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(60) 2015 Annual Meeting, Chicago, Illinois

Paper Session:

2659 Urban Emergency Issues under Critical Infrastructure Disruption

is scheduled on Wednesday, 4/22/2015, from 5:20 PM - 7:00 PM in Dusable, Hyatt, West Tower, Silver Level

Sponsorship(s):
Hazards, Risks, and Disasters Specialty Group
Urban Geography Specialty Group
Spatial Analysis and Modeling Specialty Group

Organizer(s):
Wei Lu - Oak Ridge National Laboratory
Rajasekar Karthik - Oak Ridge National Laboratory

Chair(s):
Wei Lu - Oak Ridge National Laboratory

Abstract(s):

5:20 PM Author(s): *Hyun Kim - University of Tennesee
Qian Ye - University of Tennessee

Abstract Title: *Assessing vulnerability of public transit systems: A reliable paths optimization approach*

5:40 PM Author(s): *Steven Corns - Missouri University of Science and Technology
Lizzette Perez-Lespier - Missouri University of Science and Technology
Suzanna Long - Missouri University of Science and Technology
Tom Shoberg - United States Geological Survey
Hector Carlo - University of Puerto Rico at Mayagüez

Abstract Title: *A System Dynamics Approach to Scoping the Disaster Restoration Problem for Critical Infrastructure Systems*

6:00 PM Author(s): *Melissa Wagner - Arizona State University
Elizabeth Wentz - Arizona State University
scott kelley - Arizona State University

Abstract Title: *Assessing Tropical Storm Vulnerability in an Inland Desert: A Case Study of the 2014 Flash Flood Events in Phoenix, Arizona*

6:20 PM Author(s): *Mei Li - George Mason University
Qian Liu - Peking University
shanjun mao - Peking university

Abstract Title: *Using CALPUFF Model for High Sour Gas Block with Complex Terrain in Real-time Emergency Response System*

6:40 PM Author(s): *Firas Sami Alqatrani, MA - University of Szczecin

Abstract Title: *The Efficiency of Infrastructure Services in the City of Al-Zubair (Iraq) A Study in Urban Geography*

Session Description: Critical infrastructure disruption, caused by severe weather events, natural disasters, hazards transportation, terrorist attacks, etc., has significant impacts on urban systems, especially in the transportation systems. How to maintain essential transportation operations during critical infrastructure disruption is an important issue. The vulnerability of our transportation system, together with power system, water supply system, communication system, and other critical infrastructure systems, determine our mobility, safety, security, and many other issues. With big data and high performance computing techniques, researchers have been developing new approaches and tools to study the urban emergency issues during abnormal situations.

In this proposed session, we would like to have a more robust discussion about different urban emergency issues under critical infrastructure disruption. We especially welcome papers and presentations to address urban mobility issues during critical transportation infrastructure disruption. Papers may address (but are not limited to) the following issues and topics:

•Theoretical development and knowledge discovery in critical infrastructure protection
•Emergency planning using urban big data
•Computational models or tools for urban mobility analysis during disruption
•Population mobility modeling and Prediction during emergencies
•Hazard material transportation issues in urban area
•Transportation network robustness and sensitivity for emergency management
•Communication network performance during disruption
•Innovations in critical infrastructure data collection
•Real-life applications of evacuation planning models
•Multimodal evacuation modeling
•Climate change and adaptation strategies

Please send abstracts of no more than 250 words to luw4@ornl.gov by October 29th, 2014. Selected papers will be notified by November 4th, 2014.

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