Yuerong Zhang

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PROFILE

Dr. Yuerong Zhang is a Leverhulme Early Career researcher at Bartlett School of Planning. Prior to this, she is the research fellow in Transport modelling at MaaSLab, UCL. She completed her Ph.D. at Bartlett School of Planning and Centre for Advanced Spatial Analysis at UCL. Her work mainly focuses on public transport network modelling, complex network science in spatiotemporal transport analysis and policy decision making & assessment.

EUDCATION

2016-2021: **Ph.D. in Urban Planning and Transport Studies**
Bartlett School of Planning & Centre of Advanced Spatial Analysis (CASA), UCL
2014-2015: **M.Sc. Transport and City Planning**, with Distinction;
Bartlett School of Planning, UCL
2009-2014: **B.Eng. Urban Planning**, with grade 87 of 100;
Architecture Institute, Tianjin University, China

RESEARCH EXPERIENCE

09/2020- current: **Leverhulme Early Career Research fellow, Bartlett School of Planning, UCL**
Project: A dynamic network approach to measuring railway resilience in Great Britain (supported by Leverhulme Trust; PI: Yuerong Zhang).

12/2021- 07/2022: **Bartlett School of Planning, UCL**
Project: Exploring women's night walking safety in London from built environment perspective: Deep learning approach (supported by UCL GCJE 2021-22 Small Grants; PI: Yuerong Zhang).

10/2020-09/2021: **Research fellow, MaaSLab, UCL**
Project: HARMONY Project (supported by the European Union's Horizon 2020 research and innovation programme under grant agreement No. 815269; PI: Maria Kamargianni).

- literature, SP model design, analysis, database construction;
- develop moral machines for drone delivery;
- investigate the attitudes and intention to use autonomous vehicle and drone delivery in Oxfordshire.

06/2020-12/2020: **Policy secondment, Department for Transport (DfT)**
Project: The Transport Data Ecosystem: Nature Inspiration and Application (supported by EPSRC IAA_ KEI2020-01; PI: Stephen Marshall);

- instigated the grant application and the link with Transport Infrastructure Skills & Efficiency Strategy Sector, Department for Transport (DfT);
- co-wrote research proposal and funding application form;

08/2017- 09/2017 & 06/2019 – 08/2019: **Research assistant, UCL**
Project: Incubators of Public Spaces Project (supported by ERSC / JPI Urban Europe Foundation; PI: Stephen Marshall) (https://www.ucl.ac.uk/bartlett/planning/incubators-public-spaces);

- completed the morphology analysis and TRANSPLUS representation of Pollards Hill areas;

04-2017- 08/2019: **Research assistant, UCL**
Project: Circular Cities Hub – Circular Transition (supported by the
Ellen MacArthur Foundation; PI: Jo Williams) (http://circularcitieshub.com/hub-survey/hubresearchucl/),

- designed semi-structured questionnaire & interviewed four private and two public sectors;
- completed database construction & website construction;

2016-2021: **PhD research, UCL**
Thesis title: The resilience of London Metro from network perspectives
Aim: advance the current understanding of resilience performances of transit system at multiple scales from network perspectives, and thus make cities and transit system move from a vulnerable to a more resilient state.
Output: developed one R Package **ResilienceNet** (https://github.com/LondonTransport/ResilienceNet)

PUBLICATIONS

- **Zhang, Y.**, Cheng, L., De Vos, J., 2022. Exploring the temporal variations in accessibility to health services for older adults: A case study in Greater London. *Journal of Transport and Health*, 24, p.101334.[https://doi.org/10.1016/j.jth.2022.101334]
- **Zhang, Y.,** Marshall, S. and Manley, E., 2021. Understanding the roles of rail stations: Insights from network approaches in the London metropolitan area. *Journal of Transport Geography*, 94, p. 103110. [https://doi.org/10.1016/j.jtrangeo.2021.103110]
- **Zhang, Y.,** Marshall, S. Cao, M., Manley, E., and Chen, H., 2021. Discovering the evolution of urban transit movement structure using smart card data: The case of London. *Cities*, 112, p.103157. [https://doi.org/10.1016/j.cities.2021.103157]
- **Zhang, Y.,** Marshall, S. and Manley, E., 2019. Network criticality and the node-place-design model: Classifying metro station areas in Greater London. *Journal of Transport Geography*, *79*, p.102485. [https://doi.org/10.1016/j.jtrangeo.2019.102485]
- **Zhang, Y.,** Chapple, K., Cao, M., Dennett, A. and Smith, D., 2019. Visualising urban gentrification and displacement in Greater London. *Environment and Planning A: Economy and Space*, p.0308518X19880211. [https://doi.org/10.1177/0308518X19880211]
- **Zhang, Y.,** Cao, M., 2020. How will transit station closures affect Londoners? *Focus*, 22 (10). [https://westminsterresearch.westminster.ac.uk/item/v1z61/how-will-transit-station-closures-affect-londoners]
- Lyu, Y., Cao, M., **Zhang, Y.,** Yang, T. and Shi, C., 2020. Investigating users' perspectives on the development of bike-sharing in Shanghai. *Research in Transportation Business & Management*, p.100543.
- Timmerman, R., Marshall, S., **Zhang, Y.**, 2019. Towards Socially Sustainable Urban Design: Analysing Actor-Area Relations Linking Micro-morphology and Micro Democracy. International Journal of Sustainable Development and Planning. WIT Press. 14(1). [https://www.witpress.com/elibrary/sdp-volumes/14/1/2391]
- Cao, M., Zhang, Y., **Zhang, Y.,** Li, s, Hickman, R., 2019. Book: A companion to Transport, Space and Equity _ Chapter 15 Using different inequality methods to evaluate individual social equity in transport. [https://www.e-elgar.com/shop/the-elgar-companion-to-transport-space-and-equity]
- Liu, Y., Wang, R., Lu, Y., Li, Z., Chen, H., Cao, M., **Zhang, Y.** and Song, Y., 2020. Natural outdoor environment, neighbourhood social cohesion and mental health: Using multilevel structural equation modelling, streetscape and remote-sensing metrics. *Urban Forestry & Urban Greening*, p.126576. [https://doi.org/10.1016/j.ufug.2019.126576]
- Marshall, S., **Zhang, Y.,** 2017. Towards a Typomorphology of Public Spaces: Relating Place Type and Measures of Enclosure, ISUF Conference Paper. [https://riunet.upv.es/handle/10251/113430]

