

# INTERDISCIPLINARY RESILIENCE SCIENCE

## FRIDAY: SESSION 1, TRACK 2

### SESSION CHAIRS

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- Elaina Sutley, University of Kansas
- Sara Hamideh, Stony Brook University

### SPEAKERS

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- Elaina Sutley, University of Kansas
- Diana Mitsova, Florida Atlantic University
- Ali Mostafavi, Texas A&M University

### SESSION ABSTRACT

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Disaster research has long been concerned with community resilience. However, it has primarily been executed in disciplinary silos. To understand and mitigate the cross-disciplinary disaster impacts, we must complement attention to physical, technical, and scientific approaches to risk reduction with attention to the complex, ever changing, and disparate conditions that shape a community's hazard exposure, and progress towards recovery after a disaster. Rising disaster risks and losses call for a novel approach to extreme events research that focuses on the interconnections between technical, ecological, social, cultural, and economic systems. This session will include three invited speakers tackling different aspects of community resilience while working across disciplinary lines in their approach to community resilience. Each speaker will have 15 minutes to present. All questions will be discussed at the end during a 15-minute Q&A with the audience.

### TOPICS

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The topics of the presentations will include (1) an interdisciplinary framework for prioritizing mitigation and recovery of the built environment through an assessment of relationships between organizations and the community capitals, namely, built, financial, political, social, human, cultural, and natural, measured through supply chain functions and users; (2) integration of social science research in simulation models of infrastructure recovery and emergency management planning; and (3) a predictive epidemic spread model that accounts for uncertainty in human behaviors and perturbations in urban supply chains during an epidemic outbreak.