

# Curriculum Vitae

## Qunshan Zhao

### Contact Details

Urban Big Data Centre  
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### Education

- 2017      Ph.D. Geography, *Arizona State University*, School of Geographical Sciences and Urban Planning, Tempe, AZ, USA  
**American Association of Geographers “J. Warren Nystrom” Award for the Most Outstanding Research Paper Based Upon a Recent Dissertation** (<http://www.aag.org/cs/nystrom>).
- 2015      M.A. Geography, *Arizona State University*, School of Geographical Sciences and Urban Planning, Tempe, AZ, USA
- 2013      B.E. Remote Sensing Science and Technology, *Wuhan University*, School of Remote Sensing and Information Engineering, Wuhan, Hubei, China

### Academic Appointments

- 2020-present **Associate Director**, Urban Big Data Centre (UBDC), University of Glasgow, UK
- 2019-present **Lecturer (Assistant Professor) in Urban Analytics**, Urban Big Data Centre (UBDC), School of Social and Political Sciences, University of Glasgow, UK
- 2017-2019    **Postdoctoral Research Associate**, Knowledge Exchange for Resilience (KER) and Spatial Analysis Research Center (SPARC), Arizona State University, USA
- 2013-2017    **Research Associate, Teaching Assistant, and Instructor**, School of Geographical Sciences and Urban Planning, Arizona State University, USA

### Research Interests

*Empirical:* Urban Analytics, Active Travel and Sustainable Transport, Urban Green Infrastructure, Fuel Poverty, Human Mobility and Activity Space, Urban Resilience, Urban and Regional Planning, Human-Environment Systems.

*Methodology:* GIScience (Geographic Information Systems, Remote Sensing, Spatial Analysis), Machine Learning/Statistics, Operations Research, Big Data Analytics, Urban Climate Modeling and Instrumentation, Sensor Network.

*Study Area:* United Kingdom, United States, China, Nepal.

## Publications

### *Refereed Journal Articles*

- 2021 Wang, C., Turner, V. K., Wentz, E. A., **Zhao, Q.**, & Myint, S. W. (2021) Optimization of residential green space for environmental sustainability and property appreciation in metropolitan Phoenix, Arizona. *Science of Total Environment*, 763, 144605. <https://doi.org/10.1016/j.scitotenv.2020.144605>
- 2020 Dai, J., Roberts, D. A., Stow, D. A., An, L., & **Zhao, Q.** (2020). Green Vegetation Cover Has Steadily Increased Since Establishment of Community Forests in Western Chitwan, Nepal. *Remote Sensing*, 12(24), 4071. <https://doi.org/10.3390/rs12244071>
- Wu, Y., Zhan, Q., & **Zhao, Q.** (2020). Long-term air pollution exposure impact on COVID-19 morbidity in China. *Aerosol and Air Quality Research*, 20. <https://doi.org/10.4209/aaqr.2020.07.0413>
- Zhao, Q.**, Dickson, C., Thornton, J., Solis, P., & Wentz, E. A. (2020). Articulating strategies to address heat resilience using spatial optimization and temporal analysis of utility assistance data of the Salvation Army Metro Phoenix. *Applied Geography*, 122, 102241. <https://doi.org/10.1016/j.apgeog.2020.102241>
- Zhao, Q.** & Wentz, E. A. (2020) Editorial for the Special Issue: “Remote Sensing of Urban Ecology and Sustainability.” *Remote Sensing*, 12(3), 443. <https://doi.org/10.3390/rs12030443>
- Wang, Z., Fan, C., **Zhao, Q.**, & Myint, S. W. (2020) A geographically weighted regression approach to understanding urbanization impacts on urban warming and cooling: A case study of Las Vegas. *Remote Sensing*, 12(2), 222. <https://doi.org/10.3390/rs12020222>
- 2019 Wang, C., Li, Y., Myint, S. W., **Zhao, Q.**, & Wentz, E. A. (2019). Impacts of spatial clustering of urban land cover on land surface temperature across Köppen climate zones in the contiguous United States. *Landscape and Urban Planning*, 192, 103668. <https://doi.org/10.1016/j.landurbplan.2019.103668>
- Zhao, Q.**, Kelley, S., Xiao, F., & Kuby, M. J. (2019). A multi-scale framework for fuel station location: from highways to street intersections. *Transportation Research Part D: Transport and Environment*, 74, 48-64. <https://doi.org/10.1016/j.trd.2019.07.018>
- 2018 **Zhao, Q.**, Sailor, D. J., & Wentz, E. A. (2018). Impact of tree locations and arrangements on outdoor microclimates and human thermal comfort in an urban residential environment. *Urban Forestry & Urban Greening*, 32, 81-91. <https://doi.org/10.1016/j.ufug.2018.03.022> (“**J. Warren Nystrom**” Award)
- Zhao, Q.**, Yang, J., Wang, Z., & Wentz, E. A. (2018). Assessing the cooling benefits of tree shade by an outdoor urban physical scale model at Tempe, AZ.

