Yiling Lin

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RESEARCH INTERESTS SUMMARY

My research sits at the intersection of **Science of Science**, **Computational Social Science**, and **Innovation Studies**. I use large-scale data, network analysis, and natural language processing to study how collaboration, knowledge, and new technologies help or hinder breakthroughs in science and technology. My work has been published in ***Nature*** and the Journal of Informetrics.

KEYWORDS

Innovation, Creative Team, Science of Science, Computational Social Science, Network Science

EDUCATION

PhD - Information Science 2021 - Present
University of Pittsburgh
MA - Computational Social Sciences 2019 - 2021
University of Chicago
BA - Management Science 2014 - 2018
Beijing Normal University

JOURNAL ARTICLES

Lin, Y., Frey, C. B., & Wu, L. (2023). Remote Collaboration Fuses Fewer Breakthrough Ideas. *Nature*, 623(7989), 987-991.
Onsite teams fuse ideas while remote teams diffuse them.

Lin, Y., Evans, J. A., & Wu, L.(2022). New Directions in Science Emerge from Disconnection and Discord. *Journal of Informetrics*, 16(1), 101234.
Disruptive papers are "sleeping beauties," accumulating impact over the long run.

WORKING PAPERS

Risha, Z.†, **Lin, Y.**†, Leahey, E., & Wu, L. (2025). The Death of Renaissance Scientists. (†Equal contribution)
The decline of generalists has led to innovation losses unmatched by specialist teams.

Cui, H., **Lin, Y.**, Wu, L., & Evans, J. A. (2025). The Nostalgia Effect in Science.
As scientists advance in academic age, their recombinant atypicality increases, whereas their disruptive creativity declines.

Lin, Y., Li, L., & Wu, L. (2025). The disruption index measures displacement between a paper and its most cited reference.
A paper is disruptive not because of how many references it cites, but because it challenges a dominant idea and drives that idea into obsolescence.

Li, L., **Lin, Y.**, & Wu, L. (2025). Innovation by Displacement.
Scientific breakthroughs stem from displacing dominant knowledge, rather than simply recombining distant ideas.

TALKS

- 07/2025 **Invited participant**, **NBER** Summer Institute Science of Science Funding Workshop, Boston
- 06/2025 **Invited talk**, Copenhagen Center for Social Data Science, University of Copenhagen
- 06/2025 International Conference on the Science of Science & Innovation (**ICSSI**), University of Copenhagen
- 05/2025 **Expert commentary**, Science
- 09/2024 **Invited talk**, School of Economics and Management, University of Electronic Science and Technology of China
- 07/2024 **ICSSI**, Washington, DC
- 05/2024 **Invited talk**, Northwestern Institute on Complex Systems (**NICO**), Northwestern University
- 02/2024 **Invited talk**, Department of Information Science, Cornell University (online)
- 01/2024 **Invited talk**, The Computational Culture Lab, Stanford and Berkeley (online)
- 12/2023 **Invited talk**, Department of Statistics and Data Science, Southern University of Science and Technology
- 09/2023 **Invited talk**, School of International and Public Affairs, Shanghai Jiao Tong University
- 06/2023 **ICSSI**, Northwestern University
- 06/2022 **ICSSI**, Washington, DC
- 03/2022 Women in Data Science (**WIDS**), Boston (online)
- 07/2021 International Conference on Computational Social Science (**IC^{2}S^2**), ETH (online)
- 10/2021 Workshop on Natural Language Processing for Scientific Text (**SciNLP**), Irvine (online)
- 07/2021 **Invited talk**, Department of Information Management, Peking University.
- 06/2021 The Annual Interdisciplinary Graduate Conference, MAPSS and MACSS, University of Chicago.
- 03/2021 **Invited talk**, Institute for Software Research, Carnegie Mellon University.

- 11/2020 **Invited talk**, School of Information, University of Texas at Austin.
- 11/2020 **Invited talk**, Department of Communication, Michigan State University.
- 08/2020 **Invited talk**, Swarma Club-Kaifeng Academic Meeting.

GRANTS & SCHOLARSHIPS

Senior Personnel

- 2025, Research Grants on Education: Large, Spencer Foundation, Assistant in proposal preparation, with PI Lingfei Wu and PI Daniel A. McFarland, Under Review
- 2023, NSF CAREER Award, National Science Foundation, Assisted in proposal preparation, with PI Lingfei Wu

Scholarships

- 2021-2025, UPitt PhD Graduate Student Researcher
- 2020, UChicago Social Science Scholarship
- 2019, UChicago Social Science Scholarship

Travel Grant

- 2025, ICSSI

ACADEMIC SERVICE

Organizer

- Workshop of The Science of Team Science and Innovation, PittCSS, Pittsburgh, 2022

Academic Journal Reviewer and Sub-Reviewer

- General Audience: Nature (2025-), Science (2024-), PNAS (2024-), Nature Human Behaviour (2023-), Scientific Reports (2023-), PLOS One (2021-), Frontiers in Big Data (2024-), Humanities and Social Sciences Communications (2023-), EPJ Data Science (2023-)
- Science of Science: Aslib Journal of Information Management (2025-), Journal of Informetrics (2024-), Applied Network Science (2024-)
- Physics: Physical Review X (2024-)

Grant Sub-Reviewer and Consultant

- Swiss National Science Foundation
- John Templeton Foundation

Open Science

- Wu, Lingfei (2023). Remote Collaboration Fuses Fewer Breakthrough Ideas. figshare. Dataset.
- Lin, Yiling, Carl Benedikt Frey, and Lingfei Wu. 2025. "Replication Data for: Remote Collaboration Fuses Fewer Breakthrough Ideas." Harvard Dataverse.

- Li, Linzhuo, Yiling Lin, and Lingfei Wu. 2025. "D-Index Datasets and Code." Harvard Dataverse.

TEACHING

Co-Instructor

- Information Visualization, INFSCI 1520, University of Pittsburgh, Spring 2025.

SELECTED MEDIA COVERAGE

Remote Collaboration Fuses Fewer Breakthrough Ideas

- **Scientific American**: Collaborating in Person May Spark More Innovative Research.
- **Forbes**: Remote Work Reduces Innovation. How To Increase Innovation Wherever You Work.
- **Fortune**: The CEO of a major co-working company says bosses need to create a 'third place' for employees if they want a meaningful office culture.
- **The Hill**: Do we really need shared physical offices to collaborate at work?
- **Aviation Week**: Why Boeing Headquarters Should Move Back to Seattle.
- **Nature News**: What science says about hybrid working—and how to make it a success.
- **Physics World**: Get offline and meet in person to make breakthroughs, claims study.
- **Physics Magazine**: Disruptive Discoveries More Likely between Scientists Who Meet Face to Face.
- **University of Oxford News**: Remote collaborations deliver fewer scientific breakthroughs.
- **The Tribune (India)**: Scientists working remotely less likely to make breakthroughs than those onsite.
- **Times Higher Education**: Remote collaboration leads to less innovative science.
- **Axios**: Remote collaborators don't generate as many breakthrough scientific ideas.
- **New Things Under the Sun**: Remote breakthroughs.

SKILLS & KNOWLEDGE

Languages: English-proficient, Mandarin-native.
Methodology: Network Science, Natural language processing.
Programming Languages: Python, Stata, Matlab, SQL, Processing.