



Yu Han

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EDUCATION

Ph.D. in Urban and Regional Planning <i>University of Florida</i> Dissertation: Agent-based Modeling of Human-Environment Interactions in Coastal Flood Adaptation	2016-2020
MSc. in Electrical and Computer Engineering <i>University of Florida</i>	2018-2019
MSc. in Civil and Environmental Engineering <i>Carnegie Mellon University</i>	2012-2014
BSc. in Environmental Engineering <i>Beijing Institute of Technology</i>	2008-2012

APPOINTMENT

Assistant Professor in Faculty of Geo-information Science and Earth Observation (ITC) <i>University of Twente, Netherlands</i>	23.06 - Now
Lecturer in Urban Economics and Public Administration <i>Capital University of Economics and Business, China</i>	22.08- 23.05
Postdoc Associate in Landscape Arch&Urban Planning <i>Texas A&M University at College Station</i>	21.10-22.04
Postdoc Fellow in Department of Earth and Environment <i>Florida International University</i>	20.12-21.10
Research Assistant in Urban and Regional Planning <i>University of Florida</i>	16.08-20.12
Research Fellow in Institute of Environment <i>Tsinghua University</i>	14.10-16.08

PUBLISHED ARTICLES

1. Xinyue Ye, Jiaxin Du, Yu Han, Galen D. Newman, David Retchless, Lei Zou, Youngjib Ham, Zhenhang Cai, Developing Human-Centered Urban Digital Twins for Community Infrastructure Resilience: A Research Agenda. *Journal of Planning Literature*. <https://doi.org/10.1177/08854122221137861>

2. Yu Han, Xinyue Ye(*) (2022). Examining the effects of flood damage, federal hazard mitigation assistance, and flood insurance policy on population migration in the conterminous US between 2010 and 2019. *Urban Climate*. <https://doi.org/10.1016/j.uclim.2022.101321>
3. Han, Yu, Huang, Xiao, Ye, Xinyue(*), Dadashova, Bahar (2022). Adaptation planning and hazard mitigation for interdependent infrastructure systems to enhance urban resilience under climate change. *Landscape Architecture Frontiers*. DOI:10.15302/J-LAF-1-030031
4. Zhengsong Lin, Yuting Wang, Xinyue Ye, Yuxi Wan, Tianjun Lu, Yu Han (2022). Effects of Low-Carbon Visualizations in Landscape Design Based on Virtual Eye-Movement Behavior Preference. *Land*. DOI: 10.3390/land11060782
5. Changqing Xu, Xinmei Shi, Mingyi Jia, Yu Han, Rongrong Zhang, Shakeel Ahmad, Haifeng Jia(*) (2022), China Sponge City database development and urban runoff source control facility configuration comparison between China and the US, *Journal of Environmental Management*. <https://doi.org/10.1016/j.jenvman.2021.114241>
6. Yu Han(*), Liang Mao, Xuqi Chen, Wei Zhai, Zhong-Ren Peng, Pallab Mozumder (2022), An agent-based model to simulate human-environment interactions in community flood adaptation. *Risk Analysis*. <https://doi.org/10.1111/risa.13854>
7. Yu Han(*), Pallab Mozumder (2022), Risk-based flood adaptation assessment for coastal buildings based on cloud computing. *Sustainable Cities and Society*, <https://doi.org/10.1016/j.scs.2021.103415>.
8. Yu Han(*), Pallab Mozumder (2021), Building-level Adaptation Analysis under uncertain Sea-Level Rise. *Climate Risk Management*, <https://doi.org/10.1016/j.crm.2021.100305>
9. Yu Han, Changjie Chen, Zhong-Ren Peng(*), Pallab Mozumder (2021), Evaluating impacts of coastal flooding on the transportation system using an activity-based travel demand model: a case study in Miami-Dade County, FL. *Transportation*, <https://doi.org/10.1007/s10584-020-02802-6>
10. Yu Han, Kevin Ash, Liang Mao, Zhong-Ren Peng(*) (2020). An agent-based model for community flood adaptation under uncertain sea-level rise. *Climatic Change*, <https://doi.org/10.1007/s10584-020-02802-6>
11. Yu Han, Zhong-Ren Peng(*) (2019). The integration of local government, residents, and insurance in coastal adaptation: An agent-based modeling approach. *Computers, Environment and Urban Systems*, <https://doi.org/10.1016/j.compenvurbsys.2019.04.001>.

