

2023 NIST-NSF Disaster Resilience Research Symposium

Agenda

Dates: August 23 - 24, 2023



Day 1: August 23, 2023							
ET	CT	MT	PT				
10:00	9:00	8:00	7:00	Welcome from the Symposium Co-Chairs N. Bouvet / D. Yeo (NIST)			
10:05	9:05	8:05	7:05	Opening Remarks by NIST Associate Director for Laboratory Programs Charles Romine (NIST)			
<i>Keynote #1:</i>							
10:15	9:15	8:15	7:15	by U.S. Department of Homeland Security Senior Science Advisor for Resilience, "Research, Development, and Innovation for Enhancing Resilience of Cyber-Physical Critical Infrastructure" David Alexander (DHS)			
11:15	10:15	9:15	8:15	15 min break			
Concurrent Sessions		Track 1: Windstorm Session 1		Speaker	Track 2: Infrastructure and Community Resilience Session 1		Speaker
11:30	10:30	9:30	8:30	Measurement of Near-Surface Pressure, Wind and Wind-Induced Load Characteristics Using Novel Sensors in Thunderstorm, Tornado and Tornado-Like Environments Franklin Lombardo	Disaster Recovery and Response Innovation through Fuel Cell Deployment Arnav Gautam		
12:00	11:00	10:00	9:00	Wireless Sensor Network (WSN) System and LIDAR Experiments for the Characterization of Strong Wind Loads on Non-Structural Components and Near-Surface Wind Profiles Chelakara Subramanian, Steve Lazarus	Leveraging Uncertain Disaster Field Data for Community-Scale Assessment of Connected Buildings and Lifelines Iris Tien		
12:30	11:30	10:30	9:30	Analysis, Comparison and Experiment Investigation of Hurricane Wind, Storm-Surge and Wave Load Model Landolf Rhode-Barbarigos	Assessing the Utility of Safe-to-Fail Design to Improve Climate Hazards Resilience of Interdependent Infrastructure Systems Giuseppe Mascaro		
1:00	12:00	11:00	10:00	45 min break			
Concurrent Sessions		Track 1: Windstorm Session 2		Speaker	Track 2: Infrastructure and Community Resilience Session 2		Speaker
1:45	12:45	11:45	10:45	Enhancing Windstorm Resilience of Coastal Communities Through Ultra-High Performance Glass Fiber Reinforced Polymer Concrete Seawalls Prannoy Suraneni	Collaborative Research: Examining the Vulnerability and Recovery of Small Farms to Natural Hazards and the Impact to Rural Community Resilience Christine Wittich		
2:15	1:15	12:15	11:15	Collaborative Research: Assessment of Building Resiliency in Tornadoes Considering Transient Internal Pressure Effects Delong Zuo	Assessing Urban Post-Earthquake Community Recovery to Inform Pre-Disaster Planning Jack Baker, Omar Issa		
2:45	1:45	12:45	11:45	4-D Measurement and Modeling of Engineering-Relevant Windstorm Characteristics John Schroeder	Scalable Assessment of Urban Earthquake Resilience: A Novel Model-informed Deep Learning Paradigm Mehrdad Sasani		
3:15	2:15	1:15	12:15	15 min break			
Concurrent Sessions		Track 1: Windstorm Session 3		Speaker	Track 2: Infrastructure and Community Resilience Session 3		Speaker
3:30	2:30	1:30	12:30	Spatiotemporal Maps of Damaging Winds from Integrated Remote and In Situ Observations Michael Biggerstaff	Collaborative Research: Understanding Urban Resilience to Pluvial Floods Using Reduced-Order Modeling Daniel Wright		
4:00	3:00	2:00	1:00	Characterization of Hurricane Boundary Layer Turbulence for Wind Hazard Mitigation Marco Giometto	Leveraging Crowdsourced Data to Assess Spatiotemporal Patterns of Resilience in Diverse Gulf Coast Communities Impacted by Natural Hazards Michelle Hummel		
4:30	3:30	2:30	1:30	Reconstruction of Four-Dimensional Near-Surface Wind Characteristics from Debris and Damage Attributes using Computer Vision David Roueche	Modeling Intergovernmental Fiscal Impacts of Coastal Hazards Clinton Andrews		
5:00	4:00	3:00	2:00	15 min break			
5:15	4:15	3:15	2:15	Special Discussion Session Featuring Ms. Toni-Shae Freckleton, Chief of the New York Liaison Office of the UN Office for Disaster Risk Reduction (UNDRR): "Bridging the Science-Policy Divide: From Resilience Thinking to Resilient Practices", Moderator: Sezin Tokar (USAID)			
5:45	4:45	3:45	2:45	End of Day 1			

