NSF IUCRC for Wind Hazard and Infrastructure Performance

Year 1, Phase II, Annual Meeting Agenda

September 3 - 4, 2025

Green School of International and Public Affairs – SIPA II Room 102

Florida International University

11200 SW 8th Street, Miami, Florida 33199

September 3, 2025 (Wednesday) All times are EDT

8:00 Doors Open – Networking Breakfast

8:30 Opening Remarks and Self introductions

8:45 Welcome Message from FIU Leadership

9:00 Remarks by Dr. Seetha Raghavan, NSF IUCRC Program Director

9:10 Preamble, State of WHIP and Interest/Evaluation form (Airtable): Delong Zuo

9:15 **Proposal Presentation 1**: *Quantification of Differences in Loading on Low-Rise Buildings by Tornado-Like and Boundary-Layer Type Winds (Delong Zuo)*

9:30 **Proposal Presentation 2**: *Influence of Severe Thunderstorms and Tornado-Like Vortices (TLVs) on Urban Canopy Layers (Faiaz Khaled)*

9:45 **Proposal Presentation 3**: *Robot-mounted Remote Sensing Powered Glazing System Damage Risk Modeling (Bowei Li)*

10:00 **Proposal Presentation 4**: *Investigating Wind Effects on Industrial Plants and Solar Farms During Severe Thunderstorms (Faiaz Khaled, Guangzhao Chen)*

10:15 Break

10:30 **Proposal Presentation 5**: *Assessment of Coupled Wind and Water Cascading Loads on Elevated Coastal Houses Using Hybrid Experimental Techniques (Guangzhao Chen, Navid Tahvildari, Arindam Chowdhury)*

10:45 **Proposal Presentation 6**: *Investigation of Windborne Debris to Optimize Solar Panel Layouts (Guangzhao Chen, Faiaz Khaled)*

11:00 **Proposal Presentation 7**: *Investigation of wind performance of ridge and hip shingles (Arindam Chowdhury)*

11:15 **Proposal Presentation 8**: *Hybrid physics-AI framework for rapid post-hazard building damage assessment and wind-water damage differentiation (Yimin Lu)*

11:30 **Proposal Presentation 9**: *Performance-based wind design of buildings to non-synoptic winds considering inelastic performance and aeroelastic effect (Xinzhong Chen)*

11:45 **Proposal Presentation 10**: *AI-Based Assessment of Debris-Induced Damage in Wind-Hazard-Exposed Low-Rise Buildings (Ming Deng)*

12:00 Lunch break

1:30 **Proposal Presentation 11**: *Vulnerability Model to Assess Wind-Induced Tree Fall Risk on Low-Rise construction; Part II: Integrating tree and wind damage into cat models (Amal Elawady, Jean-Paul Pinelli)*

1:45 **Proposal Presentation 12**: *Tree Fall Risk Analysis and Insurance Quote Estimation (Zhiheng Wang)*

2:00 **Proposal Presentation 13**: *Building façade resonance risk assessment under wind-induced vibrations (Seung Jae Lee)*

2:15 **Proposal Presentation 14**: *AI-Driven Post-Hurricane Damage Analytics for Data-Informed Insurance Premium Modeling (Omar Nofal)*

2:30 **Proposal Presentation 15**: *Determine appropriate effective wind area to use of PV system components (fasteners, clamp, roof attachment) through wind tunnel testing of PV array (Ioannis Zisis)*

2:45 **Presentation 16**: *Risk vulnerability model for components of refinery plants or industrial facilities (Jean-Paul Pinelli)*

3:00 **Presentation 17**: *Wind Hazard Impact and Population Tracking (WHIPTrack): A Scalable Tool for Measuring Societal Impact and Evacuation Effectiveness During Wind Hazards (Rodrigo Arango)*

3:15 Comment by NSF Evaluator

3:20 Time for IAB members to complete Interest/Evaluation (Airtable) form

4:00 Plan for Thursday: Ioannis Zisis

4:10 Adjourn

4:30 Tour of WOW research facilities for those interested

7:00 Dinner – At a local restaurant for those who are interested

September 4, 2024 (Thursday), All times are EDT

8:00 Doors Open – Networking Breakfast

8:30 *Closed session of IAB for selection of Proposals and allocation of funds and election of next IAB Chair*

10:30 *Debriefing by IAB Chair to Site Directors on selection of Proposals*

11:00 Annual meeting adjourns

11:15 Meeting of Directors, NSF Program Director and Evaluator for Center operation (**Delong Zuo, Ioannis Zisis, Jean-Paul Pinelli, Anna Thomas, Seetha Raghavan, Denis Gray and others**)