- Urban Science*, 2(1), 4. <https://doi.org/10.3390/urbansci2010004>
- 2017 Yabiku, S. T., Glick, J. E., Wentz, E. A., Ghimire, D., & **Zhao, Q.** (2017). Comparing paper and tablet modes of retrospective activity space data collection. *Survey Research Methods*, 11(3), 329-344. <https://doi.org/10.18148/srm/2017.v11i3.6741>
- Kuai, X., & **Zhao, Q.** (2017). Examining healthy food accessibility and disparity in Baton Rouge, Louisiana. *Annals of GIS*, 23(2), 103-116. <https://doi.org/10.1080/19475683.2017.1304448>
- Zhao, Q.**, Wentz, E. A., & Murray, A. T. (2017). Tree shade coverage optimization in an urban residential environment. *Building and Environment*, 115, 269-280. <https://doi.org/10.1016/j.buildenv.2017.01.036>
- 2016 **Zhao, Q.**, & Wentz, E. A. (2016). A MODIS/ASTER Airborne Simulator (MASTER) Imagery for Urban Heat Island Research. *Data*, 1(1), 7. <https://doi.org/10.3390/data1010007>
- 2015 **Zhao, Q.**, Myint, S. W., Wentz, E. A., & Fan, C. (2015). Rooftop surface temperature analysis in an urban residential environment. *Remote Sensing*, 7(9), 12135-12159. <https://doi.org/10.3390/rs70912135>

#### *Submitted Journal Articles*

- 2021 Beairsto, J., Tian, Y., Zheng, L., **Zhao, Q.**, and Hong, J. “Identifying locations for new bike-sharing stations in Glasgow: an analysis of spatial equity and demand factors.” Submitted to *Annals of GIS*.
- Glick, J. E., Wentz, E. A., Yabiku, S. T., & **Zhao, Q.** Activity Space and Gender Stratification. Submitted to *Population, Space, and Place*.

#### *Works in Progress*

- 2021 **Zhao, Q.**, Shah, D., Li, Z., Fischer, H., Solis, P., & Wentz, E. A. “Understanding the interaction between human activities and physical health under extreme heat environment in Phoenix, Arizona.” To be submitted to *Health and Place*.
- Zhao, Q.**, Reynolds, R., Li, Y., Wang, C., & Wentz, E. A. “A multidimensional (spatio-temporal-vertical) urban land cover change detection and spatial analysis.” Manuscript in preparation.
- Zhao, Q.**, Wentz, E. A., Fotheringham, A. S., Yabiku, S. T., Hall, S. J., Murphy, S., & Clark, M. Spatial, social and ecological factors driving the distribution of invasive plant species in community forest ecosystems in subtropical Nepal. Manuscript in preparation.
- Zhao, Q.**, Li, Y., Myint, S.W., Nelson, T., Wentz, E. A., Hu, Y., & Wang, F. Examining spatial association of crime, facilities, and night lights. Manuscript in preparation.
- Yabiku, S. T., Sullivan, A., York, A., **Zhao, Q.**, Glick, J. E., Hall, S. J., Ghimire, D., & An, L. Drivers of prohibited natural resource collection in a protected area invaded by the mile-a-minute weed (*Mikania micrantha*). Manuscript in

preparation.

Clark, M., **Zhao, Q.**, Sullivan A., Yabiku, S. T., York, A., Ghimire, D., An L., Murphy, S., and Hall, S. J. Social and ecological drivers of invasive plant species distribution in a biodiversity hotspot in subtropical Nepal. Manuscript in preparation.

#### *Refereed Book Chapter*

- 2021 Sarim, M., **Zhao, Q.**, & Bailey, N. “Citizen mobility and the growth of infections during the COVID-19 pandemic with the effects of government restrictions in Western Europe.” *Human Dynamics in Smart Cities* Book Series, Springer.

