

# Hao Peng

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RESEARCH INTERESTS	Computational Social Science, Data Science, Science of Innovation, Social Networks, Network Science, Management Science, Complex Systems, Online Media, Diversity, Leadership, Communication, Ethnicity, Gender, NLP, AI	
EMPLOYMENT	Assistant Professor <b>City University of Hong Kong</b> <ul style="list-style-type: none"><li>Department of Data Science</li><li>College of Computing</li></ul>	July 2024 - Present Hong Kong, SAR
	Postdoctoral Fellow <b>Northwestern University</b> <ul style="list-style-type: none"><li>Advisor: Brian Uzzi</li><li>Kellogg School of Management (KSM)</li><li>Northwestern Institute on Complex Systems (NICO)</li></ul>	May 2022 - June 2024 Evanston, IL, USA
	Research Intern <b>University of Southern California</b> <ul style="list-style-type: none"><li>Host: Emilio Ferrara</li><li>Information Sciences Institute (ISI)</li></ul>	May 2019 - July 2019 Los Angeles, USA
	Research Intern <b>University of Pennsylvania</b> <ul style="list-style-type: none"><li>Host: Lyle Ungar, M. A. Mageed</li><li>The Positive Psychology Center</li><li>World Well-Being Project (WWBP)</li></ul>	May 2016 - Aug. 2016 Philadelphia, USA
EDUCATION	Ph.D. in Information Science <b>University of Michigan</b> , School of Information <ul style="list-style-type: none"><li>Advisor: Daniel Romero</li><li>Thesis: Gender and Ethnic Disparities in Science Production and Dissemination</li></ul>	Sep. 2017 - May 2022 Ann Arbor, MI, USA
	M.S. in Data Science <b>Indiana University</b> , School of Informatics <ul style="list-style-type: none"><li>Advisor: Yong-Yeol Ahn, Filippo Menczer</li></ul>	Sep. 2015 - May 2017 Bloomington, IN, USA
	B.S. in Information Management <b>Sun Yat-Sen University</b> , School of Information Management <ul style="list-style-type: none"><li>Advisor: Jian Xu</li></ul>	Sep. 2011 - June 2015 Guangzhou, China

## AWARDS / GRANTS Awards

- Emerging Researcher Award, *The Complex Systems Society*, London, 2024
- Best Paper Honorable Mention, *NetSci*, Québec City, 2024
- Best Paper Award (\$1,000), *ASIS&T*, Salt Lake, 2021
- Second Prize (\$750), John Hunter Plotting Contest, *SciPy*, Austin, 2019
- Microsoft Azure Research Award, 2016

## Other Awards

- OPA Conference Travel Grant, Northwestern University, 2024
- UMich Rackham Travel Award, 2019
- UMSI PhD Travel Grant, 2018, 2019
- Travel Scholarship, *IC2S2*, 2018
- Indiana University Data Science Program Fellowship, 2015
- Academic Excellence Scholarship of Sun Yat-Sen University, 2011
- First Prize in the Provincial Physics Competition, Hubei, China, 2010
- Third Prize in the National Physics Olympiad Contest, China, 2010

## PUBLICATIONS

\* denotes equal contribution. † denotes corresponding author.

### Journal Papers

1. Promotional Language and the Adoption of Innovative Ideas in Science  
**H. Peng\***, H.S. Qiu\*, H.B. Fosse, B. Uzzi  
*Proceedings of the National Academy of Sciences* 121, e2320066121 (2024)
2. Author Mentions in Science News Reveal Widespread Disparities Across Name-inferred Ethnicities  
**H. Peng†**, M. Teplitskiy, D. Jurgens  
*Quantitative Science Studies* 1-23 (2024)
3. Is Novel Research Worth Doing? Evidence From Peer Review at 49 Journals  
M. Teplitskiy, **H. Peng**, A. Blasco, K.R. Lakhani  
*Proceedings of the National Academy of Sciences* 119, e2118046119 (2022)
4. Dynamics of Cross-Platform Attention to Retracted Papers  
**H. Peng**, D.M. Romero, E.Á. Horvát  
*Proceedings of the National Academy of Sciences* 119, e2119086119 (2022)
5. Neural Embeddings of Scholarly Periodicals Reveal Complex Disciplinary Organizations  
**H. Peng**, Q. Ke, C. Budak, D.M. Romero, Y.Y. Ahn  
*Science Advances* 7, eabb9004 (2021)
6. Network Modularity Controls the Speed of Information Diffusion  
**H. Peng**, A. Nematzadeh, D.M. Romero, E. Ferrara  
*Physical Review E* 112, 052316 (2020)
7. Social Influence and Unfollowing Accelerate the Emergence of Echo Chambers  
K. Sasahara, W. Chen, **H. Peng**, G.L. Ciampaglia, A. Flammini, F. Menczer  
*Journal of Computational Social Science* (2020)

