

HONGMOU ZHANG

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EDUCATION

Ph.D. in Urban Science and Planning, Massachusetts Institute of Technology, June 2019

Dissertation Title: *Social Perspective of Mobility Sharing: Understanding, Utilizing, and Reshaping Preference*

Committee

- Jinhua Zhao, Chair, Associate Professor of Transportation and City Planning, MIT
- Paolo Santi, Research Scientist, MIT Senseable City Lab & Senior Researcher, Institute of Informatics and Telematics, National Research Council, Italy
- Benjamin G. Edelman, Economist at Microsoft & Former Associate Professor at Harvard Business School
- Justin Steil, Associate Professor of Law and Urban Planning, MIT

Master of City Planning, University of Pennsylvania, May 2014

B.Eng. in City Planning, Peking University, July 2012

B.S. in Applied Mathematics, Peking University, July 2012

Visiting Student, University of California, Berkeley, Summer 2011

Exchange Student, KTH Royal Institute of Technology, Fall 2009

EMPLOYMENT

Postdoctoral Associate, Singapore–MIT Alliance for Research and Technology (SMART) Centre
August 2019–Present

Research Fellow, MIT Senseable City Lab, September 2014–May 2015

PUBLICATIONS

◦ *Journal Articles Published*

Zhang, H., & Zhao, J. (2018). Mobility Sharing as a Preference Matching Problem. *IEEE Transactions on Intelligent Transportation Systems* 20 (7), 2584–2592. <http://doi.org/10.1109/TITS.2018.2868366>

Vazifeh, M. M., **Zhang, H.***, Santi, P., & Ratti, C. (2019). Optimizing the deployment of electric vehicle charging stations using pervasive mobility data. *Transportation Research Part A: Policy and Practice* 121, 75–91. <https://doi.org/10.1016/j.tra.2019.01.002>

Shen, Y., **Zhang, H.**, & Zhao, J. (2018). Integrating shared autonomous vehicle in public transportation system: A supply-side simulation of the first-mile service in Singapore. *Transportation Research Part A: Policy and Practice* 113, 125–136. <http://doi.org/10.1016/j.tra.2018.04.004>

Kondor, D., **Zhang, H.**, Tachet, R., Santi, P., & Ratti, C. (2018). Estimating Savings in Parking Demand Using Shared Vehicles for Home–Work Commuting. *IEEE Transactions on Intelligent Transportation Systems* 20 (8), 2903–2912. <http://doi.org/10.1109/TITS.2018.2869085>

Tong, X., Tao, D., Shi, J., & **Zhang, H.** (2014). Dynamic Adaptive Approach: An Application in Regional Planning. *Journal of Basic Science and Engineering* 22 (4), 647–660. In Chinese.

Shi, J., Tong, X., **Zhang, H.**, & Tao, D. (2013). Spatial Interaction of Urban Residence and Workplace: An UrbanSim Application in Yichang, China. *Acta Scientiarum Naturalium Universitatis Pekinensis* 49 (6), 1065–1074. In Chinese.

Shi, J., Tong, X., **Zhang, H.**, & Tao, D. (2012). Building “New Towns” from Industrial Zones: An UrbanSim Application in Yizhuang, Beijing. *Urban Development Studies* 19 (2), 98–107, 124. In Chinese.

◦ *Journal Articles Under Review*

Zhang, H., & Zhao, J. (2019). Gender, Social Interaction, and Mobility Sharing. Submitted to *Transportation Research Part A: Policy and Practice*.

Zhang, H., Guo, X., Qiu, H., Renda, M. E., & Zhao, J. (2019). Congestion–Sensitive Mobility Sharing with Time Flexibility. Submitted to *Transportation Research Part B: Methodological*.

◦ *Journal Articles Finished and Under Internal Review*

Zhang, H., Steil, J., Santi, P., & Zhao, J. (2019). Mobility Sharing for Social Integration: A Reverse Schelling Model. To be submitted to *Computers, Environment and Urban Systems*.

Mo, B., Cao, Zh., **Zhang, H.**, Shen, Y., Zhao, J. (2019). Dynamic Interaction Between Shared Autonomous Vehicles and Public Transit: A Competitive Perspective. To be submitted to *Transportation Research Part C: Emerging Technologies*.

◦ *Conference Papers*

Zhang, H., & Zhao, J. (2019). Gender, Social Interaction, and Mobility Sharing. Transportation Research Board 98th Annual Meeting, Washington, D. C.

Zhang, H., & Zhao, J. (2018). Mobility Sharing with Time Flexibility: A Theoretical Model. Transportation Research Board 97th Annual Meeting, Washington, D. C.

Zhang, H., & Zhao, J. (2017). The Tradeoff Between Efficiency and Fellow Passenger Preference: A Preference–based Ridesharing Model. Transportation Research Board 96th Annual Meeting, Washington, D. C.

Shen, Y., **Zhang, H.**, & Zhao, J. (2017). Embedding Autonomous Vehicle Sharing in Public Transit System: An Example of Last Mile Problem. Transportation Research Board 96th Annual Meeting, Washington, D. C.

CURRENT RESEARCH

Fragmentation and flexibility of human activities: Response in and to mobility sharing systems

Trip trading and swapping in mobility sharing markets

System design for pedestrian–autonomous vehicle communication

MANUSCRIPTS REVIEWS

◦ *Peer reviewer for manuscripts submitted to:*

IEEE Transactions on Intelligent Transportation Systems

Journal of Cleaner Production

Journal of Urban Technology

TEACHING EXPERIENCES

◦ *Teaching Assistant and Recitation Instructor*

Behavior and Policy: Connections in Transportation, MIT, 2019

Quantitative Reasoning and Statistical Methods for Planning, MIT, 2018

Microeconomics and Planning Economics, MIT, 2016–2017

Introduction to Spatial Analysis and Workshop on GIS, MIT, 2017

Modeling Geographical Objects, University of Pennsylvania, 2013

◦ *Guest Lecturer*

Behavior and Policy: Connections in Transportation, MIT, 2019 Spring
Introduction to Applied GIS, National University of Singapore, 2019 Fall

PATENT APPLICATION

Aruswamy, V., **Zhang, H.**, Bojić, I., Rolheiser, L., Sobolevsky, S., Vanky, A. P. (2017). Urban Professional Genome. US Patent Application No. 15/086,283.

OTHER PROFESSIONAL EXPERIENCES

Research Assistant, 2018–2019, MIT

Transportation Engineer Intern, Delaware Valley Regional Planning Commission, Philadelphia, 2013

Research Assistant, University of Pennsylvania, Spring 2013

Research Assistant, Peking University, Fall 2010–Summer 2012

FELLOWSHIPS AND AWARDS

Excellence in Teaching, DUSP Student Council Award, MIT, 2018

Presidential Fellowship, MIT, 2015–2016

LinkedIn Economic Graph Challenge Winner, 2015

PennDesign Scholarship, University of Pennsylvania, 2012–2014

May-Fourth Scholarship, Peking University, 2010

Tung O.O.C.L. Scholarship, Peking University, 2009

Jiang Zehan Mathematical Modeling Competition, Third Prize, Peking University, 2009

Lee Wai Wing Scholarship, Peking University, 2008

Merit Student Award, Peking University, 2008–2009