#### *Refereed Conference Proceedings*

- 2020 Vonnak, R. & **Zhao, Q.** “Fuel Poverty and Income Deprivation in Bristol, UK.” *25<sup>th</sup> Geographical Information Science Research UK Conference (GISRUK 2020)*.
- 2019 **Zhao, Q.**, Dickson, C., Thornton, J., Wang, C., Solis, P., & Wentz, E. A. “Optimizing and rebalancing heat-related utility assistance provider-client system of the Salvation Army in Phoenix, Arizona.” *16th International Conference on Computers in Urban Planning and Urban Management (CUPUM 2019)*.
- Zhao, Q.**, Reynolds, R., Wang, C., & Wentz, E. A. “A multidimensional urban land cover change analysis in Tempe, AZ.” *2019 Joint Urban Remote Sensing Event (JURSE 2019)*. IEEE. <https://doi.org/10.1109/JURSE.2019.8808957>
- 2018 **Zhao, Q.**, Fischer, H., Luo, W., & Wentz, E. A. Community resilience in Maricopa County, Arizona, USA: the analysis of indoor heat-related death and urban thermal environment.” In *AutoCarto/UCGIS 2018*, Madison, Wisconsin, USA.
- 2016 **Zhao, Q.**, Wentz, E. A., Fotheringham, A. S., Yabiku, S. T., Hall, S. J., Glick, J. E., Dai, J., Clark, M., & Heavenrich, H. Semi-parametric Geographically Weighted Regression (S-GWR): a Case Study on Invasive Plant Species Distribution in Subtropical Nepal. In *9th International Conference on Geographic Information Science*, Montreal, Canada. <https://doi.org/10.21433/B3118kv3n3bq>
- 2015 Wentz, E. A., & **Zhao, Q.** Assessing validation methods for building identification and extraction. In *2015 Joint Urban Remote Sensing Event (JURSE)* (pp. 1-4). IEEE. <https://doi.org/10.1109/JURSE.2015.7120453>
- 2014 **Zhao, Q.**, Wentz, E. A. & Murray, A. T. Shade optimization in a desert environment. In *8th International Conference on Geographic Information Science*, Vienna, Austria.
- 2012 **Zhao, Q.**, & Kuai, X. Land use classification and accuracy assessment based on image fusion of TM and SPOT5. In *18th China Symposium on Remote Sensing*. (In Chinese)
- Kuai, X., & **Zhao, Q.** Wetland image classification of remote sensing based on

support vector machine. In *18th China Symposium on Remote Sensing*. (In Chinese)

### *Doctoral Dissertation*

- 2017 Zhao, Q. (2017). “*Evaluating the Effectiveness of Tree Locations and Arrangements for Improving Urban Thermal Environment*” [PhD Thesis, ARIZONA STATE UNIVERSITY].  
[https://repository.asu.edu/attachments/192532/content/Zhao\\_asu\\_0010E\\_17356.pdf](https://repository.asu.edu/attachments/192532/content/Zhao_asu_0010E_17356.pdf)

### *Technical Reports*

- 2020 Vonnak, R., Sarim, M., & **Zhao, Q.** “Comparison of active travel in global cities using Strava Metro Dashboard data.” Online technical blog. Urban Big Data Centre, Glasgow, UK (Available upon request).  
Sarim, M., **Zhao, Q.**, & Bailey, N. “Analysing the effects of COVID-19 Governmental responses on mobility in major European countries.” Online technical blog. Urban Big Data Centre, Glasgow, UK.  
<https://www.ubdc.ac.uk/news-media/2020/june/the-effects-of-covid-19-governmental-responses-on-mobility-in-europe/>
- 2017 Fedorschak, K., Bajaj, V., Kandala, S., Miller, J., Salla, R., Kuby, M., Tong, D., Mu, W., & **Zhao, Q.** “Voting Precinct Design Tool: Resource Optimization for Election Administrators.” White paper. ASU Decision Theater Network, Tempe, AZ, USA. <http://gutoplis.com/2018/dev/precinct/>

## **Research Grants**

### *External Funding*

#### *Submitted*

- 2021 **Digital technology, employment opportunities and regional inequality**, Nuffield Foundation, United Kingdom (Co-PI. PI: Jiaqi Ge, Total: £203,484.)

#### *Funded*

- 2021 **Urban mobility in Glasgow 2019-21**, Glasgow City Council, United Kingdom (Co-PI. PI: Nick Bailey, £49,750)
- 2020-2021 **Urban Big Data Centre Data Service Extension Phase 3a (infrastructure)**, Economic and Social Science Council (ESRC), United Kingdom (Co-PI. PI: Nick Bailey, Grant #ES/L011921/1, £766,321 (FEC))
- 2020-2022 **Urban Big Data Centre Data Service Extension Phase 3**, Economic and Social Science Council (ESRC), United Kingdom (Co-PI. PI: Nick Bailey, Grant #ES/L011921/1, £1,348,022 (FEC))
- 2019-2020 **Urban Big Data Centre Data Service Extension Phase 2**, Economic and Social Science Council (ESRC), United Kingdom (Co-PI. PI: Nick Bailey, Grant

#ES/L011921/1, £636,467 (FEC))

