

PATRICK S. PARK

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EMPLOYMENT

- 2021- Assistant Professor, Software and Societal Systems Department, School of Computer Science, Carnegie Mellon University
- 2019-2021 Data Science Fellow, Michigan Institute for Data Science, University of Michigan
- 2017-2019 Research Fellow, Management & Organizations, University of Michigan Ross School of Business
- 2016-2017 Postdoctoral Fellow, Science of Networks in Communities Research Group (SONIC), Northwestern University
- 2014 Summer Intern, HRL Laboratories
- 2006 Summer Intern, National Opinion Research Center at the University of Chicago

EDUCATION

- 2016 Ph.D. Sociology, Cornell University
- 2008 M.A. Sociology, Yonsei University, South Korea
- 2004 B.A. Liberal Arts, Yonsei University, South Korea

FIELDS OF INTEREST

Social Networks, Computational Social Science, Agent Based Modeling, Diffusion of Innovation, Opinion Dynamics, Higher-Order Social Interactions

PUBLICATIONS

Journals (Peer-Reviewed)

- 2019 Berry, George, Christopher Cameron, PATRICK PARK, and Michael Macy. 2019. “[The Opacity Problem in Social Contagion.](#)” *Social Networks* 56:93-101. DOI: 10.1016/j.socnet.2018.09.001
- 2018 PATRICK PARK, Joshua Blumenstock, and Michael Macy. 2018. “[The Strength of Long-Range Ties in Population-Scale Social Networks.](#)” *Science* 362(6421):1410-1413. DOI: 10.1126/science.aau9735 [replication data]
- 2017 PATRICK PARK and Yong-Hak Kim. 2017. “[Reciprocation under Status Ambiguity: How Dominance Motives and Spread of Status Value Shape Gift Exchange.](#)” *Social Networks* 48:142-156. DOI: 10.1016/j.socnet.2016.08.004
- 2015 State, Bogdan, PATRICK PARK, Ingmar Weber, and Michael Macy. 2015. “[The Mesh of Civilizations in the Network of Digital Communication.](#)” *PloS One* 10(5): e0122543. DOI: 10.1371/journal.pone.0122543 [replication data]
- 2006 Kim, Yong-Hak, PATRICK PARK, and Soyoung Jun. 2006. “[Structural Analysis of an Online Social Network: a Case Study of the Cyworld Friendship Network.](#)” *Informatization Policy* 13: 167-185. (in Korean)

Conference Proceedings (Peer-Reviewed)

- 2025 Changyang Wu, Meryl Ye, and PATRICK PARK. forthcoming. “[Tied to Place: Geographic Origins of Tie Survival.](#)” In: Thomson, R., et al. Social, Cultural, and Behavioral Modeling. SBP-BRiMS 2025. *Lecture Notes in Computer Science*.
- Henry Xu, Katy Yu, Hao He, Hongbo Fang, Bogdan Vasilescu, and PATRICK PARK. 2025. “[The Structure of Cross-National Collaboration in Open-Source Software Development.](#)” *Proceedings of the 34th ACM International Conference on Information and Knowledge Management* (CIKM ’25). Seoul, Korea
- PATRICK PARK and Milena Tsvetkova. 2025. “[The Structure of Informal Support in the Production of Scientific Knowledge.](#)” *13th International Conference on Complex Networks and Their Applications*. Istanbul, Turkey
- 2024 PATRICK PARK, Henry G. Xu, and Kathleen M. Carley. 2024. “[The Life of a Tie: Social Origins of Network Diversity.](#)” In: Thomson, R., et al. Social, Cultural, and Behavioral Modeling. SBP-BRiMS 2024. *Lecture Notes in Computer Science*. vol 14972:226-235. Springer, Cham. DOI: 10.1007/978-3-031-72241-7_22
- Mardia, Arnav, Sichen Jin, Kathleen M. Carley, Yu-Ru Lin, Zachary P. Neal,

- PATRICK PARK, and Clio Andris. 2024. “The Senators Problem: A Design Space of Node Placement Methods for Geospatial Network Visualization”. *The 16th Conference on Spatial Information Theory* (COSIT 2024). 315:(19) DOI: 10.4230/LIPIcs.COSIT.2024.19
- 2015 PATRICK PARK, Ryan Compton, and Tsai-Ching Lu. 2015. “Network-Based Group Account Classification.” *Lecture Notes in Computer Science: Social Computing, Behavioral-Cultural Modeling and Prediction*. 9021:163-172. DOI: 10.1007/978-3-319-16268-3_17
— SBP15 Best Paper Award