ET	CT	MT	PT	Day 2: August 24, 2023			
10:00	9:00	8:00	7:00	Welcome from the Symposium Co-Chairs			N. Bouvet / D. Yeo (NIST)
10:05	9:05	8:05	7:05	Opening Remarks from NSF's Assistant Director for Engineering			Susan Margulies (NSF)
<i>Keynote #2:</i>							
10:15	9:15	8:15	7:15	by NASA Disasters Program Manager, "From Space to Solutions: Empowering Disaster Resilience through Earth System Science"			Shanna McClain (NASA)
11:15	10:15	9:15	8:15	15 min break			
<i>Concurrent Sessions</i>		Track 1: Earthquake Session 1		Speaker	Track 2: Infrastructure and Community Resilience Session 1		Speaker
11:30	10:30	9:30	8:30	Collaborative Research: Development of Realistic Seismic Input Motions for Improving the Resilience of Infrastructure to Earthquakes		Chanseok Jeong, Boris Jeremic	Collaborative Research: Quantifying the Risk & Impact of Wind and Hail Storms in a Warming Climate John Allen
12:00	11:00	10:00	9:00	Residual Axial & Lateral Load Carrying Capacity of Pile Supported Marine Terminal Exhibiting Seismically-induced Local Buckling in Inground Plastic		Jose Restrepo	Innovative Measurement and Modeling of Dynamical Social and Health Effects of Windstorms Wei Song, Zhen Cong, Guofeng Cao
12:30	11:30	10:30	9:30	Resilience of Steel Moment Frame Systems with Deep, Slender Column Sections		Jason McCormick	An Integrated Housing Design and Logistics Operations Modeling and Analysis Framework for Hurricane Relief Yongjia Song, Dustin Albright, Weichiang Pang
1:00	12:00	11:00	10:00	45 min break			
<i>Concurrent Sessions</i>		Track 1: Earthquake Session 2		Speaker	Track 2: Fire Session 2		Speaker
1:45	12:45	11:45	10:45	Developing a Selective Column Retrofit Framework for Damaged and Aging Reinforced Concrete Bldgs. to Improve Community Resilience after Earthquakes		Sergio Brena, Omid Monshi Toussi	Collaborative Research: Wildland Urban Interface & the Built Environment Design, Evacuation & Retreat Under No-Notice Fire Hazards Daniel Orlando Rivera Royero, Dwi Marhaendro Jati Purnomo, Behnam Tahmasbi
2:15	1:15	12:15	11:15	Designing for and Assessing Functional Recovery in Seismic Retrofit of Existing Concrete Buildings: A Framework		Abbie Liel, Maria Koliou	Quantitative Measurement of Wildfire Behavior in the Field: Leveraging Remote Sensing for Reproducible Observation and Improved Understanding Mario Miguel Valero
2:45	1:45	12:45	11:45	15 min break			
<i>Concurrent Sessions</i>		Track 1: Earthquake Session 3		Speaker	Track 2: Fire Session 3		Speaker
3:00	2:00	1:00	12:00	Seismic Assessment and Retrofit Methods for Existing Non-Ductile Reinforced Concrete Wall Structures		Ioannis Koutromanos	Development of a Fundamental Model for Ignition of Structural Wildland-Urban Interface (WUI) Fuels Subjected to Firebrand Attack Jacques de Beer, Michael Gollner
3:30	2:30	1:30	12:30	Seismic Rehabilitation of Existing Unreinforced Masonry Buildings		Andreas Stavridis	Forecasting WUI Fire Resilience: Quantifying Firebrand Generation and Transport to Identify Communities at Risk Fernando Ebensperger
4:00	3:00	2:00	1:00	15 min break			
Special Panel Discussion Session on Disaster Data Sharing							
4:15	3:15	2:15	1:15	Moderator: Judith Mitrani-Reiser (NIST) Panelists: Garrett Layne (NASA), Ellen Rathje (UTA), Adam Smith (NOAA), Gerard Lemson (Johns Hopkins Univ./NIST) and Matthew Hoehler (NIST)			
5:30	4:30	3:30	2:30	End of Day 2: Closing Remarks from Symposium Co-Chairs			N. Bouvet / D. Yeo (NIST)