- 2021-2022 **Data Lab MSc Scholarship**, Scottish Funding Council and European Social Fund, United Kingdom (PI. £36,180 for 6 MSc studentship)
- 2020-2021 **Data Lab MSc Scholarship**, Scottish Funding Council and European Social Fund, United Kingdom (PI. £18,090 for 3 MSc studentship)
- 2019-2020 **Data Lab MSc Scholarship**, Scottish Funding Council and European Social Fund, United Kingdom (PI. £12,060 for 2 MSc studentship)
- 2019-2022 **Ventilation based Planning Methods to Respond Urban Haze Supported by Multi-source Spatial-temporal Big Data**, National Natural Science Foundation of China (¥600,000 in total, Co-PI. PI: Dr. Qingming Zhan, Grant #51878515)
- 2017 **Optimizing Tree Locations and Arrangement for Mitigating Urban Heat Island Effects and Improving Human Thermal Comfort in a Hot Arid Urban Residential Environment**, Dissertation Research Grant, American Association of Geographers (PI. \$1,000)
- 2016 **Imagery Grant**, DigitalGlobe Foundation (12 high resolution remotely sensed imagery of QuickBird, WorldView-1, WorldView-2 and GeoEye-1 in Chitwan, Nepal, PI)
- Imagery Grant**, European Space Agency (1 high resolution remotely sensed imagery of SPOT 6 in Chitwan, Nepal, Co-PI. PI: Dr. Sean Murphy)
- Declined*
- 2021 **Quantifying the impact of AI on the UK job market using online advert data**, Secondary Data Analysis Initiative, Economic and Social Science Council (ESRC), United Kingdom (Co-PI. PI: Jiaqi Ge, Total: £299,995. Glasgow: £28,276.)
- 2020 **New mobility data to understand if shared e-scooter schemes increase active travel and improve population health**, National Institute for Health Research (NIHR) Public Health Research Programme, United Kingdom (Co-PI. PI: Susan Grant-Muller. Total: £1,073,579. Glasgow: £518,879)
- Audience Prediction in a Covid and post Covid world**, Innovate UK, United Kingdom (Academic PI. Business lead: Locomizer Ltd. Total: £169,894. Glasgow: £50,304)
- U21 Researcher Resilience Fund**, Universitas 21. (\$5,000. Co-PI. PI: Dr. Filip Biljecki)
- 2019 **The University as an Enabler for Sustainable Solutions**, Scottish Funding Council, United Kingdom (£250,000, Co-PI. PI: Dr. Jaime Toney)

**Constructing a Digital Environment Expert Network**, Natural Environment Research Council, United Kingdom (£10,000, PI, invited for final interview)

**Promoting cycling in Scottish cities: how to build effective cycling infrastructure?** Scottish Graduate School of Social Science Supervisor-led ESRC Steers PhD Competition, United Kingdom (4 years PhD studentship funding, Second supervisor with Dr. Jinhyun Hong)

**The Understanding of Ghost City Development in China via Urban Big Data Analytics**, Urban Studies Foundation Postdoctoral Research Fellowships (£160,000, PI. Apply with Dr. Ru Xu)

**Regional Studies Association Research Network Grant** (£10,000, Co-organizer with Dr. Yijing Li and Dr. Huanfa Chen)

### *Internal Funding*

#### *Submitted*

- 2021 **Analytical strategies for improving third sector employability services during the COVID-19 crisis.** College of Social Science Supervisor-led PhD Competition, University of Glasgow, United Kingdom (3 years PhD studentship funding, Lead supervisor with Prof. Sharon Wright)
- 2021 **Research on electric vehicle charging behaviours, new charging points location optimization, and policy promotion in Scotland?** College of Social Science Supervisor-led PhD Competition, University of Glasgow, United Kingdom (3 years PhD studentship funding, Second supervisor with Dr. Jinhyun Hong)

#### *Funded*

- 2021 **Classifying City Level Housing Materials by Using Google Street View Images and Deep Learning**, Research Incentivization Funding, Urban Studies, University of Glasgow, United Kingdom (£1,500)
- 2021 **Exploring human-nature interactions using new forms of data.** College of Social Science Research Fund, University of Glasgow, United Kingdom (£4,945, Co-PI, PI: Nick Bailey and Michael Sinclair)
- 2020 **AAG Conference Support**, Research Incentivization Funding, Urban Studies, University of Glasgow, United Kingdom (£1,200)
- 2020 **Mitigating Urban Heat Island Effects through the Intelligent Use of Sustainable Materials**, University of Edinburgh/University of Glasgow Jointly Funded PhD Studentships Project Competition (Theme: Future Cities), United Kingdom (4 years PhD studentship funding, Second supervisor with Dr. Chris Beckett)
- 2020 **Harnessing Crowd Sourced Big Data for Driving Next Generation Location-**

**Based Services in Future Cities**, University of Edinburgh/University of Glasgow Jointly Funded PhD Studentships Project Competition (Theme: Future Cities), United Kingdom (4 years PhD studentship funding, Second supervisor with Prof. Tughrul Arslan. Project was awarded but the candidate turned down the offer.)

