CARB 22RD004 Research Project:

Understanding and Characterizing Emission Factors from Burning Structures in California Due to Wildfires

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First Auxiliary Dwelling Unit (ADU) burn experiment at the Insurance Institute for Business & Home Safety (IBHS) in South Carolina, July 10, 2024

Auxiliary Dwelling Unit (ADU)

On July 10, 2024, the first Structure Separation Experiment burning full-scale Auxiliary Dwelling Units (ADUs) was conducted at the Insurance Institute for Business & Home Safety (IBHS) Research Center in Richburg, South Carolina.

- A 625-square-foot home is typical of an accessory dwelling unit and outfitted with all the regular furniture.
- It was built following Chapter 7A of the California Building Code. Under this Code, a structure's exterior must remain ember-resistant and flame-resistant during wildfires.
- It has an open floor plan with a kitchen, laundry room, bedroom, bathroom, and office room.
- An adjacent full-size home was placed as a target 30 feet downwind to measure heat transfer between structures and assess whether ignition could occur to an adjacent building built to CBC Chp 7A.

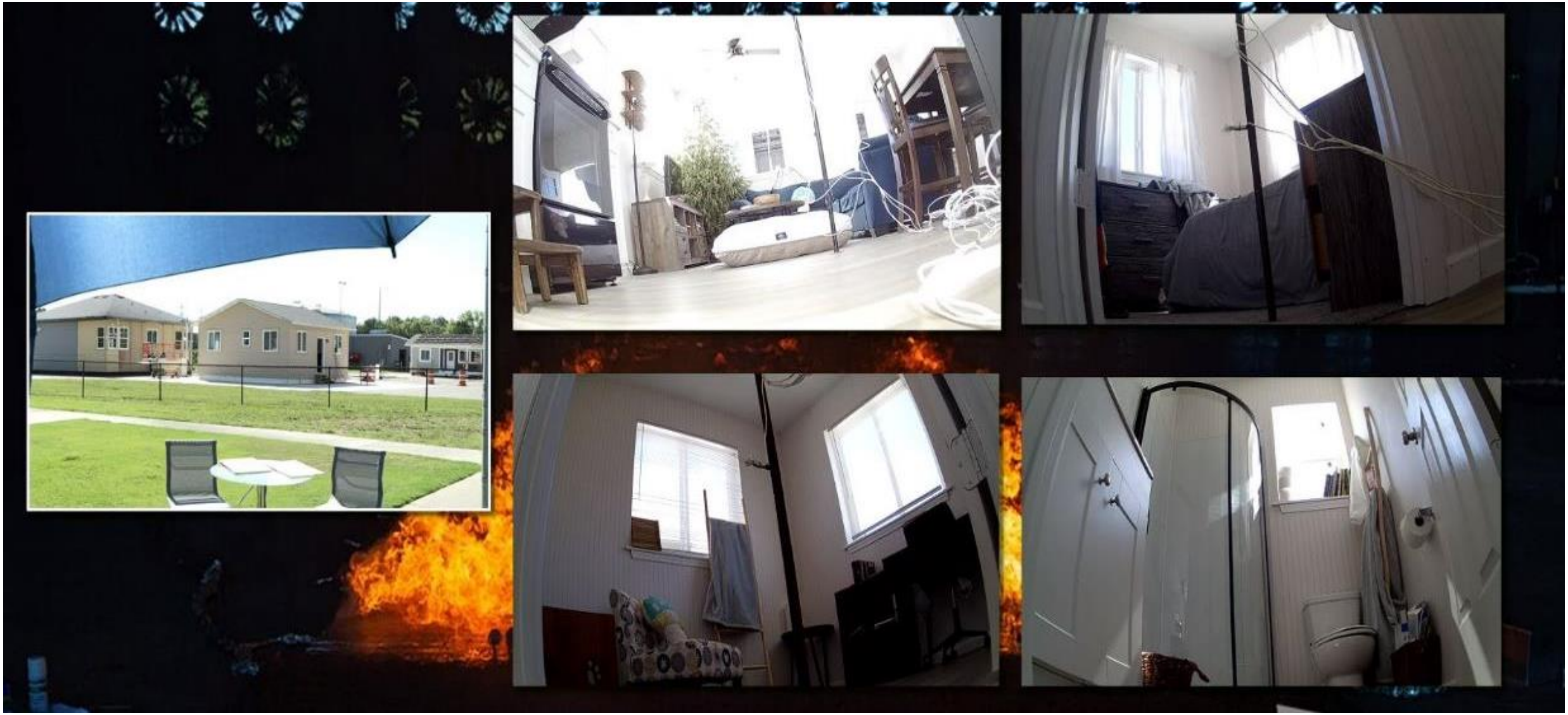
IBHS has partnered with CAL FIRE and UC Berkeley to conduct this multi-phase, multi-year test series of structure separation burn experiments.

