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

Postdoctoral Fellow **EMPLOYMENT**

May 2022 - Present **Northwestern University** Evanston, IL, USA

• Advisor: Brian Uzzi

• Kellogg School of Management

Northwestern Institute on Complex Systems (NICO)

Research Intern May 2017/19 - July 2017/19 University of Southern California Los Angeles, USA

• Host: Emilio Ferrara

• Information Sciences Institute (ISI)

Research Intern May 2016 - Aug. 2016 Philadelphia, USA

University of Pennsylvania

• The Positive Psychology Center • World Well-Being Project (WWBP) Host: Lyle Ungar, M. Abdul-Mageed

EDUCATION Ph.D. in Information Science Sep. 2017 - May 2022 Ann Arbor, MI, USA

University of Michigan, School of Information • Advisor: Daniel Romero

• Thesis: Gender and Ethnic Disparities in Science Production and Dissemination

M.S. in Data Science Sep. 2015 - May 2017 Indiana University, School of Informatics Bloomington, IN, USA

• Advisor: Yong-Yeol Ahn, Filippo Menczer

B.S. in Information Management Sep. 2011 - June 2015 Sun Yat-Sen University, School of Information Management Guangzhou, China

Summer Visiting Scholar Jun 2012 - Aug 2012 Taipei City

National Chengchi University, School of Business

* denotes equal contribution.

Under Review / Pre-prints

- The Gender Gap in Scholarly Self-Promotion on Social Media H. Peng, M. Teplitskiy, D.M. Romero, E.Á. Horvát (In Review)
- Acceptance in Top Biology Journals Shows Large Ethnic Disparities H. Peng, K.R. Lakhani, M. Teplitskiy SocArXiv (2021) [Link]

Journal Papers

- Promotional Language and the Adoption of Innovative Ideas in Science H. Peng*, H.S. Qiu*, H.B. Fosse, B. Uzzi (Forthcoming at PNAS)
- 4. Author Mentions in Science News Reveal Widespread Disparities Across Nameinferred Ethnicities
 - **H. Peng,** M. Teplitskiy, D. Jurgens *Quantitative Science Studies* 1-23 (2024)
- 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)
- 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)
- 7. 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)
- 8. Network Modularity Controls the Speed of Information Diffusion **H. Peng**, A. Nematzadeh, D.M. Romero, E. Ferrara *Physical Review E* 112, 052316 (2020)
- g. 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)

Conference Papers

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)

- 11. 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)
- 12. Performance Dynamics and Success in Online Games
 A. Sapienza, **H. Peng**, E. Ferrara *IEEE International Conference on Data Mining Workshop* (2017)

AWARDS AND FELLOWSHIPS

Awards

- Best Paper Award (\$1,000), ASIS&T, SIGMET, 2021
- Second Prize (\$750), John Hunter Excellence in Plotting Contest, SciPy, 2019
- Microsoft Azure Research Award, 2016

Fellowships

- 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

Other Awards

- First Prize in the Provincial Physics Competition, Hubei, China, 2010
- Third Prize in the National Physics Olympiad Contest, China, 2010

TEACHING

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

Fall 2018

SI 330 - Data Manipulation (TA for Matthew Kay)

SELECTED TALKS

Invited Talks

- School of Data Science (Zoom), City University of Hong Kong
 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
 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. IC2S2, UChicago July 2022

- Gender Differences in Scholarly Self-Promotion on Twitter

2. 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
- 3. IC2S2, ETH Zurich, Switzerland

- Analyzing Online Attention to Retracted Papers

4. IC2S2, MIT July 2020

- Network Modularity Controls the Speed of Information Diffusion
 - Neural Embeddings of Periodicals Reveal Complex Disciplinary Organizations

July 2021

- Say My Name: Author Mentions in Science News Reveal Ethnic Bias
- 5. WWW, San Francisco May 2019
 - Event-Driven Analysis of Crowd Dynamics in BLM Online Social Movement
- 6. IC2S2, Northwestern University

 July 2018
 - Event-Driven Modeling of Crowd Dynamics in Online Social Movements
- 7. NetSci, Indianapolis June 2017

- A Quantitative Model for Revealing Disciplinary Organizations in Science

Seminar Talks

Job Market Brain Dump, Kellogg, Northwestern University
 DS/CSS Seminar, University of Michigan
 IAR Seminar, University of Michigan
 April 2019

MEDIA COVERAGE Selected News Stories

- 1. April 2024, NPR
 - Which scientists get mentioned in the news? Mostly ones with Anglo names, says study
- 2. April 2024, LSE Impact Blog
 - Researchers with minority ethnic names are written out of US science journalism
- 3. April 2024, Fast Company
 - Researchers with African and East Asian names are less likely to be mentioned in U.S. media
- 4. 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
- 5. Mar 2024, Science Magazine
 - Scientists with East Asian and African names get short shrift in news coverage
- 6. Dec 2022, Michigan News
 - Journal editors, reviewers don't show bias against novelty
- 7. July 2022, The Washington Post
 - Retractions aren't a panacea for bad research

- 8. 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)
- 9. July 2022, Deutschlandfunk (German Radio)
 - Warum fehlerhafte Studien oft die meiste Aufmerksamkeit bekommen
 - (Why flawed studies often get the most attention)
- 10. June 2022, Northwestern Now
 - Flawed research not retracted fast enough to prevent spread of misinformation
- 11. June 2022, Retraction Watch, Inside Higher Ed
 - Retractions: A Missed Opportunity?
- 12. June 2022, Academica Group
 - Article retractions take too long to influence public discourse
- 13. June 2022, Michigan News, Phys.org
 - Flawed research not retracted fast enough to prevent spread of misinformation, study finds
- 14. Oct 2021, Entrepreneur, Scientific American, Yahoo! News
 - Facebook Whistleblower Testified That Company's Algorithms Are Dangerous
- 15. Oct 2021, Big Think
 - Here's exactly how social media algorithms can manipulate you
- 16. Sep 2021, MSN, Salon
 - How "engagement" makes you vulnerable to manipulation and misinformation on social media
- 17. Sep 2021, The Conversation, Newsbreak, Phys.orq
 - Facebook's algorithms fueled massive foreign propaganda campaigns during the 2020 election
- 18. Dec 2020, Scientific American
 - Information Overload Helps Fake News Spread, and Social Media Knows It
- 19. Sep 2020, New Scientist
 - US science news biased against people with names of non-British origin

SERVICE Journal Reviewer

- Science Advances, Nature Human Behaviour, PLOS One
- Science Communication, Scientometrics, Sage Open
- Transactions on the Web

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)
- International Communication Association (ICA)
- Association for Computational Linguistics (ACL)
- Association for Information Science & Technology (ASIS&T)

REFERENCES

• Brian Uzzi

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- Daniel M. Romero
 Associate Professor, Information & Computer Science and Complex Systems
 University of Michigan
 drom@umich.edu
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- Yong-Yeol Ahn
 Professor, School of Informatics, Computing, and Engineering Indiana University Bloomington yyahn@iu.edu