CONFERENCES

- Presentation: The robustness of London metro network from complex network perspectives. The 2020 American Association of Geographers (AAG) virtual Annual Meeting London, UK, 07/04/2020. [https://www.urbannetworks.org/aag2020]
- Presentation: The resilience of London Metro network from spatiotemporal perspectives. The 8th 21st century urban development" international conference with topic: Wuhan, China, 08/12/2019.
- Presentation: Transport efficiency based on multilayer network framework. The Future of Urban Network Conference (http://urbannetworks.org/2017-symposium); Ghent, Belgium, 20/09/2017.
- Presentation: Towards a typomorphology of public space relating place type and measures of enclosure (with Professor Stephen Marshall); The 24th ISUF (International Symposium of Urban Morphology), Valencia, Spain, 20/09/2017.

INVITED TALKS

- Talk: TfL Underground OD data analysis and station closure. Transport for London (TfL), London, 11/2019.
- Talk: Network Criticality and the Node-Place-Design Model: Classifying metro station areas in Greater London. The 6th Smart urban policy futures workshop, University of Greenwich, London, 07/2019.
- Talk: Transport and street patterns: predicting transport flow based on topological analysis. The Socially Just Transport Network Group, The Bartlett School of Planning, UCL. London, 2/2019.
- Participated, gave feedback on academics' presentations and assisted liaison between host (Nanjing University) and International guest speakers. Linking Space Time seminar, Nanjing, China, 09/2018.

TEACHING EXPERIENCE

12/2020-12/2022: **Guest lecturer** for BENV0093: Spatial Analysis of Energy Data, UCL

- delivered two lectures on spatial geographical analysis for transport;
- Prepared three R/Python tutorials;

06/2021-09/2021: **Master dissertation supervision** for students from MSc Energy Systems and Data Analytics and MSc Economics and Policy of Energy and the Environment (EPEE), UCL

01/2021-04/2022: **Teaching assistant** for BENV0010: Research Concepts and Methods, UCL

- delivered three lectures on quantitative analysis methods and academic writing.

01/2020-04/2020: **Teaching assistant** for CASA0002: Urban simulation (Postgraduate), UCL

- delivered three lectures on underground metro network analysis;
- delivered tutorials on programming (R, Python & NetLogo) and marking;

12/2019-03/2020: **Guest lecturer** for 7TRAN013W (Postgraduate): Land Use, Planning and Transport, Westminster University

- delivered two lectures (Data visualisation in Python and R; Transport accessibility analysis);
- delivered tutorials on ArcMap & QGIS;

01/2019-04/2020: **Teaching assistant** for BPLN0091: Transport policy and planning (Undergraduate), UCL

- delivered one lecture on 'Network analysis and transport accessibility';
- contributed to marking and running of student presentations with external guests;

02/2018-07/2018: **Teaching assistant** for BENVGSC3: 'Smart Cities: Context, Policy and Government'(Postgraduate), UCL

- organised group discussion and marking;

09/2017-01/2019: **Teaching assistant** for BPLN0077: 'GIS for Planners', 'Urban Lab II: Spatial Analysis' (Undergraduate), UCL;

- assisted students' software (ArcMap and QGIS) application and marking;

PROFESSIONAL ACTIVIES

- 01/2017-07/2019: Work Shadow Administrator of Bartlett School of Planning, UCL;
- 09/2015-09/2016: Transport planner at China Academy of Urban Planning;

QUALIFICATIONS & AWARDS

- The member of Chartered Institution of Highways and Transportation (CIHT), 2019.
- The Associate Fellow of Higher Education Academy (AFHEA), 2018.
- 2017-2019: The UCL Overseas Research Scholarship (ORS) (£ 19,800), 2017.
- Bartlett Conference Fund (£ 750), 2019.
- Bartlett External Training Fund (£1,000), 2019.
- Henry Lester Fund (£2,500), 2017.
- Travel Bursary (500€ and accommodation) of The Future of Urban Network Research offered by Urban Studies Foundation (Ghent University and Michigan University), 2017.

TECHNIQUE & SKILLS

- Software: ArcMap, QGIS, SQL, MATSIM, Aimsun;
- Programming: R, Python;
- Modelling: transport network modelling, spatial interaction models (land use and transport model, retail model); percolation modelling etc.