



Session 3B:

FSRI Research Overview on Lithium-Ion Battery Fire & Explosion Hazards in Residential & Transportation Settings

Lithium-ion batteries power many things in our everyday lives such as personal electronics, home energy storage, and transportation systems. With widespread adoption comes new fire and explosion risks, and unanswered questions and uncertainties with them. The Fire Safety Research Institute (FSRI) is hosting multiple research programs to better understand these risks across applications such as electric vehicles, e-mobility devices in residential spaces and commuter railcars, and residential energy storage systems. This presentation will provide a high-level overview of FSRI's lithium-ion battery fire research portfolio, including research on how these fires grow, spread, generate explosion hazards and redefine risk in residential and transportation settings.



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Nate Sauer is a research engineer at the UL's Fire Safety Research Institute (FSRI) and holds a PhD in Fire Protection Engineering from Worcester Polytechnic Institute (WPI). At FSRI, Nate works on battery fire research, including full-scale electric-vehicle burn and suppression experiments, explosion hazards from battery thermal runaway gas, e-mobility device failures in commuter railcars, and disposal and stranded energy analysis of fire-damaged batteries.