12. Wei Zhai, Xueyin Bai, Yu Shi, Yu Han, Zhong-Ren Peng(*), Chaolin Gu (2019). Beyond Word2vec: An approach for urban functional region extraction and identification by combining Place2vec and POIs. *Computers, Environment and Urban Systems*, <https://doi.org/10.1016/j.compenvurbsys.2018.11.008>.
13. Yu Han, Haifeng Jia(*) (2017). Simulating the spatial dynamics of urban growth with an integrated modeling approach: A case study of Foshan, China. *Ecological modelling*, <https://doi.org/10.1016/j.ecolmodel.2016.04.005>.

ARTICLES UNDER REVIEW

1. Yu Han, Xinyue Ye, et al. The impacts of social vulnerability and public disaster assistance on community development. *Risk Analysis*. (under review)
2. Wei Zhai, Mengyang Liu, Yu Han. Dynamic neighborhood isolation and resilience during the pandemic in America's 50 largest cities. *Journal of Planning Education and Research*. (under review)
3. Yu Han, Xinyue Ye, Kayode Atoba, Retreat from flood zones: simulating parcel urban land use change under community buyout policies. *Sustainable Cities and Society* (under review)

PROFESSIONAL REPORTS

1. Zhong-Ren Peng, Yu Han, Life Cycle Costs and Benefits Analysis of Freight Transportation Projects, BDV31 977-119, Florida Department of Transportation(FDOT)

DEVELOPED SOFTWARE

- Yu Han, Haifeng Jia, Weize Song. *A land use change simulation system based on multi-criteria evaluation*. Tsinghua University. 2015
- Yu Han, Zhong-Ren Peng. *Life Cycle Cost and Benefit Analysis of Freight Transportation, FreighTEC 2.0*. Florida Department of Transportation (FDOT). 2020

WRITTEN PROPOSALS

- *Focused CoPe: Climate Change, Coastal Hazards, and Human Health (C3H3) Hub*. PI: Pallab Mozumder. National Science Foundation Coastlines and People (CoPe). Submitted December 2021
- *Impact of Flood Risk and Adaptation Approaches on Future Property Values in Houston*. PI: Xinyue Ye. Lincoln Institute of Land Policy. Submitted October 2021

CONFERENCE PRESENTATION

- Yu Han, Xinyue Ye. 2022. Symposium on Human Dynamics Research: Geospatial modeling of climate risk and community resilience. AAG 2022 Annual Meeting (virtual)
- Yu Han. 2022. Agent-based modeling to evaluate community flood adaptation strategies using cloud computing. AAG 2022 Annual Meeting (virtual)
- Yu Han. 2021. Examining Social and Institutional Barriers on Flood Resilience in the US. ACSP 2021 Annual Conference (virtual)
- Yu Han. 2020. Probabilistic Assessment of Community Flood Adaptation based on Cost-Benefit Analysis under Sea-Level Rise. Virtual SRA 2020 Annual Meeting (https://youtu.be/wmfGi6H2Y_Q).
- Yu Han, Changjie Chen, Ruth L. Steiner, Zhong-Ren Peng. 2021. Evaluating Impacts of Coastal Flooding on the Transportation System Using Activity-based Modeling: a Case Study in Miami-Dade County, FL. Proceedings of the Transportation Research Board (TRB) 100th Annual Meeting, Washington, D.C., USA
- Yu Han, Zhong-Ren Peng. 2019. Agent-based Modeling of Individual Behavior Dynamics on Flood Disaster Risk Assessment, A case study in Miami Beach. The 2018 ACSP 58th Annual Conference, Buffalo, New York
- Yu Han, Zhong-Ren Peng. 2019. Evaluating the Accessibility of Highway Network and Community Cost from the Damage of Coastal Storms. Proceedings of the Transportation Research Board (TRB) 98th Annual Meeting, Washington, D.C., USA
- Yu Han, Zhong-Ren Peng. 2018. Agent-based Modeling of the Evolution of Attitudes on Flooding Risk in Coastal Areas in Miami. The 2017 American Association of Geographers (AAG) annual meeting, New Orleans, Louisiana

