Yian Yin

CONTACT INFORMATION	**Northwestern University**

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Northwestern University
Kellogg Center for Science of Science and Innovation
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Updated Oct 2021

EDUCATION

Northwestern University, Evanston, IL, USA
    Ph.D., Industrial Engineering and Management Sciences   Expected 2022
    McCormick School of Engineering and Applied Sciences
    Committee: Noshir Contractor[chair], Dashun Wang[co-chair], Jorge Nocedal
    M.Sc., Industrial Engineering and Management Sciences   Dec 2017

Peking University, Beijing, China
    B.Sc., Statistics   Jun 2016
    School of Mathematical Sciences
    B.Ec., Economics   Jun 2016
    National School of Development

ACADEMIC POSITIONS

Northwestern University, Evanston, IL, USA
    Graduate Research Assistant,   Sep 2016 to Present
    Kellogg Center for Science of Science and Innovation
    Northwestern Institute on Complex Systems

Microsoft Research, Redmond, WA, USA
    Visiting Researcher,   Oct 2018 to Nov 2018
    Microsoft Academic Graph Analytics

Pennsylvania State University, University Park, PA, USA
    Summer Visiting Student,   Jul 2015 to Oct 2015
    College of Information Sciences and Technology

Peking University, Beijing, China
    Undergraduate Research Assistant,   May 2014 to Jun 2016
    Center for Information Sciences

SELECTED AWARDS

- *Best Reviewer*, AOM Annual Meeting (Technology & Innovation Management)   2021
- *Complex Systems Scholarship*, Young Researchers in Complex Systems Society   2021
- *Best Reviewer*, ICWSM: International AAAI Conference on Web and Social Media   2021
- *Rising Star in Data Science* (*Spotlight*), University of Chicago   2021
- *Top 100 Most-discussed Papers across All Sciences*, Altmetric.com   2020
- *Conference Scholarship*, Network Science Society Conference   2020
- *Young Network Scientist Award*, Society of Young Network Scientists   2017
- *Graduate Fellowship*, Northwestern University   2016

RESEARCH INTEREST

Science of Science and Innovation, **Technology Management**, **Complex System Modeling**
My research examines how individual, social, and environmental processes independently and jointly promote (or inhibit) progresses and achievements in science, innovation, and entrepreneurship. In my dissertation, I apply and develop novel computational tools to study (1) how successful innovations emerge from repeated failures, (2) how individual careers unfold with social and environmental changes, and (3) how successful ideas in science interact with other socio-economic institutions. As a *computational social scientist*, I have also used science and innovation as a powerful lens to examine broader social processes and outcomes in management and strategy.

PUBLICATIONS   ¶: equal contributions. ‡: students I have mentored.

JOURNAL   [1] **Yian Yin**¶, Jian Gao¶, Benjamin F. Jones & Dashun Wang (2021)
PUBLICATIONS   Coevolution of policy and science during the pandemic
                      Science, **371**, 6525: 128–130. 10.1126/science.abe3084

                 [2] Kyle R. Myers, Wei Yang Tham, **Yian Yin**, Nina Cohodes, Jerry G. Thursby, Marie C. Thursby,
                      Peter Schiffer, Joseph T. Walsh, Karim R. Lakhani & Dashun Wang (2020)
                      Unequal effects of the COVID-19 pandemic on scientists
                      Nature Human Behaviour, **4**, 9: 880–883. 10.1038/s41562-020-0921-y

                 [3] Jichao Li‡, **Yian Yin**, Santo Fortunato & Dashun Wang (2020)
                      Scientific elite revisited: Patterns of productivity, collaboration, authorship and impact
                      Journal of the Royal Society Interface, **17**, 165: 20200135. 10.1098/rsif.2020.0135

                 [4] **Yian Yin**, Yang Wang, James A. Evans & Dashun Wang (2019)
                      Quantifying the dynamics of failure across science, startups and security
                      Nature, **575**, 7781: 190–194. 10.1038/s41586-019-1725-y

