



TEXAS TECH UNIVERSITY

## Wind Hazard and Infrastructure Performance (WHIP) Center



# Research Infrastructure & Capabilities @ Florida International University

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- **Wall of Wind (WOW) Experimental Facility (EF) under FIU International Hurricane Research Center (IHRC)**
  - **Open jet large wind tunnel**
  - **12 electric fans in an arc-focal arrangement**
  - **Wind field cross-sectional area: 20ftx14ft**
  - **Wind speed range: 10mph – 157mph**

**Extreme Events Institute (FIU's pre-eminent program)**

**Wind Engineering Core (3 full-time faculty) and 15+ PhD students**

**NSF NHERI EF (National Shared-Used Facility in Natural Hazards Engineering)**

### **Unique Experimental Resources and Testing Capabilities**

- **Up to Category 5 Hurricane Winds** simulations
- **Multi-Scale Testing** (full-, large-, small-scale)
- **Destructive Testing** (to predict progressive failures in buildings and infrastructure elements)
- **Wind-Driven Rain** simulations (to study water intrusion)
- **Various Structures** (buildings, bridges, renewable energy systems, lifeline infrastructures)

# Case Studies and Users

## Topic: Low- and High-rise Buildings



## Topic: Roofing Components and Rooftop Equipment



## Topic: Building Attachments and C&C



## Topic: Infrastructure and Transportation Systems



**Academic Users/Collaborators:** *FIT, Iowa State, MIT, RPI, Clemson, Missouri S&T, Stanford, TTU, U-Alabama, U-Washington, and many others*

**Industry Clients:** *Bison, Disney, FEMA, FPL, GAF, GE, GMC, Owens Corning, PlanB, TileTech, Tesla, WJE and many others*