


PERSONAL INFORMATION



Dr. Bingyu Zhao

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Year of birth 1993 | Nationality Chinese

WORK EXPERIENCE

03/2022 - Present

University Assistant

Research Center of Transport Planning and Traffic Engineering, Institute of Transportation, Faculty of Civil Engineering, TU Wien (Austria)

- Research: analysis, modelling, and assessment of complex socio-technical networks; applications of digital and data analytic techniques in system interaction studies; role of transportation in critical times
- Teaching: quantitative system analysis
- Academic services

09/2019 – 02/2022

Postdoc

Department of Civil and Environmental Engineering, University of California, Berkeley (USA)

- Eco-friendly vehicle routing and road paving techniques: case study of the Greater Tokyo Area
- Wildfire evacuation planning for small communities in California
- Regional post-earthquake infrastructure resilience analysis: case study of the San Francisco Bay Area

EDUCATION AND TRAINING

10/2014 – 08/2019

Doctor of Philosophy

Department of Engineering, University of Cambridge (UK)

- Thesis title: City-scale eco-routing and pavement eco-maintenance scheduling for CO₂ mitigation

09/2010 – 07/2014

Bachelor of Engineering

College of Civil Engineering, Tongji University (China)

03/2019

Visiting researcher

RIKEN Center for Computational Science (Japan)

10/2016 – 09/2017

Enrichment student

Alan Turing Institute (UK)

08/2012 – 12/2012

Visiting student

National University of Singapore (Singapore)

PERSONAL SKILLS

Mother tongue(s) Chinese

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C2	C2	C2	C2	C2

Digital skills

- Python for traffic simulations and data analytics
- GIS for spatial data analysis and visualization

ADDITIONAL INFORMATION

Honours and awards

- **PostX, University of California, Berkeley, USA:** Awardee. September 2021, Startup mentorship.
- **International Association for Fire Safety Science (IAFSS), Canada:** Best poster. May, 2021.
- **Lawrence Hall of Science, Berkeley, USA:** Volunteer. “Outstanding and Professional Presentation,” August, 2018.
- **The Alan Turing Institute, London, UK:** Enrichment student. October 2016 – October 2017.

Research record - activities

- Research specialization: city/regional-scale traffic simulations and urban data analytics.
- Teaching experience: traffic simulations, evacuation modelling.
- Mentoring and supervision: experienced in research mentoring for students at different levels.

Publications - books and book chapters

- Huang, A. et al. (2022) *Where are Private “Smart City” Transportation Technologies Concentrated in California? University of California Institute of Transportation Studies*. Available at: <https://doi.org/10.7922/G2W37TM2>.
- Soga, K., Wu, R., et al. (2021) ‘City-Scale Multi-Infrastructure Network Resilience Simulation Tool’. Available at: <https://peer.berkeley.edu/sites/default/files/peer-multi-infrastructure-simulation-tool-soga-20190408.pdf>
- Post, A. et al. (2021) *Benchmarking “Smart City” Technology Adoption in California: An Innovative Web Platform for Exploring New Data and Tracking Adoption*. University of California Institute of Transportation Studies. Available at: <https://doi.org/10.7922/G26M355T>.
- Soga, K., Comfort, L., et al. (2021) *Integrating Traffic Network Analysis and Communication Network Analysis at a Regional Scale to Support More Efficient Evacuation in Response to a Wildfire Event*. Available at: <https://escholarship.org/uc/item/1z913878> (Accessed: 26 May 2021).
- Soga, K., Comfort, L., et al. (2021) *Wildfire Evacuation Planning Can Be Greatly Enhanced by Considering Fire Progression, Communication Systems, and Other Dynamic Factors*. University of California Institute of Transportation Studies. Available at: <https://doi.org/10.7922/G23T9FJG>.

Publications - journals

- Zhao, B. and Wong, S.D. (2021) ‘Developing Transportation Response Strategies for Wildfire Evacuations via an Empirically Supported Traffic Simulation of Berkeley, California’, *Transportation Research Record: Journal of the Transportation Research Board*, 2675(12), pp. 557–582. [doi:10.1177/03611981211030271](https://doi.org/10.1177/03611981211030271)
- Comfort, L.K. et al. (2021) ‘Collective Action in Communities Exposed to Recurring Hazards: The Camp Fire, Butte County, California, November 8, 2018’, *International Journal on Advanced Science, Engineering and Information Technology*, 11(4), p. 1678. doi:10.18517/ijaseit.11.4.14845.
- Chan, C. et al. (2021) ‘Quasi-Dynamic Traffic Assignment using High Performance Computing’. Available at: <https://arxiv.org/abs/2104.12911>.
- Casey, G. et al. (2020) ‘Context-specific volume–delay curves by combining crowd-sourced traffic data with automated traffic counters: A case study for London’, *Data-Centric Engineering*, 1. [doi:10.1017/dce.2020.18](https://doi.org/10.1017/dce.2020.18).
- Salganik, M.J. et al. (2020) ‘Measuring the predictability of life outcomes with a scientific mass

collaboration', *Proceedings of the National Academy of Sciences*, 117(15), pp. 8398–8403. [doi:10.1073/pnas.1915006117](https://doi.org/10.1073/pnas.1915006117)

- Zhao, B., Silva, E. and Soga, K. (2018) 'Pavement degradation: a city-scale model for San Francisco, USA', *Proceedings of the Institution of Civil Engineers - Smart Infrastructure and Construction*, 171(3), pp. 93–109. [doi:10.1680/jsmic.18.00001](https://doi.org/10.1680/jsmic.18.00001).
- Soga, K. et al. (2017) 'Briefing: High-performance computing for city-scale modelling and simulations', *Proceedings of the Institution of Civil Engineers - Smart Infrastructure and Construction*, 170(4), pp. 80–85. [doi:10.1680/jsmic.17.00026](https://doi.org/10.1680/jsmic.17.00026).
- Li, S., Zhao, B. and Huang, D. (2016) 'Experimental and numerical investigation on temperature measurement of BOTDA due to drop leakage in soil', *Journal of Loss Prevention in the Process Industries*, 41, pp. 1–7. [doi:10.1016/j.jlp.2016.02.019](https://doi.org/10.1016/j.jlp.2016.02.019)

Publications – conference proceedings

- Lin, G. et al. (2021) 'Analysis on Effects of Speed and Acceleration on Mesoscopic Fuel Consumption Prediction Based on Vehicle Energy Dataset', in *CICTP 2021*, pp. 43–53.
- McElwee, M., Zhao, B. and Soga, K. (2019) 'Real-time Analysis of City Scale Transportation Networks in New Orleans Metropolitan Area using an Agent Based Model Approach', in *MATEC Web of Conferences*. EDP Sciences, p. 06007
- Zhao, B. et al. (2019) 'Agent-Based Model (ABM) for City-Scale Traffic Simulation: A Case Study on San Francisco', in *International Conference on Smart Infrastructure and Construction 2019 (ICSIC)*. *International Conference on Smart Infrastructure and Construction 2019 (ICSIC)*, Cambridge, UK: ICE Publishing, pp. 203–212. [doi:10.1680/icsic.64669.203](https://doi.org/10.1680/icsic.64669.203).
- Zhao, B., Soga, K. and Silva, E. (2016) 'Simulating the degradation and maintenance effects on an integrated urban transport infrastructure system', in *Transforming the Future of Infrastructure through Smarter Information: Proceedings of the International Conference on Smart Infrastructure and Construction, 27–29 June 2016*. ICE Publishing, pp. 609–614.