- 2017 **Impact of Tree Locations and Arrangements on Outdoor Microclimate and Human Thermal Comfort in a Compact Urban Residential Environment**, Graduate Grants for Research in Urban Ecology and Urban Systems Research, Central Arizona-Phoenix Long-Term Ecological Research (CAP-LTER), Arizona State University (\$4,000, PI)
- 2016 **Validating Microclimate Benefits from Optimal Tree Location Arrangement: a Physical Scale Model Site Field Measurement**, JumpStart Research Grant, Graduate and Professional Student Association (GPSA), Arizona State University (\$500, PI)
- 2015 **Rooftop Surface Temperature Analysis in an Urban Residential Environment**, Graduate Grants for Research in Urban Ecology and Urban Systems Research, Central Arizona-Phoenix Long-Term Ecological Research (CAP-LTER), Arizona State University (\$4,000, PI)
- Tree Shade Effects on House Surface Temperature in an Urban Desert Environment**, Matthew G. Bailey Scholarship Award, School of Geographical Sciences and Urban Planning, Arizona State University (\$1,500, PI)

## Honors and Awards

### *Awards*

- 2018 **J. Warren Nystrom Award** (An outstanding paper based upon a recent dissertation in geography), American Association of Geographers
- 2017 **Graduate Excellence Awards**, College of Liberal Arts and Sciences, Arizona State University
- 2016 **Finalist, Landscape Specialty Group Student Presentation Competition**, American Association of Geographers
- 2013-2014 **University Graduate Fellowship**, Arizona State University
- 2013 **Geographical Sciences Teaching Assistant Award**, School of Geographical Sciences and Urban Planning, Arizona State University
- 2010-2012 **Fellowship for Academic Excellence**, Wuhan University
- 2011 **First Prize in Social Science Research**, Youth Research Center at Wuhan University
- 2010-2011 **Trimble Scholarship**, Wuhan University
- 2010-2011 **Outstanding Student**, Wuhan University

### *Travel Grants*

- 2017 **Graduate College Preparing Future Faculty Travel Award**, Arizona State University
- 2015-2017 **Graduate College Travel Award**, Arizona State University
- 2015 **Conference Travel Grants**, CAP-LTER, Arizona State University

2015      **Individual Travel Funding**, GPSA, Arizona State University  
2014      **John F. Lounsbury Student Travel Scholarship**, School of Geographical  
            Sciences and Urban Planning, Arizona State University

## Teaching Interests

Urban Analytics, Geographic Information Science, Remote Sensing, Spatial Analysis and Statistics, Location Modeling and Spatial Optimization, Sustainable Urban Environment.

## Teaching Experience

University of Glasgow (2019-2021)

### *Postgraduate*

- Urban Analytics Group Projects (Course Convener, Spring).
- Programming Tools for Urban Analytics (Course Convener, Spring).
- Big Data and Urban Analytics (Course Convener, Fall).
- Quantitative Data Analysis (Course Tutor, Fall 2019)

### *Undergraduate*

- Social & Public Policy 2B: Policy, Politics and Power (Course Contributor, Spring).
- Big Data, Policy & Power (Course Contributor, Spring)

Arizona State University

Spring 2017    GIS 461/561: Optimization Fundamentals for Spatial Analysis.  
(Hybrid course instructor, co-teach with Dr. Heather Fischer)

Fall 2013      GPH 370: Geographic Information Technologies. (Teaching assistant, lab  
                  leader and grader)

## Students/Postdocs Advised

University of Glasgow

Postdoctoral Research Associate:

- Michael Sinclair (Research Associate in UBDC data service grant, 2020-2021)
- Saeed Maadi (Research Associate in UBDC data service grant, 2020-2021)

Ph.D. Students:

- Niantang Liu (Ph.D. in Geological and Earth Sciences/Geosciences, 2019-2022, Second supervisor with Dr. Brian Barrett and Dr. Richard Williams)
- Henry Ibitolu (Ph.D. in Civil and Environmental Engineering, University of Edinburgh/University of Glasgow Jointly Funded PhD Studentships, 2020-2024, First supervisor with Dr. Chris Beckett and Prof. Sean Smith)
- Ziyang Guo (Ph.D. in Environmental Sustainability, 2021-2025, Second supervisor with Dr. John Xiaogang Shi)
- Zhe Wang (Ph.D. in Geography, University of Idaho (USA), 2018-2022, Committee member with Dr. Chao Fan)

