Hao Peng

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RESEARCH INTERESTS

Computational Social Science, Data Science, Innovation Management, Social Networks, Complex Systems, Leadership, Teams, Diversity, Gender, Ethnicity, NLP, AI

EMPLOYMENT

Postdoctoral Fellow — *May 2022 - Present*
Northwestern University — *Evanston, IL, USA*
- Kellogg School of Management
- Northwestern Institute on Complex Systems (*NICO*)
- Advisor: Brian Uzzi

Research Intern — *May 2017/19 - July 2017/19*
University of Southern California — *Los Angeles, USA*
- Information Sciences Institute (*ISI*)
- Host: Emilio Ferrara

Research Intern — *May 2016 - Aug. 2016*
University of Pennsylvania — *Philadelphia, USA*
- 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*
University of Michigan, School of Information — *Ann Arbor, MI, USA*
- 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*
National Chengchi University, School of Business — *Taipei City*

PUBLICATIONS   * denotes equal contribution.

Under Review / Pre-prints

1. Promotional Language and the Adoption of Innovative Ideas in Science
    H. Peng*, H.S. Qiu*, H.B. Fosse, B. Uzzi
    (R&R at PNAS)

2. The Gender Gap in Scholarly Self-Promotion on Social Media
    H. Peng, M. Teplitskiy, D.M. Romero, E.Á. Horvát
    (In Review at PNAS) [Link]

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

Journal Papers

4. Author Mentions in Science News Reveal Widespread Disparities Across Name-inferred Ethnicities
    H. Peng, M. Teplitskiy, D. Jurgens
    Quantitative Science Studies (forthcoming, 2024) [Link]

5. 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)

6. 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)

9. 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

10. 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)

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
- SI 330 - Data Manipulation (TA for Matthew Kay)   Fall 2018

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

MEDIA COVERAGE

Selected News Reports
1. Dec 2022, *Michigan News*
   - Journal editors, reviewers don't show bias against novelty

2. July 2022, *The Washington Post*
   - Retractions aren't a panacea for bad research

3. 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)

4. July 2022, *Deutschlandfunk* (German Radio)
   - Warum fehlerhafte Studien oft die meiste Aufmerksamkeit bekommen
   - (Why flawed studies often get the most attention)

5. June 2022, *Northwestern Now*
   - Flawed research not retracted fast enough to prevent spread of misinformation

6. June 2022, *Retraction Watch*, *Inside Higher Ed*
   - Retractions: A Missed Opportunity?

7. June 2022, *Academica Group*
   - Article retractions take too long to influence public discourse

8. June 2022, *Michigan News*, *Phys.org*
   - Flawed research not retracted fast enough to prevent spread of misinformation, study finds

9. Oct 2021, *Entrepreneur*, *Scientific American*, *The Conversation*, *Yahoo! News*
   - Facebook Whistleblower Testified That Company's Algorithms Are Dangerous

10. Oct 2021, *Big Think*
    - Here's exactly how social media algorithms can manipulate you

11. Sep 2021, *MSN*, *Salon*, *Tech Xplore*
    - How "engagement" makes you vulnerable to manipulation and misinformation on social media

12. Sep 2021, *The Conversation*, *Newsbreak*, *Yahoo!*, *Phys.org*, *Arizona Daily Star*
    - Facebook's algorithms fueled massive foreign propaganda campaigns during the 2020 election

13. Dec 2020, *Scientific American*
    - Information Overload Helps Fake News Spread, and Social Media Knows It

14. Sep 2020, *New Scientist*
    - US science news biased against people with names of non-British origin

SELECTED TALKS   **Invited Presentations**
1. *Wednesdays@NICO*, Northwestern University   Jan 2024
   - Necessity and Strategy for Facilitating Idea Adoption in 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   July 2021
   - 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
   - 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

SERVICE   **Journal Reviewer**
- *Science Advances*, *Nature Human Behaviour*, *PLOS One*
- *Academy of Management Conference*
- *Transactions on the Web*
- *Science Communication*, *Scientometrics*, *Sage Open*

Program Committee Member, Reviewer
- *WWW*: 2019, 2020
- *WSDM*: 2019, 2020
- *ICWSM*: 2020, 2021, 2022, 2023, 2024
- *CHI*: 2022, 2024
- *CSCW*: 2020, 2023
- *IC2S2*: 2022, 2023

Professional Memberships
- *Academy of Management (AOM)*
- *Institute for Operations Research and the Management Sciences (INFORMS)*
- *The Network Science Society (NetSci)*
- *Association for Information Science & Technology (ASIS&T)*

REFERENCES
- Brian Uzzi
  Richard L. Thomas Distinguished Professor of Leadership
  Northwestern University, Kellogg School of Management
  uzzi@kellogg.northwestern.edu

- Daniel M. Romero
  Associate Professor, Information & Computer Science and Complex Systems
  University of Michigan
  drom@umich.edu

- Emőke-Ágnes Horvát
  Associate Professor, Communication and Computer Science
  Northwestern University
  a-horvat@northwestern.edu

- Yong-Yeol Ahn
  Professor, School of Informatics, Computing, and Engineering
  Indiana University Bloomington
  yyahn@iu.edu