                 [5] Jichao Li‡, **Yian Yin**, Santo Fortunato & Dashun Wang (2019)
                      Nobel laureates are almost the same as us
                      Nature Reviews Physics, **1**, 5: 301–303. 10.1038/s42254-019-0057-z

                 [6] Jichao Li‡, **Yian Yin**, Santo Fortunato & Dashun Wang (2019)
                      A dataset of publication records for Nobel laureates
                      Scientific Data, **6**, 1: 33. 10.1038/s41597-019-0033-6

                 [7] **Yian Yin** & Dashun Wang (2017)
                      The time dimension of science: Connecting the past to the future
                      Journal of Informetrics, **11**, 2: 608–621. 10.1016/j.joi.2017.04.002

WORKING   [8] **Yian Yin**, Yuxiao Dong, Kuansan Wang, Dashun Wang & Benjamin F. Jones
PAPERS   Science as a public good: Public use and funding of science
                      NBER Working Paper w28748, R&R at *Nature Human Behaviour*

                 [9] Jian Gao, **Yian Yin**, Kyle R. Myers, Karim R. Lakhani & Dashun Wang
                      Loss of new ideas: Potentially long-lasting effects of the pandemic on scientists
                      SSRN 3890190, accepted at *Nature Communications*

                [10] Ryan R. Hill¶, **Yian Yin**¶, Carolyn Stein¶, Dashun Wang & Benjamin F. Jones
                      Adaptability and the pivot penalty in science
                      SSRN 3886142, under review

SELECTED   [11] **Yian Yin** & Dashun Wang
WORK IN   Quantifying punctuated record-breaking dynamics
PROGRESS
                 [12] **Yian Yin** & Dashun Wang
                      Universal limits of learning

                 [13] Suman K. Maity¶, Zishan Gu¶‡, **Yian Yin** & Dashun Wang
                      Grants and research outputs

                 [14] Zihang Lin‡, **Yian Yin**, Lu Liu & Dashun Wang
                      SciNet: A large-scale open datalake for science of science and innovation

                 [15] Alexander C. Furnas, Jian Gao, **Yian Yin** & Dashun Wang
                      The political mobilization of scientists in the United States

PATENTS   [16] Dashun Wang, **Yian Yin**, Yang Wang & James A. Evans
System and method to predict success based on analysis of failure
US Patent Application 17/061,112

GRANTS   [1] SICSS Seed Research Grant, **$2,000**   *Principal Investigator*
Structures and dynamics of package ecosystems   2018/08

[2] Minerva Research Initiative, **$309,562**   *Proposal lead writer*
Quantifying the effects of COVID-19 pandemic on scientific workforce   2020/05

[3] Social Science Research Council, **$8,200**   *Organizer*
4th Summer Institute in Computational Social Science Chicago   2021/02

[4] Peter G. Peterson Foundation, **$150,000**   *Proposal lead writer*
Developing a quantitative framework to track and assess
state-level policy responses to the COVID-19 pandemic   2021/04

TEACHING   **Summer Institute in Computational Social Science (SICSS)**, Chicago, IL   *Instructor*

Lectures in Computational Social Science
- SICSS-Chicago 2021, 30 students from social and computational science.

Northwestern University, Evanston, IL   *Teaching Assistant*

Social Dynamics and Network Analytics (MORS 457)
- 8 sessions (2017-2020), MBA course at Kellogg School of Management.

Human and Machine Intelligence (MORS 950)
- Spring 2021, MBA course at Kellogg School of Management.

Statistical Decision Analysis (MECNX 434)
- Winter 2018, EMBA core course at Kellogg School of Management.

Data Science and Programming Workshops
- Summer 2018, serial workshop by Northwestern Research Computing.