Other Publications

- 2024 Robert Thomson, Aravind Hariharan, Scott Renshaw, Samer Al-Khateeb, Annetta Burger, PATRICK PARK, and Aryn Pyke Eds. 2024. *Lecture Notes in Computer Science: Social, Cultural, and Behavioral Modeling*
- 2023 Robert Thomson, Samer Al-Khateeb, Annetta Burger, PATRICK PARK, and Aryn Pyke Eds. 2023. *Lecture Notes in Computer Science: Social, Cultural, and Behavioral Modeling*
- 2019 PATRICK PARK, Ryan Compton, and Tsai-Ching Lu. 2019. “Network-Based Organization Classification.” US Patent 10474963
- 2015 PATRICK PARK and Michael Macy. 2015. “The Paradox of Active Users.” in *Big Data & Society* Special Issue, “Assumptions of Sociality: A Symposium on Social and Humanistic Scholars’ Encounters with the Methodological Ontologies of Big Data.” edited by John Mohr, Ronald Breiger and Robin Wagner-Pacifici. DOI: 10.1177/2053951715606164

WORKS IN PROGRESS

PATRICK PARK “The Centre Cannot Hold: Online Polarization and the Paradox of Network Diversity.”(under review)

Arnab Sarker and PATRICK PARK. “Higher-order social interactions exhibit ritualistic qualities of strong ties and heightened emotion.” (under review)

Hongbo Fang, PATRICK PARK, James Evans, Jim Herbsleb, Bogdan Vasilescu. “Weak Ties Explain Open Source Innovation” (under review)

Tielin Katy Yu, Huilian Sophie Qiu, Laura Dabbish, PATRICK PARK, and Bogdan Vasilescu “Connected to Stay: Gender Homophily and Its Role in Open-Source Software Developer Retention.”(under review)

Meryl Ye and PATRICK PARK. “Self-Presentation in Contextless Complex Networks”(in

progress)

PATRICK PARK and Kathleen Carley. "The Origins of Bridging Ties." (in progress)

PATRICK PARK and Kathleen Carley. "Survivorship Biases in LLM Training Data" (in progress)

PATRICK PARK, Minsu Park, and Michael Macy. "Economic Correlates of Diversity and Inequality in Online Social Networks." (in progress)

AWARDS, GRANTS, AND FELLOWSHIPS

- 2019 "The Strength of Long-Range Ties in Population-Scale Social Networks" (with Joshua Blumenstock and Michael Macy), Honorable Mention, Granovetter Award for Best Article, Economic Sociology Section AMERICAN SOCIOLOGICAL ASSOCIATION.
- 2018 "In Search of Jobs: Punctuated Career Events, Network Activation, and Network Evolution" (with Jake Fisher, Scott Page, and Maxim Sytch), MCUBED, University of Michigan, \$15,000.
- 2015 BEST PAPER AWARD, International Conference on Social Computing, Behavioral-Cultural Modeling, and Prediction, Washington D.C.
- 2014-2015 Co-PI, "The Strength of Long Ties" (PI: Michael Macy), Doctoral Dissertation Research Improvement Grant, NATIONAL SCIENCE FOUNDATION (SES-1434164), \$11,940.
- 2012-2014 "Comparative Network Analysis: Mapping Global Social Interactions" (PI: Michael Macy), NATIONAL SCIENCE FOUNDATION (SES-1226483), \$435,000.
- 2011 DEPARTMENT AWARD FOR EXCELLENCE IN TEACHING, Dept. of Sociology, Cornell University.
- 2010 RESEARCH TRAVEL GRANT, East Asia Program, Cornell University, \$2,000.
- 2007-2010 RUSSELL SAGE FELLOWSHIP, Graduate School, Cornell University.
- 2006 GRADUATE STUDENT BEST PAPER AWARD, 3rd Workplace Panel Survey Conference, Korea Labor Institute, \$1,000.