First Auxiliary Dwelling Unit (ADU) Burn Experiment

Outside View of the first Structure Separation Experiment Burning full-scale ADUs at IBHS Research Center in Richburg

View of the first Structure Separation Experiment Burning and Monitoring Set-up

ADU Outfitted with all the Regular Furniture.



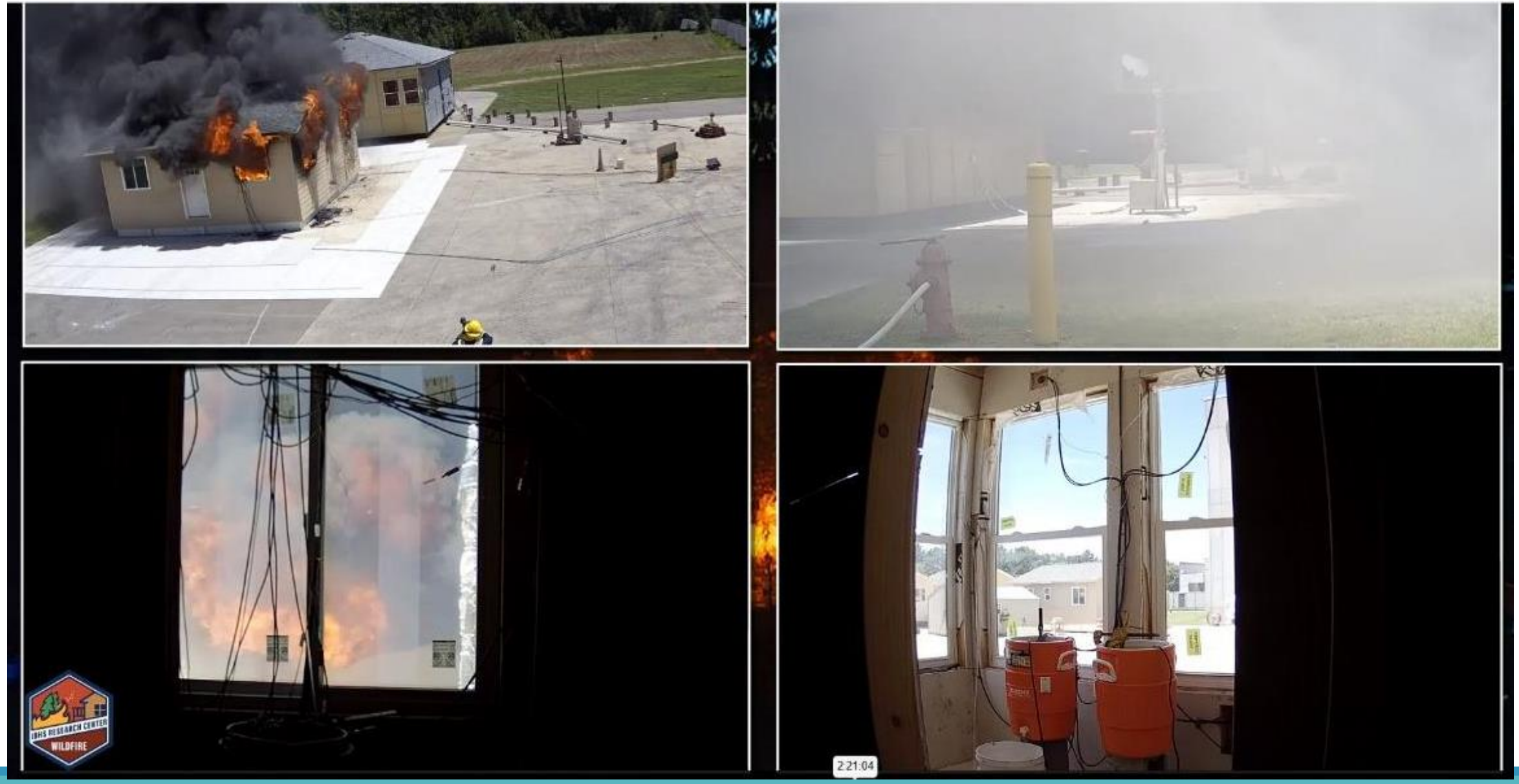
View of ADU Burn Experiment Set-up

Outside View of ADU Burn Experiment Set-up

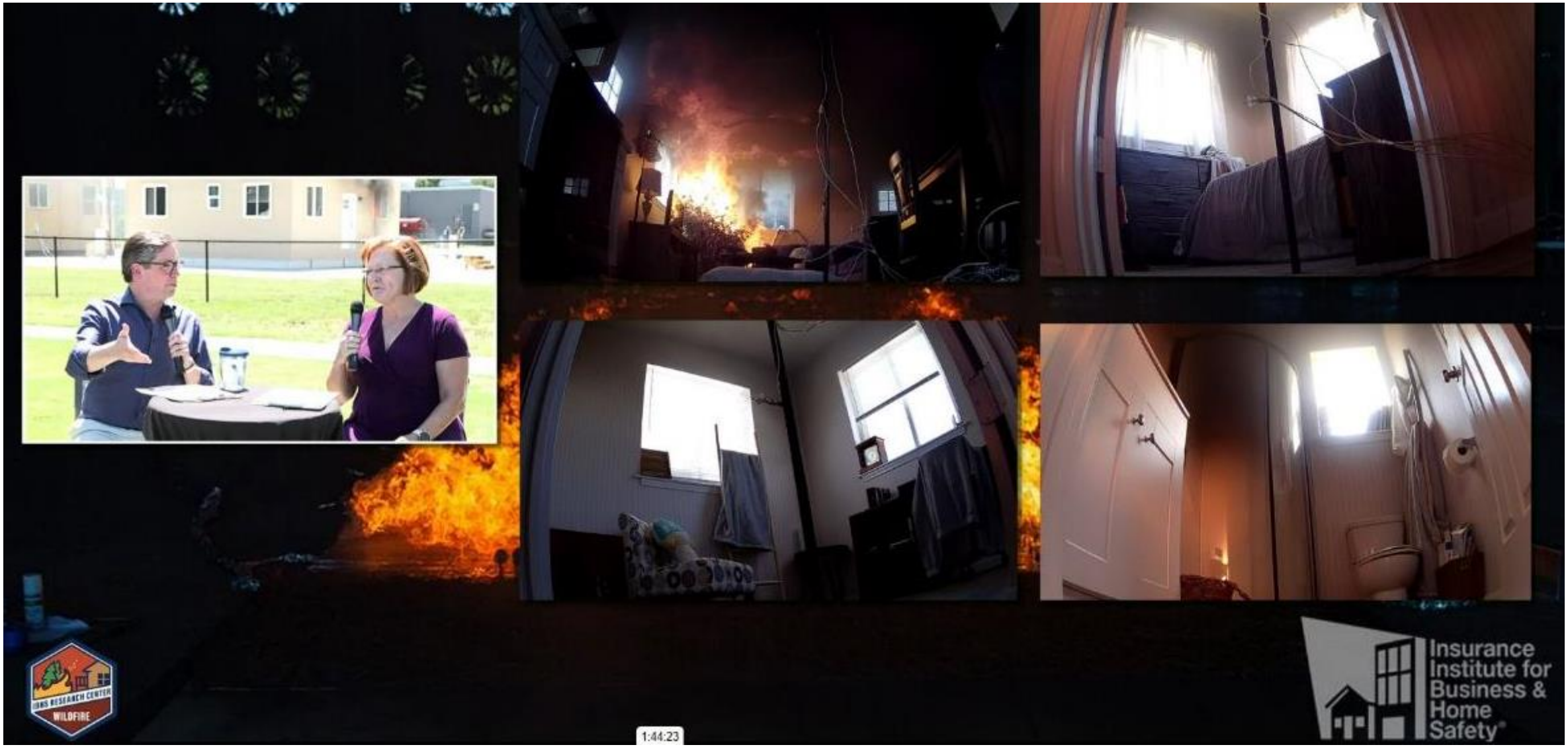
Structure Burn Experiment is progressing

Structure Burn Experiment is Progressing

Structure Burn Experiment is progressing showing data collection pieces of equipment



