CURRICULUM VITAE

WENWEN ZHANG

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EDUCATION

Georgia Institute of Technology

Ph.D. in City and Regional Planning   May 2017 (Expected)
Dissertation: The Interactions between Land Use and Transportation in the Era of Shared
Autonomous Vehicle: A Discrete Simulation Model
Committee: Dr. Subhrajit Guhathakurta (Chair), Dr. Steven P. French, Dr. Ram Pendyala,
Dr. Richard Fujimoto, Dr. Bistra Dilkina

Master in City & Regional Planning   May 2013
M.S. in Civil & Environmental Engineering   May 2013
M.S. in Computational Science & Engineering   May 2017 (Expected)
Thesis: The Effects of Compact Development on Travel Behavior, Energy Consumption and
GHG Emissions: Lessons from Neighborhoods in Phoenix Metropolitan Area
Committee: Dr. Subhrajit Guhathakurta (Chair), Dr. Steven P. French, Dr. Yanzhi Xu

Zhejiang University

B.E. in City & Regional Planning   July 2011
Option Paper: Develop Urban Growth Boundary using Cellular Automata Model based on
Green Infrastructure Analysis: A Case Study of Chun'An County, China
Advisor: Dr. Yonghua Li

RESEARCH INTERESTS

Innovative Transportation and Land Use Interaction; Sustainable Transportation; Energy
Consumption; Urban Simulations; Big & Open Data; Applied Machine Learning in Urban
Studies.

PUBLICATIONS

Refereed Journal Articles

Zhang, G., **Zhang, W.**, Guhathakurta, S., Botchwey, N., *(forthcoming)* Development of a community planning support system based on open data: Flow-based Planning Tool in City of Atlanta. *Environment and Planning B: Urban Analytics and City Science.*

Zhang, W., Guhathakurta, G. *(forthcoming)* Parking spaces in the age of shared autonomous vehicles: How much parking will we need and where? *Transportation Research Record: Journal of Transportation Research Board.*

Grikapati, V. M., You, D., **Zhang, W.**, Pendyala, R. M., Guhathakurta, S., Brown, M. A., Dilkina, B. *(forthcoming)* Estimating household travel energy consumption in conjunction with a travel demand forecasting model. *Transportation Research Record: Journal of Transportation Research Board.*

Zhang, W., Guhathakurta S., Ross, C. (2016) Trends in automobile energy use and GHG emissions in suburban and inner city neighborhoods: lessons from metropolitan Phoenix, USA, *Energy Procedia*, 88, 82-85.

Zhang, W., Guhathakurta, S., Fang, J., Zhang, G.(2015) Exploring the impact of shared autonomous vehicles on urban parking demand: An agent-based simulation approach, *Sustainable Cities and Society*, 19, 34–45.

Refereed Journal Articles Under Review

Zhang, W., Wang, F., Barchers, C., Lee, Y., The impact of TOD on housing value resilience: evidence from the City of Atlanta. Submitted to *Journal of Planning Education and Research* (Under Review).

Manuscripts Under Preparation

Zhang, W., Guhathakurta, S., Residential Location Choices for Workers in the Era of Shared Autonomous Vehicles.

Zhang, W., Guhathakurta, S. Shared Autonomous Vehicles and Employment Agglomeration: An Agent-based Simulation Model.

Zhang, W., Guhathakurta, S. Pendyala, R. M., Dilkina, B., Brown, M. A., Grikapati,V. M., You, D. Residential Energy Consumption Estimation: A machine learning and synthesizing approach.

Book Chapters

French, S., Barchers, C., **Zhang, W**.(2015) How should planners be trained to handle big data, In *Seeing Cities Through Big Data - Research, Methods and Applications in Urban Informatics.* Thakuriah, P., Tilahun, N., Zellner, M.(Eds.) Springer International Publishing.

Peer-Reviewed Conference Proceedings

Madaio, M., Chen, S., Haimson, O. L., **Zhang, W.**, Cheng, X., Hinds-Aldrich, M., Chau, D., Dilkina, B., *Firebird: Predicting Fire Risk and Prioritizing Fire Inspections in Atlanta*, ACM

SIGKDD on Knowledge Discovery and Data Mining Conference, August 13-17, San Francisco, CA, 2016.