INVITED TALKS

- 2025 Graduate School of Digital Humanities & Computational Social Sciences, KAIST, Daejeon, Korea (scheduled)

	Department of Sociology, Yonsei University, Seoul, Korea (scheduled)
	NICO Seminar Series, Northwestern Institute on Complex Systems, Northwestern University (scheduled)
	Summer Institute in Computational Social Science, Carnegie Mellon University
	Knowledge Lab Seminar, University of Chicago
	Computational Social Science Workshop, University of Chicago
	AI and Disinformation Summit, Center for Informed Democracy and Social-Cybersecurity, CMU
	Research Talk, CMU-Qatar
	Community Partner Workshop, CMU-Qatar
2024	Agglomeration & Social Networks Research Lab, ELKH Centre for Economic and Regional Studies, Budapest, Hungary
2023	Annual Conference, Center for Informed Democracy & Social-cybersecurity
2022	COALESCE Lab, Autonomous University of Barcelona
	S3D Seminar Series, Carnegie Mellon University
2021	Computational Social Science Colloquium, Korea Advanced Institute of Science & Technology
	Research Institute for Human Life Sciences, Sungkyunkwan University
	School of Information Studies, Syracuse University
	Institute for Software Research, Carnegie Mellon University
	Department of Information Science, Drexel University
2019	Library and Information Science Department, Rutgers University
	Department of Methodology, London School of Economics and Political Science
	Institute for Social Research, University of Michigan
	Graduate School of Management, University of California Davis
	Department of Sociology, Stanford University
2017	Management and Organizations, Ross School of Business, University of Michigan

- 2016 Booth School of Business, University of Chicago
 Goizueta Business School, Emory University
 Haas School of Business, University of California Berkeley
 Institute of Communication, Culture, Information and Technology, University of Toronto Mississauga
 Division of Social Science, Hong Kong University of Science and Technology
 Department of Policy Analysis and Public Management, Bocconi University

SELECTED CONFERENCE PRESENTATIONS

- 2025 “The Life of a Tie – Social Origins of Network Diversity.” *American Sociological Association Annual Meeting*, Chicago, IL.
 “The Life of a Tie – Social Origins of Network Diversity.” *Sunbelt Conference*, Paris, France.
 “The Structure of Informal Support in the Production of Scientific Knowledge.” *17th Annual Conference of International Network for Analytical Sociologists*, New York, NY.
- 2024 “The Life of a Tie – Social Origins of Network Diversity.” (with Henry Xu and Kathleen Carley) *SBP-BRiMS*, Pittsburgh, PA.
 “The Centre Cannot Hold: Online Polarization and the Paradox of Network Diversity.” *Sunbelt Conference*, Edinburgh, UK.
 “Co-Present Triads.” (with Arnab Sarker) *10th International Conference for Computational Social Science*, Philadelphia, PA.
 “Co-Present Triads.” (with Arnab Sarker) *NetSciX 2024*, Venice, Italy.
- 2023 “The Centre Cannot Hold: Online Polarization and the Paradox of Network Diversity.” *15th Annual Conference of International Network for Analytical Sociologists*, Princeton, NJ.
- 2019 “Economic Correlates of Diversity and Inequality in Online Social Networks.” (with Minsu Park and Michael Macy) *American Sociological Association Annual Meeting*, New York, NY.
- 2018 “Economic Correlates of Diversity and Inequality in Online Social Networks.” (with Minsu Park and Michael Macy) *Academy of Management Annual Meeting*, Chicago, IL.

- “Economic Correlates of Diversity and Inequality in Online Social Networks.” (with Minsu Park and Michael Macy) *International Conference on Computational Social Science*, Evanston, IL.
- “Network Wormholes Facilitate High-Cost Social Contagion.” (with Josh Blumenstock and Michael Macy) *International Network of Analytical Sociology Conference*, Stanford, CA.
- 2017 “Rarely Seen ‘Wormholes’ Contract Global Social Networks.” (with Michael Macy) *Academy of Management Annual Meeting*, Atlanta, GA.
- “Understanding Elective Task Switching.” (with Leslie DeChurch and Noshir Contractor) *NASA Human Research Program Investigators’ Workshop*, Galveston, TX.
- 2016 “The Strength of Long Ties.” (with Michael Macy) *American Sociological Association Annual Meeting*, Seattle, WA.
- 2015 “The Strength of Long Ties.” (with Michael Macy) *International Conference for Computational Social Science*, Helsinki, Finland.
- “Reciprocation under Status Ambiguity: How Dominance Motives and Spread of Status Values Shape Gift Exchange.” (with Yong-Hak Kim), *Annual Meeting of the International Network of Analytical Sociologists*, Cambridge, MA.
- 2014 “The Strength of Long Ties” (with Michael Macy), *Sunbelt Conference XXXIV*, St. Pete, FL.
- 2013 “Status Difference in Reciprocal Exchange: How Competition and Spread of Status Value Shape Reciprocity.” (with Yong-Hak Kim), *Group Processes 25th Year Anniversary Conference*, New York, NY.
- 2012 “Assessing the Structure of Knowledge Production through Acknowledgement Networks: Theoretical Justification and Empirical Evidence.” (with Milena Tsvetkova), *Sunbelt Conference XXXII*, Redondo Beach, CA.
- 2009 “Third Culture Homophily as the Basis for Ethnic Boundary Blurring.” *The Sixth Annual Social Theory Forum*, University of Massachusetts Boston, Boston, MA.
- 2006 “Workplace Employment Methods and Mimetic Isomorphism.” *3rd Workplace Panel Survey Conference*, Korea Labor Institute, Seoul, Korea. — Best Student Paper Award
- “Workforce Development and Rental Policy: How Can What We Know Inform Next Steps?” with Julia Lane, Ned English, and Fredrik Andersson), *Revisiting Rental Housing: A National Policy Summit*, Harvard University, Cambridge,

