2022 Disaster Resilience Symposium

Agenda Dates: September 14 - 15, 2022

NIST NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY U.S. DEPARTMENT OF COMMERCE

ET	CT	MT	PT	Day 1: September 14, 2022			
10:00	9:00	8:00	7:00	Opening Remarks from the Deputy Director of the Engineering Laboratory			Al Wavering (NIST)
10:15	9:15	8:15	7:15	*Keynote:* *Infrastructure System Resilience: A Big Picture Perspective*			Rachel Davidson (University of Deleware)
11:15	10:15	9:15	8:15	*15 min break*			
Concurrent Sessions				**Track 1 - Session 1: Earthquake**	**Speakers**	**Track 2 - Session 1: Windstorm**	**Speakers**
11:30	10:30	9:30	8:30	*Resilience of Steel Moment Frame Systems with Deep, Slender Column Sections*	Jason McCormick	*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, Steven Lazarus
12:00	11:00	10:00	9:00	*Aging Effects in the Seismic Performance of RC Structures*	Petros Sideris, Mija Hubler	*Measurement of Near-Surface Pressure, Wind and Wind-Induced Load Characteristics Using Novel Sensors in Thunderstorm, Tornado, and Tornado-Like Environments*	Franklin T. Lombardo
12:30	11:30	10:30	9:30	*Developing a selective column retrofit framework for damaged & aging reinforced concrete bldgs to improve community resilience after earthquakes*	Sergio F. Brena	*Assessment of Building Resiliency in Tornadoes Considering Transient Internal Pressure Effects*	Hannah Blum, Delong Zuo
12:45	11:45	10:45	9:45	*45 min break*			
Concurrent Sessions				**Track 1 - Session 2: Earthquake**	**Speakers**	**Track 2 - Session 2: Windstorm**	**Speakers**
1:30	12:30	11:30	10:30	*Seismic Assessment, Retrofit Strategies and Policy Implications for Vulnerable Existing Steel Buildings*	Gregory Deierlein	*Spatiotemporal Maps of Damaging Winds from Integrated Remote and In Situ Observations*	Michael Biggerstaff
2:00	1:00	12:00	11:00	*Designing for and Assessing Functional Recovery in Seismic Retrofit of Existing Concrete Buildings: A Framework*	Abbie B. Liel, Maria Koliou	*4-D Measurement and Modeling of Engineering-Relevant Windstorm Characteristics*	John Schroeder
2:30	1:30	12:30	11:30	*Development of Realistic Seismic Input Motions for Improving the Resilience of Infrastructure to Earthquakes*	Chanseok Jeong, Boris Jeremic	*Reconstruction of Four-Dimensional Near-Surface Wind Characteristics from Debris and Damage Attributes using Computer Vision*	David Roueche
2:45	1:45	12:45	11:45	*15 min break*			
Concurrent Sessions				**Track 1 - Session 3: Earthquake**	**Speakers**	**Track 2 - Session 3: Windstorm**	**Speakers**
3:00	2:00	1:00	12:00	*Seismic Rehabilitation of Existing Unreinforced Masonry Buildings*	Andreas Stavridis	*Coastal Inundation Events in Developed Regions*	Andrew Kennedy
3:30	2:30	1:30	12:30	*Seismic Assessment and Retrofit Methods for Existing Non-Ductile Reinforced Concrete Wall Structures*	Ioannis Koutromanos	*Analysis, Comparison and Experiment Investigation of Hurricane Wind, Storm-Surge and Wave Load Model*	Landolf Rhode-Barbarigos
3:45	2:45	1:45	12:45			*Enhancing Windstorm Resilience of Coastal Communities Through Ultra-High Performance Glass Fiber Reinforced Polymer Concrete Seawalls*	Prannoy Suraneni
4:00	3:00	2:00	1:00	*Residual Axial & Lateral Load Carrying Capacity of Pile Supported Marine Terminal Exhibiting Seismically-induced Local Buckling in Inground Plastic*	Machel L. Morrison	*Characterization of Hurricane Boundary Layer Turbulence for Wind Hazard Mitigation*	Marco G. Giometto
4:15	3:15	2:15	1:15	**End Day 1**			

