Rethinking Socio-Cyber-Physical Systems of Tomorrow: Health, Security, Safety & Resilience

NSF CPS PI Meeting Workshop


Communication Authenticity
Socio-Cyber-Physical System Resilience
AI + Communication and Information Technology
Traits:
• Large-Scale
• Increasing Complexity
• Far-Reaching
• Globally Connected
Increasing Interactions:
• Humans
• Social Activities
• Physical Activities
• Service and Functionality Conflicting
• Resilience Lacking
• Vulnerability Exposing: Security
Socially Responsible Management

Domain 1: Communication Authenticity



Dr. Keri Stephens is a Professor in the Moody College of Communication at The University of Texas at Austin. She has strong track record of examining the role of technology in organizational practices and organizing processes, especially in contexts of crisis, disaster, and health. Her presentation is ***Social Media and Mobile Communication During Crisis.***



Dr. Joshua Introne is an Assistant Professor in the iSchool at Syracuse University, with a proven track record of research in collective intelligence in socio-technical system. His presentation is ***Online Dynamics of Misinformation.***

Domain 2: Socio-Cyber-Physical System Resilience



Dr. Katherine Lieberknecht is an assistant professor in the School of Architecture at The University of Texas at Austin, with well recognized expertise in urban water resources planning, metropolitan-scaled green infrastructure planning, and urban climate planning. Her presentation is ***Understanding Urban Social–Ecological–Technical Systems: Disaster Resilience.***



Dr. Haizhong Wang is an associate professor in the school of civil and construction engineering at Oregon State University, with well recognized expertise in emergency evacuation and disaster response, and post-disaster transportation network resiliency and recovery. His presentation is ***Socially and Cognitively Aware Emergency Management Framework***.

Domain 3: Socially Responsible Management



Dr. Desheng Zhang is an assistant professor of Computer Science at Rutgers University and a Visiting Professor at MIT, with well recognized expertise in human cyber-physical systems and data science from sensing. His presentation is ***Socially Aware Conflict Management Framework.***



Dr. Yanbing Mao is a postdoctoral research associate of University of Illinois at Urbana-Champaign, with expertise in social inference, social networks and safe control of self-driving vehicles. His presentation is ***Managing Infodemics to Enhance Health Resilience and Health Equality***.