M.Sc. Students:

- Reka Vonnak (M.Sc. in Urban Analytics, 2019-2020)

- Mohd Sarim (M.Sc. in Urban Analytics, 2019-2020)

Arizona State University

M.Sc. Students:

- Ryan Reynolds (M.A. in Geography, 2018-2019)
- Dhrumil Shah (M.S. in Computer Science 2018-2019)
- Fan Xiao (Master of Geographic Information Science, 2015-2016)

## Invited Presentations and Workshop

2021 School of Engineering, Newcastle University (online) “A multi-scale framework for fuel station location: From highways to street intersections.” Mar 15, 2021.

2020 Kongping Primary School, Ya’an, Sichuan, China (online, in Chinese). “Smart Cities.” Dec 10, 2020.

SAD 2020 Spatial Analytics + Data Seminar Series 2020, Newcastle University (online). “Articulating strategies to address heat resilience.” Nov 3, 2020.

<https://www.youtube.com/watch?v=tKYkbKpNPDY&t=67s>

Geoinsider 43, China (online, in Chinese). “Articulating strategies to address heat resilience with Salvation Army utility assistance program/UK higher education system discussion after Brexit.” Oct 30, 2020.

<https://www.bilibili.com/video/BV1Nv411r7L4>

UBDC Interactive Data Dives, Glasgow, UK (online). “An exploration of fuel poverty in the private rental housing market.” Oct 20, 2020.

GitHub repo: <https://github.com/qszhao/UBDCDataDives2020>;

Video: <http://www.ubdc.ac.uk/education-and-events/online-learning/online-tutorials/interactive-data-dives/>

Shenzhen University, Shenzhen, China (online, in Chinese). “Introduction to Urban Analytics: Education and Research.” Sep 23, 2020.

Institute of High Energy Physics, Chinese Academy of Sciences, Beijing, China (online, in Chinese). “International Collaboration and Communication (交流与沟通-国际合作与科技促进)” Sep 18, 2020.

WGDC Summit 2020 (全球地理信息开发者大会青年科学家论坛), Beijing, China (online, in Chinese). “A multi-scale framework for fuel station location: From highways to street intersections (多尺度氢能源汽车早期充气站选址优化与分析)” Aug 19, 2020. <http://zhibo.sina.com.cn/tech/wgdcscience>

2019 Geoinsider 6, China (online). “Unveiling the myth of United Kingdom higher education.” Nov 22, 2019. <https://www.bilibili.com/video/BV1Ee411W79c>

Urban Studies Monday Workshop, University of Glasgow, United Kingdom. “Understanding Long-term Heat Resilience by Urban Analytics.” Nov 4, 2019.

Building a Future for the Urban Analytics Blueprints, The Alan Turing Institute and University of Bristol, United Kingdom. “Understanding the Long-term Heat Resilience by Urban Analytics” Oct 17, 2019.

<https://www.turing.ac.uk/events/building-future-urban-analytics-blueprint>

NERC Constructing a Digital Environment Workshop, Edinburgh, United Kingdom. Oct 16, 2019.

<https://nerc.ukri.org/innovation/activities/environmentaldata/digitalenv/news/workshops/>

Urban Big Data Centre Research Meeting, University of Glasgow, United Kingdom. “Urban Analytics Implication for Urban Planning and Public Policy.” May 28, 2019.

SPARC Brown Bag, Arizona State University, USA. “Knowledge Exchange for Resilience.” Mar 20, 2019. (Co-present with KER Executive Director, Dr. Patricia Solís)

Laboratory of Systems Pharmacology and Center for Geographic Analysis, **Harvard University**, USA. “Thrive as cancer cells in forests? Spatial, social, and ecological factors driving the distribution of invasive plant (*Mikania micrantha*) establishment and spread in a biodiversity hotspot in subtropical Nepal.” Jan 10, 2019. (Presentation audio is available online at:

<https://gis.harvard.edu/event/thrive-cancer-cells-forests-spatial-social-and-ecological-factors-driving-distribution>)

2018 University of Glasgow, United Kingdom. “Building the MSc in Urban Analytics.” Dec 10, 2018.

Transport Lab, Arizona State University, USA. “Trip-Based Hydrogen Station Location for Central Connecticut: Combining Regional and Micro Scale Modeling.” Nov 14, 2018. (Co-present with Dr. Michael Kuby)

Science and Mathematics Colloquium Series, College of Integrative Sciences and Arts, Arizona State University, USA. “Community resilience in Maricopa County: urban green infrastructure planning and the HeatMapper citizen science project.” Sep 5, 2018.

