Civil and Environmental Engineering Seminar

The Sonny Astani Department of Civil & Environmental Engineering presents

Prof. Amir H. Behzadan
Texas A&M

Date: Thursday, September 8, 2022
Time: 2:00 – 3:00 PM
Place: RTH 526

Zoom Meeting:
https://usc.zoom.us/j/98445798429
Meeting ID: 984 4579 8429
Passcode: 960488

"Human-Built Environment Interface: New Frontiers in Artificial Intelligence and Urban Computing"

Abstract: New data analytics and sensing technologies have expanded our understanding of the world. If effectively and responsibly used, these technologies can transform many of the current practices at the interface of the built environment and human life, spanning design, construction, operation, and maintenance of various urban and rural systems, ultimately leading to equitable and resilient societies. Despite recent advancements in AI and big data analytics, major barriers remain in the way these technologies are designed and embedded in our cities and communities. For instance, while the increasing number and severity of climate disasters have generated large volumes of data that can be leveraged to develop new predictive AI capabilities for disaster resilience, there are still open questions about the added value, reliability, and impartiality of AI outcomes particularly given the fast pace of urbanization. In addition, there is a dearth of research on workforce training and reskilling with AI-enabled technologies, particularly given the increasing diversity of the U.S. workforce and the evolving nature of future work in the built environment. To address these challenges, research in the Connected Informatics and Built Environment Research (CIBER) Lab has designed and piloted human-centered AI algorithms and supporting systems that augment human capacities by transforming raw data into actionable spatiotemporal knowledge to support disaster damage assessment and risk communication, urban mobility analysis, and workplace safety and ergonomics. This talk will present the design, implementation, and validation of new AI models and engineering systems for disaster mitigation and construction safety, outline the implications of AI algorithms and computing approaches for improving the quality of human life in the built environment, and discuss opportunities for developing and reskilling the future workforce in this domain.

Bio: Dr. Amir Behzadan is a Professor of Construction Science at Texas A&M University. He is also affiliated with Texas A&M; Data Science Institute, Hazard Reduction and Recovery Center (HRRC), Center for Infrastructure Renewal (CIR), and Geospatial Sciences, Applications, and Technology (GEOSAT) Center. Amir has received his Ph.D. degree in civil engineering and

his M.S. degree in construction engineering and management both from the University of Michigan, Ann Arbor. His research is supported by the National Science Foundation (NSF) and the National Oceanic and Atmospheric Administration (NOAA), and aims at advancing the human-built environment interface by creating equitable, resilient, and productive urban computing systems. Dr. Behzadan has authored 53 peer-reviewed journal articles, 72 peer-reviewed conference papers, and 7 books/book chapters. He has given invited international keynote speeches and a TEDx Talk, and received multiple research, teaching, and service awards including the Best Paper Award in the 4th International Conference on Civil and Building Engineering Informatics (ICCBEI), Outstanding New Teaching Award from the American Society of Engineering Education (ASEE) Southeastern Section, the ExCEEd Fellowship from the American Society of Civil Engineers (ASCE), and several regional and state-level ASCE Outstanding Faculty Advisor Awards. He serves on the editorial board of the ASCE Journal of Construction Engineering and Management, and the Journal of Smart and Sustainable Built Environment.