TALKS   1. Invited speaker, Sociology Department Colloquium
University of Chicago, Chicago, IL   Forthcoming

2. INFORMS Annual Meeting
Anaheim, CA   Forthcoming

3. Harvard Business School Digital Doctoral Workshop
Boston, MA (online)   2021/09

4. Minerva Research Network Workshop
Wautoma, WI   2021/08

5. International Conference on Computational Social Science (IC^2S^2)
Zürich, Switzerland (online)   2021/07

6. Networks 2021: A Joint Sunbelt and NetSci Conference
Washington, DC (online)   2021/07

7. Seminar, Stanford METRICS International Forum
Meta-research Innovation Center, Standford University (online)   2021/04

8. Invited speaker, Webinar, Saving Curies Series   2021/03

9. Invited speaker, Webinar, Swarma Club   2021/01

10. Spotlight speaker, Rising Stars in Data Science Workshop
    Center for Data and Computing, University of Chicago (online)   2021/01

11. The 7th Satellite on Quantifying Success, NetSci 2020   2020/09

12. Invited speaker, Webinar ML Collective   2020/09

13. International Conference on Computational Social Science (IC^2S^2)
    Boston, MA (online)   2020/07

14. Seminar, Northwestern Institute on Complex Systems   2020/06

15. Invited speaker, Webinar, Aggregate Intellect (ai.science)   2020/02

16. Invited speaker, Northwestern Data Science Night   2020/02

17. Invited speaker, Michigan Institute for Data Science Symposium
    University of Michigan, Ann Arbor, MI   2019/11

18. Seminar, Northwestern Institute on Complex Systems   2019/10

19. Invited speaker, Institute for Research on Innovation & Science Summit
    University of Michigan, Ann Arbor, MI   2019/09

20. Invited speaker, Great Lakes Data Science Workshop
    University of Notre Dame, Notre Dame, IN   2019/09

21. International Conference on Computational Social Science (IC^2S^2)
    Amsterdam, Netherlands   2019/07

22. NetSci 2019: International Workshop and Conference on Network Science
    Burlington, VT   2019/05

23. Invited speaker, Seminar, Center for Neuroscience, Zhejiang University
    Hangzhou, Zhejiang, China   2018/12

24. International Conference on Computational Social Science (IC^2S^2)
    Evanston, IL   2018/07

25. Summer Institute in Computational Social Science (SICSS)
    Chicago, IL   2018/06

26. Seminar, Northwestern IEMS-OM Collaborative Workshop   2018/04

27. Speaker, Northwestern Computational Research Day   2018/04

28. Seminar, Northwestern SIAM Bridging the Gap   2017/11

29. Speaker, Northwestern Current Research & Future Careers Symposium   2017/08

30. Invited speaker, AI & Public Policy Symposium
    Tsinghua University, Beijing, China   2017/07

31. Invited participant, Kaifeng Institute on Geometry and Statistical Learning
    Swarma Club, Beijing, China   2017/07

32. Symposium for the Society of Young Network Scientists, NetSci 2017
    Indianapolis, IN   2017/06

33. NetSci 2017: International Workshop and Conference on Network Science
    Indianapolis, IN   2017/06

34.	Seminar, Northwestern Institute on Complex Systems	2017/05
35.	Seminar, Kellogg MORS Macro Brown Bag	2017/05
36.	Speaker, Kellogg-Booth Student Symposium, Chicago, IL	2017/04
37.	Speaker, Chicago Area SIAM Student Conference, Chicago, IL	2017/04

ACADEMIC
SERVICE

Organizer
- Summer Institute in Computational Social Science Chicago (SICSS) — 2021

Volunteer
- International Conference on Computational Social Science (IC^{2}S^2) — 2018

Program Committee
- International World Wide Web Conference (TheWebConf) — 2021
- International AAAI Conference on Web and Social Media (ICWSM) **[Best reviewer]** — 2021

Referee
- Scientific Reports — 2017
- PLOS One — 2017-2021
- Europhysics Letters **[Distinguished reviewer]** — 2018
- Physica A: Statistical Mechanics and its Applications — 2018
- Scientometrics — 2021
- Journal of Informetrics **[Outstanding reviewer]** — 2017-2019
- Journal of the Association for Information Science and Technology — 2021
- EPJ Data Science — 2021
- PeerJ Computer Science — 2019-2020
- Social Network Analysis and Mining — 2019-2020
- AI & Society: Knowledge, Culture and Communication — 2020
- IEEE Transactions on Network Science and Engineering — 2018
- IEEE Transactions on Big Data — 2020
- ACM Web Science Conference — 2020
- International Conference on Computational Social Science — 2020
- Annual Meeting of the Academy of Management **[Best reviewer]** — 2020-2021