J. Warren Nystrom Award Presentation, **American Association of Geographers**, USA. “Impact of tree locations and arrangements on outdoor microclimates and human thermal comfort in an urban residential environment.” April 11, 2018.  
<https://aag.secure-abstracts.com/AAG%20Annual%20Meeting%202018/sessions-gallery/12160>

2017 SPARC Brown Bag, Arizona State University, USA. “Designing a sustainable urban environment by spatial data science and urban climatology.” Nov 14, 2017. Dr. Chao Wang and Dr. Yu Yao’s group, School of Electrical, Computer, and Energy Engineering, Arizona State University, USA. “Fund yourself in the

graduate school.” May 3, 2017.

Dr. Kevin Gurney’s group, School of Life Sciences, Arizona State University, USA. “Unveiling the myth of creating sustainable urban desert residential environment.” March 15, 2017.

## **Selected Conference Presentations and Posters**

- 2020      **Vonnak, R. & Zhao, Q.** “Fuel Poverty and Income Deprivation in Bristol, UK.” *25<sup>th</sup> Geographical Information Science Research UK Conference (GISRUK 2020)*, London, UK, July 21-July 23, 2020. (Online Presentation)
- 2019      **Zhao, Q.**, Reynolds, R., Li, Y., Wang, C., & Wentz, E. A. “A multidimensional urban land cover change analysis in Tempe, AZ.” *JURSE 2019*, Vannes, France, May 22-May 24, 2019. (Poster)
- Zhao, Q.**, Li, Z., Thornton, J., Solis, P., & Wentz, E. A. “Optimizing and rebalancing heat-related utility assistance provider-client system at Phoenix, Arizona.” *2019 Annual Meeting of the American Association of Geographers*, Washington D.C., USA, April 3-April 7, 2019. (Guided poster)
- Zhao, Q.**, Fischer, H., Luo, W., Solis, P., & Wentz, E. A. “Community Resilience in Maricopa County, Arizona, USA: the Analysis of Indoor Heat-related Death and Urban Environment.” *The 99<sup>th</sup> American Meteorological Society Annual Meeting*, Phoenix, Arizona, USA, January 6-January 10, 2019. (Poster)
- 2018      **Zhao, Q.**, Fischer, H., Luo, W., & Wentz, E. A. “Community resilience in Maricopa county, Arizona, USA: the analysis of heat vulnerable population and urban green infrastructure.” *The 10<sup>th</sup> International Conference on Urban Climate*, New York, New York, USA, August 6-August 10, 2018. (Presentation)
- Zhao, Q.**, Sailor, D. J., & Wentz, E. A. “Impact of tree locations and arrangements on outdoor microclimates and human thermal comfort in an urban residential environment.” *2018 Annual Meeting of the American Association of Geographers*, New Orleans, Louisiana, USA, April 10-April 14, 2018. (Presentation)
- 2017      **Zhao, Q.**, Kuby, M. J., & Xiao, F. “Optimal hydrogen station location for central Connecticut by using trip-based modeling at the regional scale.” *UCGIS 2017 Symposium*, Arlington, Virginia, USA, May 23-May 25, 2017. (Poster)
- Zhao, Q.**, Yang, J., Wang, Z., & Wentz, E. A. “Assessing the cooling benefits of tree shade by a microclimate physical scale model site at Tempe, AZ.” *2017 Annual Meeting of the American Association of Geographers*, Boston, Massachusetts, USA, April 5-April 9, 2017. (Presentation)
- 2016      **Zhao, Q.**, Wentz, E. A., Fotheringham, A. S., Yabiku, S. T., Hall, S. J., Dai, J., Clark, M., & Heavenrich, H. “Semi-parametric geographically weighted regression (S-GWR): a case study on invasive plant species distribution in

subtropical nepal.” *GIScience 2016*, Montreal, Canada, September 27-30, 2016. (Poster)

**Zhao, Q.**, Wentz, E. A., Fotheringham, A. S., Yabiku, S. T., Hall, S. J., & Dai, J. “Socio-ecological factors influence to invasive plant species distribution in community forests ecosystems in subtropical Nepal” *2016 Annual Meeting of the American Association of Geographers*, San Francisco, California, USA, March 29-April 2, 2016. (Presentation)

2015 **Zhao, Q.**, Zhan, S., Kuai, X., & Zhan, Q. “Spatio-temporal analysis of urban heat island and urban metabolism by satellite imagery over the Phoenix metropolitan area” *AGU 2015 Fall Meeting*, San Francisco, California, USA, December 14-18, 2015. (Poster)

**Zhao, Q.**, Myint, S. W., & Wentz, E. A. “Rooftop surface temperature analysis in urban residential environment.” *2015 Annual Meeting of the Association of American Geographers*, Chicago, Illinois, USA, April 21-25, 2015. (Presentation)