MA.

“Structural Analysis of an Online Social Network: A Case Study of The Cyworld Friendship Network.” (with Yong-Hak Kim and Soyoung Jun), *Annual Spring Meeting of the Korean Sociological Association*, Chonju, Korea.

TEACHING

Carnegie Mellon University

2023–2025 [Network Analysis: The Hidden Structures behind the Webs We Weave](#) (17-213/17-668)

2023–2025 Computational Social Science Research Design and Data Analytics (17-756)

2025 Introduction to Social Networks (17-420, micro course offered at CMU-Q)

2022 [Introduction to Social Networks](#) (17-210/17-710)

Sungkyunkwan University

2021 GUEST LECTURER, *2021 Spring Symposium*, Research Institute for Human Life Sciences, (lecture title: “Human Relations in the Age of Social Media”)

2021 GUEST LECTURER, *2021 Winter Workshop*, Department of Social Innovation, (lecture title: “Data Collection and Analysis Using the Twitter API”)

University of Michigan

2018 LECTURER, [ICOS Big Data Summer Camp](#) (lecture title: “Introduction to MapReduce”)

University of Toronto Mississauga

2016 GUEST LECTURER, *Communications Research Methods* (lecture title: “Networks: The Social Structure of X”)

Cornell University

2010-2011 TEACHING ASSISTANT, *Drugs and Society* (Prof. Douglas Heckathorn)

2010 TEACHING ASSISTANT, *Evaluating Statistical Evidence* (Prof. Matthew Brashears)

2009 TEACHING ASSISTANT, *Introduction to Sociology* (Prof. Benjamin Cornwell)

PROFESSIONAL SERVICES

Carnegie Mellon University

- 2022-2025 Co-chair, Organizing Committee, *Computational Social Science Seminar Series*, S3D
- 2022 Tenure-Track Hiring Committee, S3D
 Faculty Awards Committee, S3D
- 2021-2022 Community Building Committee, S3D

External

- 2023-2025 Organizing Committee, *International Conference on Social Computing, Behavioral-Cultural Modeling, & Prediction and Behavior Representation in Modeling and Simulation* (SBP-BRiMS)
- 2025 Guest Editor, *Computational and Mathematical Organization Theory*
 Program Committee, *AI4CSS* Workshop, ICDM
- 2015-2024 Program Committee, International Conference for Computational Social Science (2015-2017, 2022–2024)
- 2024 Program Committee, *Conference on Complex Systems*
- 2023 Grant reviewer, Army Research Office
- 2022 Guest Editor, *PNAS*
 Co-Chair, *Science of Team Science & Innovation* (SciTS) Satellite Conference, NetSci2022
- 2017 Program Committee, Social Informatics
- Reviewer *Administrative Science Quarterly, American Journal of Sociology, EPJ Data Science, Nature, PloS One, PNAS, Science, Science Advances, Social Psychology Quarterly*

MENTORING

As Advisor

Peter Carragher (PhD, S3D, co-advised with Kathleen Carley)

As Thesis Committee Member

William Martin (PhD, Transition Design)
Hongbo Fang (PhD, S3D)
Charity Jacobs (PhD, S3D)
James D. Moffit (PhD, S3D)
Joshua Uyheng (PhD, S3D)
Thomas Magelinski (PhD, S3D)

As Research Mentor

Ngoc Ta (Bachelors, Grinnell University, REUSE)
Changyang Wu (Bachelors, SCS)
Katy Tielin Yu (Bachelors, EPP)
Chi-Shiun Tsai (Masters, PPP)