretation, and Policy” Network. 2013-.

Training

Co-Chair, Quantitative Social Science Committee at University of Michigan, 2018
Faculty lead, University of Michigan Initiative in Computational Social Science, September 2017-.
Faculty advisor, University of Michigan’s Computational Social Science Graduate Workshop, September 2016-2018.
Track leader, Agent-based Modeling Track of the National Institute of Health’s annual *Institute for Systems Science and Health*; May 2010, June 2011.

TEACHING

Courses Taught

Quantitative Modeling (SOC 542)
Evaluation of Evidence (SOC 312)
Research Logics (SOC 506)
Analytical Sociology (SOC 595)
Tipping Points, Bandwagons, and Cascades: From Individual Behavior to Population Dynamics (SOC 260)

Graduate Advising

Elly Field, Sociology
Anne Clark, Sociology
Lydia Wileden, Sociology and Public Policy
Michael Fang, Sociology and Public Policy
Jeff Lockhart Sociology

Constance Hsiung, Sociology
Jon Atwell, Sociology and Complex Systems

Dissertation Committees

Anne Clark, Sociology (Chair)
Constance Hsiung, Sociology (Co-Chair)
Jon Atwell, Sociology and Complex Systems (Co-Chair)
Jon Zelner, Sociology and Complex Systems (Member)
Debra Hevenstone, Sociology (Member)
Longxiu Tian, Marketing (Cognate)
Kee Yeun Lee, Marketing (Cognate)
Jessica Hoel, Economics (Cognate)
Marta Murray-Close, Economics (Cognate)
Michelle Debbink, Public Health (Cognate)
Sara Rimer, Engineering (Cognate)
Arthur Endsley, Resource Ecology (Cognate)

Sociology Publishable Paper Committees

Michael Fang (Chair)
Lydia Wileden (Chair)
Jeff Lockhart (Chair)
Jon Atwell (Member)
Constance Hsiung (Member)
Nelson Saldana (Member)
Lacey Bobier (Member)

Sociology Undergraduate Honors Thesis Advising

Alexandra Cooperstock, Diana Saum, Nina Lucido