**Zhao, Q.**, & Wentz, E. A. “Assessing validation methods for building identification and extraction.” *JURSE 2015*, Lausanne, Switzerland, March 30-April 1, 2015. (Presentation and poster)

2014 **Zhao, Q.**, Wentz, E. A., & Murray, A. T. “Shade optimization in a desert environment.” *2014 Annual Meeting of the Association of American Geographers*, Tampa, Florida, USA, April 8-14, 2014. (Presentation)

2012 **Zhao, Q.**, & Kuai, X. “Land use classification and accuracy assessment based on image fusion of TM and SPOT5.” *The 18<sup>th</sup> China Symposium on Remote Sensing*, Wuhan, Hubei, China, October 20-23, 2012. (Presentation)

## Professional Service

### *Membership of Learned Societies*

2018-2021 Board Member, Spatial Analysis and Modeling Specialty Group, American Association of Geographers (<http://sam-aag.org/officers.html>).

### *Research Grant Proposal Reviewer*

- *UK Research and Innovation – Economic and Social Research Council (ESRC)*
- *UK Research and Innovation – Engineering and Physical Sciences Research Council (EPSRC)*
- *UK Research and Innovation – Global Challenges Research Fund*
- *University of Wisconsin-Milwaukee’s Discovery and Innovation Grant*

### *Journal Reviewer*

- *Journal of Geophysical Research: Atmospheres*
- *Energy Policy*
- *ISPRS International Journal of Geo-Information*
- *Land Degradation & Development*

- *IEEE Geoscience and Remote Sensing Letters*
- *Environment and Planning B: Urban Analytics and City Science*
- *Annals of GIS*
- *Sustainable Cities and Society*
- *PeerJ*
- *Sustainability*
- *Ecosystem Health and Sustainability*
- *Transportation Research Record*
- *Computers, Environment, and Urban Systems*
- *Computers, Environment, and Urban Systems*
- *International Journal of Remote Sensing*
- *PLOS ONE*
- *Landscape and Urban Planning*
- *Atmosphere*
- *Natural Hazards*
- *Journal of the American Water Resources Association*
- *Urban Forestry & Urban Greening*
- *Royal Society Open Science*

#### *Book Chapter Reviewer*

- “*Integrating Scale in Remote Sensing and GIS*”, CRC Press, Taylor & Francis Group.
- “*Human Dynamics in Smart Cities*”, Springer.

#### *Editorial Appointments*

- 2019-2020 Guest Editor, *Annals of GIS*, [GIS and Urban Data Science](#) (with Dr. Yijing Li and Dr. Chen Zhong)
- 2018-2019 Guest Editor, *Remote Sensing*, Remote Sensing of Urban Ecology and Sustainability (with Prof. Elizabeth A. Wentz. [Link to the Special Issue.](#))

#### *Professional Service*

- 2019-2021 Session Chair and Co-organizer, *Urban Data Science: Methods, Models, and Applications for Our Changing Cities*, 2020 Annual Meeting of the American Association of Geographers, Denver, Colorado, USA (<https://aag.secure-abstracts.com/AAG%20Annual%20Meeting%202020/sessions-gallery/25255>) and 2021 Annual Meeting of the American Association of Geographers, Seattle, Washington, USA (<https://aag.secure-abstracts.com/AAG%20Annual%20Meeting%202021/sessions-gallery/27313>) (Virtual Sessions).
- 2018-2019 Bibliography Committee Member, International Association for Urban Climate
- 2017 Session Chair and Co-organizer, *Urban green infrastructure: geospatial and climate application*, 2018 Annual Meeting of the American Association of Geographers, New Orleans, Louisiana, USA (<https://aag.secure-abstracts.com/AAG%20Annual%20Meeting%202018/sessions-gallery/457>).
- 2017-2018 Science Advisor, NASA DEVELOP National Program
- 2015 Session Co-Chair, *Applications of urban remote sensing*, Joint Urban Remote Sensing Event (JURSE) 2015, Lausanne, Switzerland.

#### *University Service*

- 2020-now Core Member, Research Integrity and Openness Working Group, Urban Studies, School of Social and Political Sciences, University of Glasgow
- 2019-now Programme Convener, MSc in Urban Analytics, Urban Studies, School of Social

and Political Sciences, University of Glasgow  
2015-2016 Secretary, ASU Student Chapter of American Society for Photogrammetry &  
Remote Sensing (ASPRS).

### **Professional Society Membership**

American Association of Geographers  
Chinese Professionals in Geographic Information Sciences  
International Association for Urban Climate  
IEEE Geoscience and Remote Sensing Society  
Association of British Chinese Professors