8. Sentiment Analysis of Web Reviews Using Comparative Sentence Extraction  
**H. Peng**, J. Xu, Z. Xiao  
*Data Analysis and Knowledge Discovery* 265 (2015)

### Conference Papers

9. Event-Driven Analysis of Crowd Dynamics in the *BLM* Online Social Movement  
**H. Peng**, C. Budak, D.M. Romero  
*The ACM International World Wide Web Conference* (2019)
10. Recognizing Pathogenic Empathy in Social Media  
M. Abdul-Mageed, A. Buffone, **H. Peng**, S. Giorgi, J. Eichstaedt, L. Ungar  
*The International AAAI Conference on Web and Social Media* (2017)
11. Performance Dynamics and Success in Online Games  
A. Sapienza, **H. Peng**, E. Ferrara  
*IEEE International Conference on Data Mining Workshop* (2017)

### Pre-prints

12. Acceptance in Top Biology Journals Shows Large Ethnic Disparities  
**H. Peng**, K.R. Lakhani, M. Teplitskiy  
*SocArXiv* (2021) [[Link](#)]

### TEACHING

**City University of Hong Kong**, Department of Data Science

- SDSC 5002 - Exploratory Data Analysis and Visualization Sem A 2024/25

**Northwestern University**, School of Communication

- MSLCE - Culture & Art Analytics (lecturer for Ágnes Horvát) Spring 2023

**University of Michigan**, School of Information

- SI 106 - Programs, Information and People (TA for Paul Resnick) Winter 2019
- SI 330 - Data Manipulation (TA for Matthew Kay) Fall 2018

### SELECTED TALKS

#### Invited Talks

(Talks in 2023/24 were scheduled virtually due to family circumstances)

1. *School of Data Science* (Zoom), City University of Hong Kong Mar 2024  
- Necessity and Strategy for Facilitating Idea Adoption in Science
2. *Wednesdays@NICO*, Northwestern University Jan 2024  
- Necessity and Strategy for Facilitating Idea Adoption in Science
3. *Graduate School of Management* (Zoom), UC Davis Jan 2024  
- Necessity and Strategy for Facilitating Idea Adoption in Science
4. *HKU Business School* (Zoom), The University of Hong Kong Dec 2023  
- Necessity and Strategy for Facilitating Idea Adoption in Science
5. *Harvard Business School* (Zoom), Harvard University Oct 2023  
- Does Promotional Language Communicate the Merits of Innovative Science?

6. *Mendoza College of Business (Zoom), University of Notre Dame* Oct 2023  
- Does Promotional Language Communicate the Merits of Innovative Science?

### Conference Presentations

1. National Bureau of Economic Research (*NBER*), Boston July 2024  
- Promotional Language and the Adoption of Innovative Ideas in Science
2. *IC2S2*, UChicago July 2022  
- Gender Differences in Scholarly Self-Promotion on Twitter
3. *ICSSI*, National Academy of Sciences, Washington, DC June 2022  
- Dynamics of Cross-Platform Attention to Retracted Papers  
- The Gender Gap in Scholarly Self-Promotion on Twitter
4. *IC2S2*, ETH Zurich, Switzerland July 2021  
- Analyzing Online Attention to Retracted Papers
5. *IC2S2*, MIT July 2020  
- Network Modularity Controls the Speed of Information Diffusion  
- Neural Embeddings of Periodicals Reveal Complex Disciplinary Organizations  
- Say My Name: Author Mentions in Science News Reveal Ethnic Bias
6. *WWW*, San Francisco May 2019  
- Event-Driven Analysis of Crowd Dynamics in BLM Online Social Movement
7. *IC2S2*, Northwestern University July 2018  
- Event-Driven Modeling of Crowd Dynamics in Online Social Movements
8. *NetSci*, Indianapolis June 2017  
- A Quantitative Model for Revealing Disciplinary Organizations in Science