ET	CT	MT	PT	Day 2: September 15, 2022			
10:00	9:00	8:00	7:00	Opening Remarks NSF Assistant Director			Susan Margulies (NSF)
10:15	9:15	8:15	7:15	*Keynote:* *The Natural Hazards Engineering Research Infrastructure (NHERI) Coordinated Research Agenda- Mitigating the Impact of Natural Hazards on Communities*			Julio Ramirez (Purdue University)
11:15	10:15	9:15	8:15	*15 min break*			
Concurrent Sessions				**Track 1 - Session 1: Fire and Wildland Urban Interface**	**Speakers**	**Track 2 - Session 1: Infrastructure and Community Resilience**	**Speakers**
11:30	10:30	9:30	8:30	*Development of methodology for determination of ignition propensity by firebrands in wildland-urban interface*	Babak Shorotban, David Blunck	*Leveraging Uncertain Disaster Field Data for Community-Scale Assessment of Connected Buildings and Lifelines*	Iris Tien
12:00	11:00	10:00	9:00	*Development of a Fundamental Model for Ignition of Structural Wildland-Urban Interface (WUI) Fuels Subjected to Firebrand Attack*	Michael Gollner, Jacques De Beer, Mackenzie Conkling	*Assessing the Utility of Safe-to-Fail Design to Improve Climate Hazards Resilience of Interdependent Infrastructure Systems*	Giuseppe Mascaro
12:15	11:15	10:15	9:15			*Disaster Recovery and Response Innovation through Fuel Cell Deployment*	Destenie Nock, James Grymes, Alexandra Newman
12:30	11:30	10:30	9:30	*Forecasting WUI Fire Resilience: Quantifying Firebrand Generation and Transport to Identify Communities at Risk*	Albert Simeoni	*Examining the Vulnerability and Recovery of Small Farms to Natural Hazards and the Impact to Rural Community Resilience*	Christine Wittich
12:45	11:45	10:45	9:45	*45 min break*			
Concurrent Sessions				**Track 1 - Session 2: Fire and Wildland Urban Interface**	**Speakers**	**Track 2 - Session 2: Infrastructure and Community Resilience**	**Speakers**
1:30	12:30	11:30	10:30	*Assessing long-range firebrand impingement rates in recent WUI wildfire events*	Janice Coen	*Innovative Measurement and Modeling of Dynamical Social and Health Effects of Windstorms*	Wei Song, Guofeng Cao, Zhen Cong
2:00	1:00	12:00	11:00	*Firebrand Material Ignition Conditions & Assessment Method Development*	Brian Lattimer, Jonathan Hodges, Steven Wong	*Leveraging Crowdsourced Data to Assess Spatiotemporal Patterns of Resilience in Diverse Gulf Coast Communities Impacted by Natural Hazards*	Michelle Hummel
2:15	1:15	12:15	11:15			*Modeling Intergovernmental Fiscal Impacts of Coastal Hazards*	Clinton Andrews
2:30	1:30	12:30	11:30	*15 min break*			
Concurrent Sessions				**Track 1 - Session 3: Fire and Wildland Urban Interface**	**Speakers**	**Track 2 - Session 3: Infrastructure and Community Resilience**	**Speakers**
2:45	1:45	12:45	11:45	*Improving Disaster Resilience by Quantifying WUI Community Ember Exposure*	Dac Nguyen	*An Integrated Housing Design and Logistics Operations Modeling and Analysis Framework for Hurricane Relief*	Yongjia Song
3:00	2:00	1:00	12:00			*Scalable Assessment of Urban Earthquake Resilience: A Novel Model-informed Deep Learning Paradigm*	Mehrdad Sasani
3:15	2:15	1:15	12:15	*Collaborative Research: Wildland Urban Interface & the Built Environment Design, Evacuation & Retreat Under No-Notice Fire Hazards*	Debbie A. Niemeier	*Understanding Urban Resilience to Pluvial Floods Using Reduced-Order Modeling*	Valeriy Ivanov
3:30	2:30	1:30	12:30			*Assessing Urban Post-Earthquake Community Recovery to Inform Pre-Disaster Planning*	Jack Baker, Rodrigo Costa
3:45	2:45	1:45	12:45	*15 min break*			
4:00	3:00	2:00	1:00	*Special Session on Academic-Federal Partnerships in Disaster Research and Reconnaissance* Panelists: Jeff Berman, Shideh Dashti, John van de Lindt, Jaqueline Meszaros, Jason Averill			
5:00	4:00	3:00	2:00	**End of Day 2: Closing Remarks**			