Zhang, G., **Zhang, W.**, Guhathakurta, S., *Development and Application of Guideline for open source data based community planning support system development: Neighborhood quality of life and health in City of Atlanta*, Computers in Urban Planning and Urban Management Conference, July 7-10, Boston, MA, 2015.

French, S., Barchers, C., **Zhang, W.**, *Moving beyond Operations: Leveraging Big Data for Urban Planning Decisions*, Computers in Urban Planning and Urban Management Conference, July 7-10, Boston, MA, 2015.

Zhang, W., Guhathakurta, S., Fang, J., Zhang, G., *The Performance and Benefits of a Shared Autonomous Vehicles Based Dynamic Ridesharing System: An Agent-Based Simulation Approach.* Transportation Research Board Meeting, January 11-17, Washington D.C., 2015.

Zhang, W., Carragher, M., Jacobs, A. *Spider Maps: Summary of Best Practices and Guide to Design*, Transportation Research Board Meeting, January 11-17, Washington D.C., 2014.

Zhang, W., Guhathakurta, S., Xu, Y., *The Effects of Compact Development on Travel Behavior, Energy Consumption and GHG Emissions: Lessons from Neighborhoods in Phoenix Metropolitan Area*, Joint Association of European Schools of Planning/Association of Collegiate Schools of Planning Congress, July 15-19, Dublin, Ireland, 2013.

French, S., **Zhang, W.**, *The Role of Modeling and Simulation in Creating Resilient Cities*, Joint Association of European Schools of Planning/Association of Collegiate Schools of Planning Congress, July 15-19, Dublin, Ireland, 2013

AWARDS, HONORS, AND FELLOWSHIPS

Knowledge Discovery and Data Mining (KDD) Conference Best Student Paper Award Runner Up (Applied Data Science Track) 2016

Georgia Planning Association (GPA) Annual Outstanding Student 2013

Best Research Poster in GIS Day Mapping Competition 2013

Second Prize in Chinese Undergraduate Mathematical Modeling Competition 2011

China Nandu Innovation Scholarship($1,200) 2008, 2010

Zhejiang University First Grade Scholarship ($1,000) 2007, 2009, 2011

China's National Scholarship ($1,500 Granted by China's Department of Education) 2007

INVITED TALKS

Predicting Fire Risk in Atlanta at Atlanta Fire and Rescue Department. Invitation received from Chief Baker to present to Atlanta Chief Operating Officer Mike Geisler, Commissioner of the Department of Planning and Community Development, Tim Keane.   July, 2015

The Implementation of GIS Technology in Urban Transportation Planning at School of Urban Planning and Design (SUPD). Peking University, Shenzhen Campus.   June, 2013

Using GIS model builder and Google API to Empower Transit Paper Maps Generation at Metropolitan Atlanta Rapid Transit Authority, Atlanta, GA.   May, 2013

CONFERENCE PARTICIPATION

Papers Presented

Zhang, W., Guhathakurta, G. Parking spaces in the age of shared autonomous vehicles: How much parking will we need and where? Annual Transportation Research Board Meeting, January 7-11, Washington D.C.   2017

Grikapati, V. M., You, D., **Zhang, W.**, Pendyala, R. M., Guhathakurta, S., Brown, M. A., Dilkina, B. Estimating household travel energy consumption in conjunction with a travel demand forecasting model. Annual Transportation Research Board Meeting, January 7-11, Washington D.C.   2017

Zhang, W., Guhathakurta, S. *Residential Location Choices in the Era of Shared Autonomous Vehicles.* Association of College Schools of Planning (ACSP) 56th Annual Conference, November 3-6, Portland, OR   2016

French, S., Barchers, C., **Zhang, W.** *Moving beyond Operations: Using Urban Big Data for Long Range Planning.* Association of College Schools of Planning (ACSP) 56th Annual Conference, November 3-6, Portland, OR   2016