RESEARCH EXPERIENCE

Texas A&M University, Postdoc 2021 - 2022
Synchronizing Decision-Support via Human- and Social-centered Digital Twin Infrastructures for Coastal Communities (NSF project, Role: participant)

1. Fusion and high-performance delivery of social-centered and infrastructural datasets to support design and planning simulation
2. Integrating multi-source of information to support adaptation in coastal communities

3. Design of an intelligent decision support platform that integrates an array of different modeling perspectives to support analytics and visualization of scenarios of interests

Florida International University, Postdoc 2020 - 2021
Organizing Decentralized Resilience in Critical Interdependent-infrastructure systems and Processes (NSF project, Role: participant)

1. Developed a risk-based flood damage model to estimate the long-term infrastructure damage to storm surges
2. Utilized multi-threaded programming to analyze flood risk of large-scale coastal buildings using cloud computing
3. Conducted scenario analysis to incorporate social vulnerability and public adaptation policies in adaptation analysis
4. Evaluated parameter uncertainties using global sensitivity analysis based on Monte Carlo simulation

University of Florida, Research assistant 2019 - 2020
Life Cycle Costs and Benefits Analysis of Freight Transportation Projects (FDOT project, Role: Co-PI)

1. Developed methodology to measure life-cycle costs of transportation projects based on FWHA's LCCA guide
2. Implemented software interface (based on Python) to calculate life-cycle cost and benefit of transportation projects
3. Conducted case studies for FDOT to measure costs and benefits of transportation investments
4. Prepared reports and presentations

TEACHING EXPERIENCE

URP6821: Transportation and Land Use Modeling Spring 2020
Teaching Assistant

Introduction of Urban Data Science Fall 2022
Co-taught with other faculties

TECHNICAL SKILLS

- *Programming* **Java, Python, R, Matlab, C, C++, Linux, etc.**
- *Mathematics* **Machine/Deep Learning, Linear Programming**
- *Databases* **Postgres, MySQL, and Oracle**
- *Software & Packages* **TensorFlow, GIS, MATSim, LaTeX, etc.**

REVIEWER FOR INTERNATIONAL JOURNALS AND CONFERENCES

- *Computers, Environment, and Urban System*
- *The Transportation Research Board (TRB)*
- *Ecological Modeling*
- *Nature Climate Change*

AWARDS

1. 2016-2020, University of Florida Graduate Research Assistant Scholarship
2. 2020, Urban and regional planning, University of Florida Paul and Malea Zwick Graduate Student Award (\$550)
3. 2019, The Institute of Transportation Engineers, University of Florida Travel Award (\$700) for the TRB Annual Meeting 2019 in Washington DC
4. 2018, Urban and regional planning, University of Florida Travel Award (\$200) for the 2018 ACSP 58th Annual Conference, Buffalo, New York
5. 2017, Urban and regional planning, University of Florida Travel Award (\$400) for the AAG annual meeting, New Orleans, Louisiana
6. 2012-2013, Carnegie Mellon University Partial Graduate Tuition Waiver
7. 2009-2010, Beijing Institute of Technology University Undergraduate Scholarship