

Speaker Info:

Arif Mohaimin Sadri, PhD, EIT

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Bio: Dr. Arif Sadri is an Assistant Professor in the Moss School of Construction, Infrastructure & Sustainability (MSCIS) at the Florida International University (FIU). Previously he was a Visiting Assistant Professor in the Department of Civil & Environmental Engineering at the Rose-Hulman Institute of Technology and an Adjunct Professor in the Civil Engineering Dept. at the Valparaiso University. Dr. Sadri received his doctoral training from the Lyles School of Civil Engineering at Purdue University with a solid background in Civil Engineering (Transportation), Network Science, and Social Science. Dr. Sadri specializes in resilience engineering, evacuation modeling, shared mobility, social influence modeling, machine learning, agent-based modeling, and network modeling. Dr. Sadri's research focuses on the critical interdependence between social and infrastructure networks and integrates human proactive decision-making components into the civil infrastructure management challenges. Dr. Sadri develops human-centered and network-driven techniques that complement to the science of infrastructure resilience and sustainability. Dr. Sadri's research is currently funded by National Science Foundation (NSF), United States Department of Transportation (USDOT), Florida Department of Transportation (FDOT) and United States Agency for International Development (USAID). Dr. Sadri's previous research was funded by the National Science Foundation (NSF), Indiana Department of Transportation (INDOT), Indiana Local Technical Assistance Program (LTAP) and Andrew W. Mellon Foundation.

Title: Towards Network-driven Human-centered Infrastructure Resilience & Sustainability: Insights on Diversity & Inclusion

Abstract: The complex topology of real networks allows network agents to change their functional behavior. Conceptual and methodological developments in network analysis have furthered our understanding of the effects of interpersonal environment on normative social influence and social engagement. Social influence occurs when network agents change behavior being influenced by others in the social network and this takes place in a multitude of varying disciplines. The overarching goal of this talk is to provide a holistic understanding and present novel techniques to explore how individuals are socially influenced, both on-line and off-line, *while making shared- trips, interacting in respective communities, and communicating risk during extreme weather.* The

notion of influence is captured by quantifying the network effects on such decision-making and characterizing how information is exchanged between network agents. The methodologies and findings provide key insights into the implementation of targeted strategies for various user groups in day-to-day as well as crisis events based on their social network characteristics, properties, activities, and interactions. As part of fostering system sustainability and resilience to external shocks, the purpose of identifying influential network agents in co-dependent socio-physical systems will also be discussed. Based on real stories, the talk will conclude how diversity and inclusion activities can be leveraged through social networks and peer influence.

