



# Disaster and Failure Studies: Recent Non-NCST Studies

NCST Advisory  
Committee  
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Dr. S. Shyam Sunder  
Director, Engineering Laboratory  
National Institute of Standards and Technology  
U.S. Department of Commerce

# Sofa Super Store Fire, Charleston, SC June 18, 2007

Leader: Nelson Bryner

NIST Team:

- Paul Fuss
- Bryan Klein
- Anthony Putorti



*Fire starting near loading dock unknowingly spread into drop ceiling area of large showroom. Unexpectedly fast fire growth trapped and killed nine Charleston fire fighters, the greatest U.S. loss of fire fighters since World Trade Center.*



# Sofa Super Store - Status

- International Fire Code Committee considering proposal to change furniture store Use and Occupancy Classification (IFC –Chap. 3) from Mercantile (Sec.309) to High Hazard (Sec. 307) as part of ongoing recognition of the hazard of high fuel-load in furniture stores.
- NIST briefed the International Code Council's (ICC) Code Technology Committee (CTC), National Fire Protection Association (NFPA), US Fire Administration (USFA), Society for Fire Protection Engineers (SFPE), International Association of Fire Fighters (IAFF), and Door and Access Systems Manufacturers Association (DASMA) on the findings and recommendations of the study.



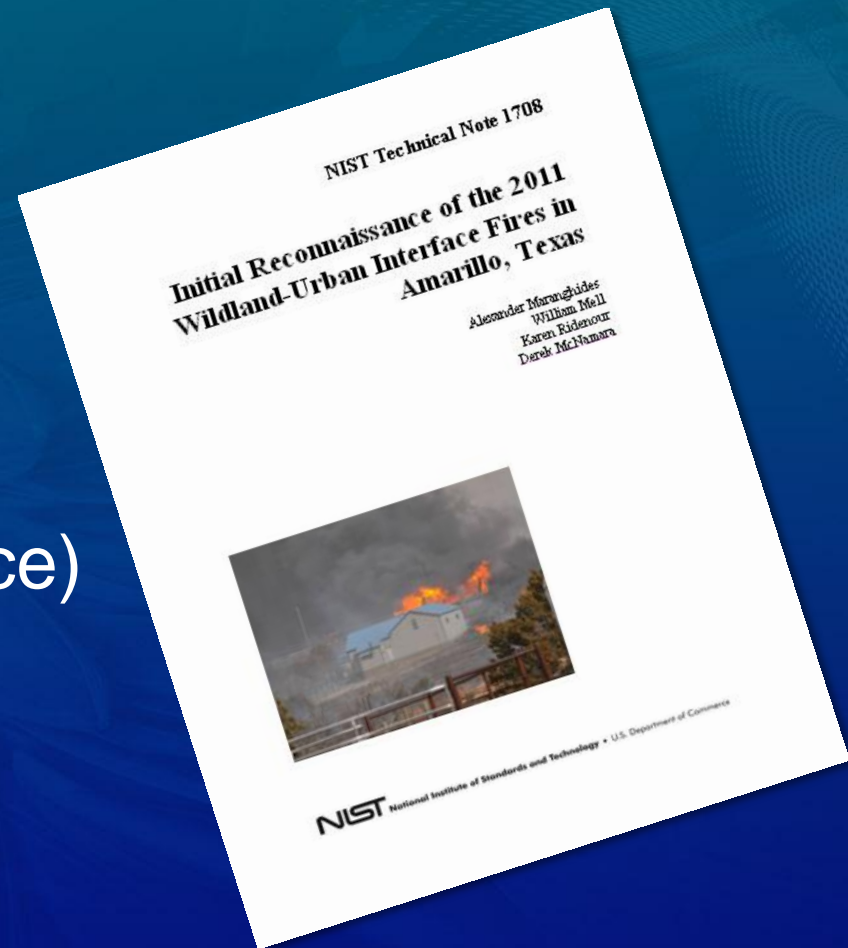


# Amarillo Wildland-Urban Interface Fires March 2011

Leader: Alex Maranghides

Team:

- William Mell
- K. Ridenour (TX Fire Service)
- D. McNamara (contractor)



*Multiple communities impacted by wildland fires due to very high winds and extremely dry conditions*



## Amarillo - Status

- NIST briefed Texas Forest Service, US Forest Service (USFS), and American Society for Testing and Materials (ASTM) on the findings and recommendations of the preliminary recon report.
- Adoption of the NIST WUI data collection methodology by USFS Region 8 (Southern US), National State Foresters Association, and Texas Forest Service.
- Exposure scale for WUI fires draft completed.

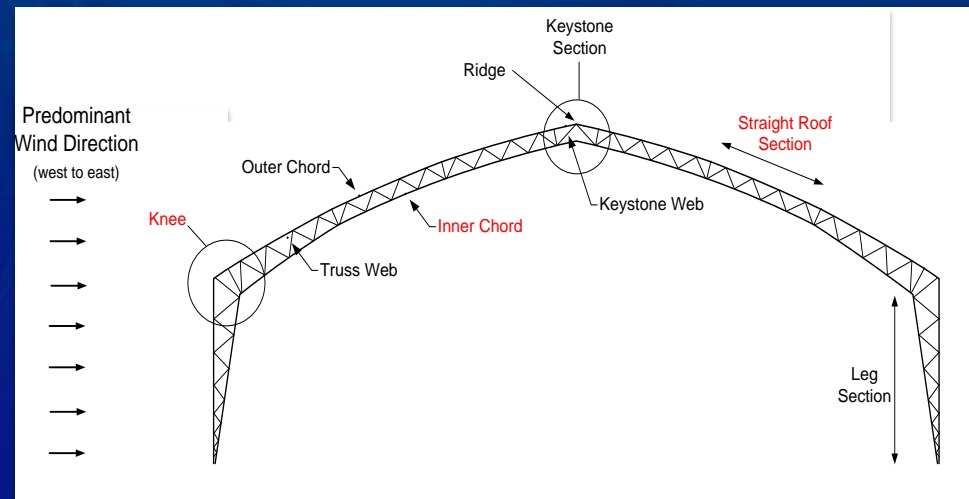


# Collapse of Dallas Cowboys Indoor Practice Facility, May 2, 2009

Leader: John Gross

NIST Team:

- Joe Main
- Long Phan
- Fahim Sadek
- Steve Cauffman



*Unexpected collapse of a fabric-covered steel framed building of common design under below-design winds*



# Dallas Cowboys Indoor Practice Facility - Status

- NIST briefed the International Code Council's (ICC) Code Technology Committee (CTC) on the findings and recommendation of the study.
- NIST has prepared a draft code change proposal for implementation into the International Building Code (IBC). NIST will submit the proposal in the upcoming code cycle.





# Earthquake Damage Assessments



Christchurch, NZ



Christchurch, NZ



Chile

- Chile – Jeff Dragovich & Jay Harris (EERI team)\*
- New Zealand – Matthew Speicher (ASCE team)\*
- Japan – Jeff Dragovich, Long Phan & Steve McCabe (UJNR - 5 months after)

\* Ongoing



FEMA





# Earthquake Damage Assessments - Domestic

Mineral, Virginia Earthquake, August 2011

- Louisa County High School – steel frame, URM
- Thomas Jefferson Elementary School – poorly detailed URM
- Some injured children
- ~ \$60 million in school damage; substantial repairs/upgrading or replacement