### Seminar Talks

- Science of Science for the Future, Swarna Pattern, Oct 2024
- Job Market Brain Dump, Kellogg, Northwestern University May 2024
- DS/CSS Seminar, University of Michigan Oct. 2019
- IAR Seminar, University of Michigan April 2019

### SERVICE

### Journal Reviewer

- *PNAS*, *Nature Communications*, *Science Advances*, *Nature Human Behaviour*
- *Transactions on the Web*, *Science Communication*, *PLOS One*, *Scientometrics*, *Journal of the Association for Information Science and Technology*, *Sage Open*

### Program Committee Member, Reviewer

- *The ACM Web Conference*: 2019, 2020
- *The ACM International Conference on Web Search and Data Mining*: 2019, 2020
- *The ACM Conference on Human Factors in Computing Systems*: 2022, 2024
- *The ACM Conference on Computer-Supported Cooperative Work*: 2020, 2023
- *The International AAAI Conference on Web and Social Media*: 2020-2024
- *International Conference on Computational Social Science*: 2022-2024
- *Academy of Management Conference*: 2024
- *Conference on Complex Systems*: 2024

## Professional Memberships

- *Academy of Management (AOM)*
- *The Complex Systems Society (CSS)*
- *The Network Science Society (NetSci)*
- *Association for Information Systems (AIS)*
- *International Communication Association (ICA)*
- *Association for Computational Linguistics (ACL)*
- *Association for Information Science & Technology (ASIS&T)*

## MEDIA COVERAGE Selected News Stories

1. Aug 2024, Science News
  - The power of words: how promotional language drives scientific innovation
2. April 2024, NPR
  - Which scientists get mentioned in the news? Mostly ones with Anglo names, says study
3. April 2024, LSE Impact Blog
  - Researchers with minority ethnic names are written out of US science journalism
4. April 2024, Fast Company
  - Researchers with African and East Asian names are less likely to be mentioned in U.S. media
5. April 2024, The Conversation, Yahoo! News, Phys.org
  - US media coverage of new science less likely to mention researchers with African and East Asian names
6. Mar 2024, Science Magazine
  - Scientists with East Asian and African names get short shrift in news coverage
7. Dec 2022, Michigan News
  - Journal editors, reviewers don't show bias against novelty
8. July 2022, The Washington Post
  - Retractions aren't a panacea for bad research
9. July 2022, Le Monde (French)
  - En science aussi les fausses informations circulent mieux que les bonnes
  - (In science too, false information circulates better than good information)
10. July 2022, Deutschlandfunk (German National Radio)
  - Warum fehlerhafte Studien oft die meiste Aufmerksamkeit bekommen
  - (Why flawed studies often get the most attention)
11. June 2022, Northwestern Now
  - Flawed research not retracted fast enough to prevent spread of misinformation
12. June 2022, Retraction Watch, Inside Higher Ed
  - Retractions: A Missed Opportunity?
13. June 2022, Academica Group
  - Article retractions take too long to influence public discourse

14. June 2022, Michigan News, Phys.org
  - Flawed research not retracted fast enough to prevent spread of misinformation, study finds
15. Oct 2021, Entrepreneur, Scientific American, Yahoo! News
  - Facebook Whistleblower Testified That Company's Algorithms Are Dangerous
16. Oct 2021, Big Think
  - Here's exactly how social media algorithms can manipulate you
17. Sep 2021, MSN, Salon
  - How "engagement" makes you vulnerable to manipulation and misinformation on social media
18. Sep 2021, The Conversation, Newsbreak, Phys.org
  - Facebook's algorithms fueled massive foreign propaganda campaigns during the 2020 election
19. Dec 2020, Scientific American
  - Information Overload Helps Fake News Spread, and Social Media Knows It
20. Sep 2020, New Scientist
  - US science news biased against people with names of non-British origin