Inside ADU Furniture Burn Progressing



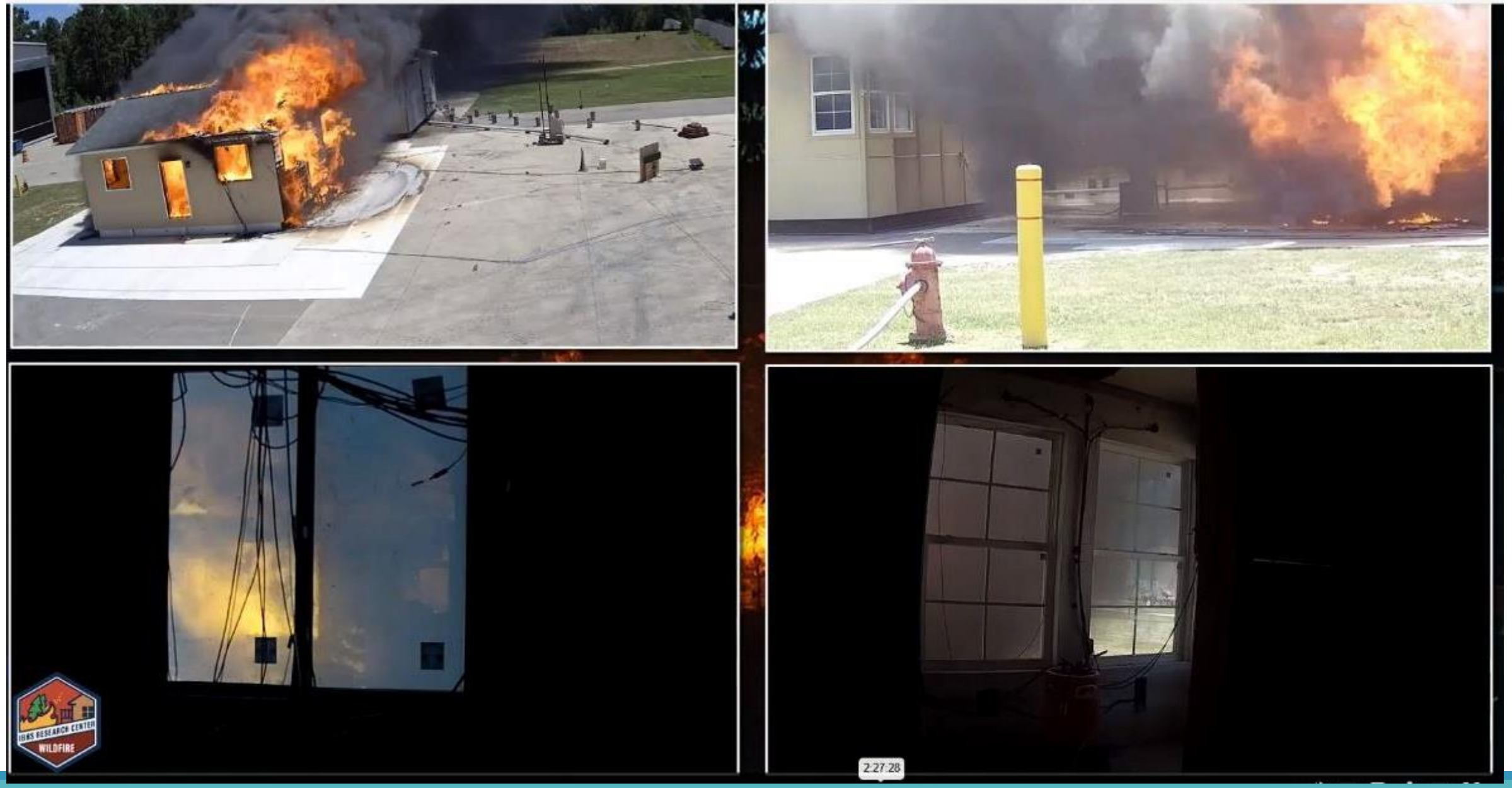
View of Burn Experiment inside the ADU Unit intensifying

Structure burn is progressing

Structure burn is progressing and getting to its peak intensity

View of Peak Structure Burn

Outside View of Peak Structure Burn



Structure burn is getting close to being completed.

Outside view of burn structure and instrumentation for fire behavior data collection

Final Phase of Structure Burn Experiment