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(a) Professional Preparation

Hebei University of Technology	Tianjin, China	Civil Engineering	B.S.	2003
Beijing University of Technology	Beijing, China	Transportation Planning	M.S.	2006
University of Massachusetts	Amherst, MA	Applied Mathematics	M.S.	2010
University of Massachusetts	Amherst, MA	Civil Engineering	Ph.D.	2010

(b) Appointments

07/2012 - Now Assistant professor, Civil Engineering, Oregon State University, Corvallis, OR
01/2011– 05/2012 Assistant Professor, Civil Engineering, Trine University, Angola, IN
06/2010– 12/2010 Research Associate, IMTrans, Jackson State University, Jackson, MS

(c) Products

Related to project

[1] **H. Wang**, A. Mostafizi, L. A. Cramer, D. Cox, and H. Park. An Agent-based Modeling of a Multimodal Near-field Tsunami Evacuation Decision-Making and Life Safety. *Transportation Research Part C: Emerging Technologies*, Volume 64, Pages 86-100, Mar, 2016.

[2] A. Mostafizi, **H. Wang**, D. Cox, L. Cramer, and S. Dong. Agent-Based Tsunami Evacuation Modeling of Unplanned Network Disruptions for Evidence-driven Resource Allocation and Retrofitting Strategies. *Natural Hazards*, May 2017, Pages 1-26.

[3] A. Mostafizi and **H. Wang**. An Agent-Based Model of Tsunami Vertical Evacuation Sheltering Behavior: Case Study of Seaside, Oregon. *Submitted to International Journal of Disaster Risk Reduction.* June 17. 2017.

[4] P. Murray-Tuite, **H. Wang**, C. Zobel, Y. Ge, R. Nateghi. Critical Time and Space Considerations for Data and Modeling in Interdisciplinary Hazards and Disasters Research. *Submitted to Risk Analysis*, July 2017.

[5] Y. Ge, C. Zobel, P. Murray-Tuite, **H. Wang**, & R. Nateghi. Consideration and Guidance of Building an Interdisciplinary Team for Rapid Response Disaster Research. *Submitted to Risk Analysis*, July 2017.

Others of significance

[6] S. Dong, A. Mostafizi, & **H. Wang**. Measuring the Topological Robustness of Transportation Network Under Random Failures: A Percolation Approach. *Submitted to Transportation Research Part A: Policy and Practice*, June 23, 2017.

[7] C. A. Davis, A. Mostafavidarani, & **H. Wang**. Establishing Characteristics to Operationalize Resilience for Lifeline Systems. *Submitted to ASCE Natural Hazard Review*, June 15, 2017.

[8] S. Dong, A. Mostafizi, **H. Wang,** and P. Bosa. Post-disaster Mobility in Disrupted Transportation Network: Case Study of Portland, Oregon. The 7^{th} China-Japan-US Trilateral Symposium on Lifeline Earthquake Engineering, Shanghai, China, June 2016.

[9] S. Andrews, **H. Wang**, D. Ni, J. Collura and S. Gao. Development and Implementation of an Adapted Planning Methodology in the Event of Two Hurricane Evacuation Scenarios in Western Massachusetts. *Journal of Transportation Safety & Security* 2(4):352-368. doi:10.1080/19439962.2010.517743.

[10] **H. Wang**, S. Andrews, J. Collura, and D. Ni. Scenario-based Analysis of Transportation Impacts in Case of Dam Failure Flood Evacuation in Franklin County, Massachusetts. *The* 89^{th} *Transportation Research Board (TRB) Annual Meeting*, 2010.

(d) Synergistic Activities

1. Dr. Wang was invited to attend the series of NSF Workshop on "**Methods of Disaster Research: Interdisciplinary Approaches"**, National Science Foundation, March 30-31st, 2017. A special issue associated with this series of workshop is being published with Risk Analysis.
2. Dr. Wang has conducted five **experiential tsunami evacuation drills** at the South Beach State Park, Newport, Oregon in collaboration with colleagues Drs. Daniel Cox and Lori Cramer, and Oregon Parks and Recreation Department, OSU Hatfield Marine Science Center (HMSC). The drills were on 02/18, 05/11 (with Teen CERT from Toledo Junior High School Students), 06/16, 06/29 (role-playing experiential drills), and 07/13 (Tsunami after the dark night drill). Another drill with OSU HMSC REU student group is scheduled on 08/10 of 2017. Drill participants' trajectories data are voluntarily collected to inform and validate an agent-based tsunami evacuation model. These drills has raised the awareness of tsunami risk. `http://oregonstateparks.org/index.cfm?do=v.dsp_newsStory&newsId=200` and `https://newportnewstimes.com/article/finding-high-ground`.
3. Dr. Wang received funding several collaborative research projects, including, a project funded through the **NOAA Sea Grant program** titled "Building resilient coastal communities: A social assessment of mobile technology for tsunami evacuation planning" with collaborators: Drs. Lori Cramer and Dan Cox. The project combines transportation and coastal engineering with social science to develop and evaluate a Tsunami Evacuation App for wayfinding during tsunami evacuation drills to prepare the Oregon coastal communities in a nearfield tsunami.
4. Dr. Wang is conducting two projects through the **Cascadia Lifeline Program (CLiP)** on "**Post-disaster Accessibility of Critical Hospital Facilities in Portland**" using Portland Metro area as a case study site through The purpose of this project is to develop a resilience-based network framework that takes into account the unplanned infrastructure disruptions in addition to aiding in the prioritization of limited retrofitting resources that will help minimize the impacts of large disasters (e.g., earthquake, tsunamis, etc.).
5. Dr. Wang is an active member of the Transportation Research Board and serves as standing committee members for **ABR30: Emergency Evacuation Committee**; AHB45: Traffic Flow Theory and Characteristics; and ABJ70: Artificial Intelligence and Advanced Computing Applications; and ASCE Infrastructure Resilience Division (IRD) through subcommittees on Transportation, Risk and Resilience Measurements, and Emerging Technologies. Dr. Wang was awarded the **2014 ASCE Journal of Transportation Engineering Outstanding Reviewer**. He served as reviewer for 17 different peer-review journal publications including the Transportation Research Part B: Methodological, and Part C: Emerging Technologies; Natural Hazards, and ASCE Natural Hazard Review. He as also served as an organizing committee member for conferences and as technical session chair. Dr. Wang has published 27 peer-reviewed journal articles and 50 conference papers.
6. Dr. Wang is actively participating in multiple **ASCE projects on "Earthquake-Flood Multihazard Impacts on Lifeline Systems" and "Establishing the Characteristics of Lifeline Systems".** The multihazard project is an international effort organized by ASCE with China, Japan, and New Zealand investigating their most recent large events to document the increased risk of flooding following earthquakes and impacts to lifeline systems. A monograph on "China Earthquakes: 2008 Wenchuan and 2013 Lushan" is being drafted by a group of international scholars from the US, Canada, and China. **Dr. Wang is leading the chapter on "Transportation Systems"** collaborating with the China Earthquake Administration through Dr. Aiwen Liu and his lifeline research group. This chapter describes impacts of post-earthquake flooding and mitigations undertaken on transportation systems. Impacts to roads, railroads, and boat transportation are included. This chapter will include any impacts to river ports and harbors. The rivers serve as transportation systems and, as a result, dam landslides and resulting lakes inherently impacted this mode of mobility. The monograph also intends to provide information on short and long-term earthquake-flood multihazard impacts to lifelines and any mitigation or emergency planning recommendations.