Madaio, M., Haimson, O.L., **Zhang, W.**, Cheng, X., Hinds-Aldrich, M., Dilkina, B., Chau, D., *Identifying and Prioritizing Fire Inspections: A Case Study of Predicting Fire Risk in Atlanta.* Bloomberg Data for Good Exchange, September 28, New York.   2015

Zhang, W, Guhathakurta, s., Fang, J., Zhang, G., *Exploring the Impact of Shared Autonomous Vehicles on Urban Parking Demand.* Association of College Schools of Planning (ACSP) 54th Annual Conference, October 30- November 2, Philadelphia, PA.   2014

French, S., Barchers, C., **Zhang, W.**, How Should Urban Planners Be Trained to Handle Big Data? NSF Workshop on Big Data and Urban Informatics. August 11-12, Chicago, IL.   2014

Zhang, W., Guhathakurta, S., Xu, Y. *The Impact of Compact Development on Travel Behavior, Energy Consumption and GHG Emissions: Lessons Learned from Phoenix Metropolitan Area.* NARSC/RSAI Conference, November 13-16, Atlanta, GA.   2013

Zhang, W., Carragher, M., *Spider Maps: Summary of Best Practices and Guide to Design*, GIS in Transit 2013, October 16-17, Washington D.C.   2013

French, S.,**Zhang, W.**, *From Component to Metro Region: Modeling the Benefits of Nonstructural Seismic Improvement.* NEES Nonstructural Project Meeting. October 26- 27, Reno, NV.   2012

Discussant

Formal Paper Session Transportation IX: Transport Environmental Impacts, North American Regional Science Council/Regional Science Association International Conference, November 13-16, Atlanta, GA.   2013

Moderator

Safety and Technology Session, Association of College Schools of Planning (ACSP) 54th Annual Conference, October 31 - November 2, Philadelphia, PA. 2014

CAMPUS TALKS

Georgia Institute of Technology

Geocoding Using Python and Google API at College of Design. 2016

Practitioner's guide for Data Visualization and Analytics at College of Computing. 2015

TEACHING EXPERIENCE

Instructor of Record

Introduction to GIS (3 Credits, Graduate Course)	Georgia Tech, Spring 2017
Introduction to GIS (3 Credits, Graduate Course)	Georgia Tech, Fall 2016

RESEARCH EXPERIENCE

Graduate Research Assistant

Strategic Energy Institute, Atlanta Energy Consumption Estimation Modeling, PI: Subhrajit Guhathakurta, Ram Pendyala, Marilyn Brown, Bistra Dilkina 2015-2016

Machine Learning the Impact of Built Environment on Pediatric Asthma Inpatients, PI: Jimeng Sun, Bistra Dilkina 2015-2016

Spatial Structure of Road Network for City of Madina, PI: John Peponis 2014

Economic Impact of Atlanta Street Car, PI: Subhrajit Guhathakurta 2014

Urban Form and Energy Use Explored Through Dynamic Networked Infrastructure Model (NSF, CMMI#1031690) PI: Subhrajit Guhathakurta 2012-2013

Simulation of the Seismic Performance of Nonstructural Systems (NSF, CMMI#0721399) PI: Steven French 2011-2013

SERVICE TO PROFESSION

Ad hoc reviewer for various Journals, including J. of Planning Education and Research, J. of Cleaner Production, J. of Traffic and Transportation Engineering, Advances in Civil Engineering, Transportation Research Record.

MEDIA COVERAGE

Embracing Analytics: How communities around the country are utilizing data analytics to predict a host of risk factors and reduce fires, Jesse Roman, May 2, National Fire Protection Association (NFPA). 2016

RELATED PROFESSIONAL SKILLS

Urban Modeling	GIS, TransCAD, CUBE, UrbanSim
Statistics	R, SPSS, STATA, NLOGIT, Matlab, Mathematica
Computer Languages	Python, JavaScipt, CSS, HTML
Databases	SQLite, Microsoft Access
Design	Photoshop, Rhino, 3D Max, AutoCAD