IN THE PRESS

List of selected media coverage

[1] Coevolution of policy and science during the pandemic

- *The Scientist*: WHO leads in using solid science to draft COVID-19 policy
- *EurekAlert*: Policymakers draw heavily from highly cited COVID-19 science
- *Kellogg Insight*: How well does COVID public policy align with science?
- Other coverages include Science Policy News, ScienMag, Lab Manager, The Tyee and FROMTBOT.

[2] Unequal effects of the COVID-19 pandemic on scientists

- *Forbes*: COVID's surprising toll on careers of women scientists
- *Forbes*: COVID-19's effects on women in science intensify disparities
- *The Atlantic*: How science beat the virus
- *Times Higher Ed*: Pandemic lockdown holding back female academics, data show
- *Times Higher Ed*: Childcare the key limit on scientists' pandemic working hours
- *Inside Higher Ed*: University research: a time of disparate change
- *Inside Higher Ed*: Keeping COVID-19 from sidelining equity
- *Inside Higher Ed*: Implementing pandemic equity measures for faculty
- *Scientific American*: Women in science may suffer lasting career damage from COVID-19
- *Scientific American*: COVID has laid bare the inequities that face mothers in STEM

- *Science*: Pandemic hits scientist parents hard
- *The Scientist*: Pandemic pressures may drive young scientists away from autism research
- *AAAS*: Institutions must support minority researchers impacted by COVID-19
- *Wire*: COVID-19 changed scientists' research methods, will this change science itself?
- *EurekAlert*: Pandemic disproportionately affects scientists with young children
- *Kellogg Insight*: The pandemic has slashed scientists' productivity
- Other coverages include Medium, Spectrum News, Science Policy News, ThePaper.cn, Deccan Herald, Lab Manager, ScienMag, Oxford Student, Phys.org, Psychology Today, ASBMB Today, Marketplace, Chemistry Views and Chemistry World.

[3] Scientific elite revisited: Patterns of productivity, collaboration, authorship and impact

- *Daily Mail*: The Nobel curse is REAL
- *The Times*: Scientists fall foul of Nobel curse
- Other coverages include Phys.org and Chemistry World.

[4] Quantifying the dynamics of failure across science, startups and security

- *Inc.*: 5 ways to avoid startup failure by increasing your team's learning speed
- *Fast Company*: Science reveals the tipping point between success and failure
- *Global Advisors*: Why failing fast is critical if you want to eventually win
- *Washington Post*: The lasting lesson of this Super Bowl: failure is necessary
- *Forbes*: Don't fail fast – fail smart
- *MIT Technology Review*: How the data mining of failure could teach us the secrets of success
- *Harvard Business Review*: The tipping point between failure and success
- *Scientific American*: Failure found to be an "essential prerequisite" for success?
- *Medium*: Ignite success sooner: 2 ways to fail better
- *Science Daily*: Failure prognosis: Data science predicts which failures will ultimately succeed
- *Business Insider*: Researchers found a key reason certain people succeed while others fall behind, and it starts with learning from past mistakes
- *Communications of ACM*: How the data mining of failure could teach us the secrets of success
- *Lancet*: Offline: It's time to prepare your anti-CV
- *Kellogg Insight*: Why do some people succeed after failing while others continue to flounder?
- Other coverages include Science Policy News, Lab Manager, YCombinator Hacker News, China.org, Xinhua, News Ghana, Slate France, internetactu, ZAP, Sohu News and Phys.org.

[5] Nobel laureates are almost the same as us

- *Physics Today*: The Nobel Prize in physics: The papers
- *Kellogg Insight*: Nobel Prize winners – They're just like us!
- *Inside Science*: Getting ready for the 2019 Nobel Prizes