Session 1C:

The Underestimated Fire Hazard of Modern Vehicles

Rapid changes in construction, materials and size of modern vehicles, and the growth of electric vehicles, have drastically increased the fire hazard they present to parking structures as well as marine vessels that transport them. The fire protection engineering world has responded slowly to these changes. Several highly publicized incidents in the last few years have brough increased focus to the issue. Fire codes are starting to catch up, with proposed changes to improve the safety of parking facilities. This presentation will review how the vehicle fire hazard has increased, and what is being done to address it.

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Haavard has over 14 years of experience with complex performance-based fire protection design, forensic analysis, and fire research. His work focuses on application of computer modeling of fire and pedestrian movement to analyze problems such as smoke extraction, structural fire exposure, evacuation, battery gas release, and occupant tenability. He was lead researcher for the 2020 NFPA Research Foundation report on Fire Hazards of Modern Vehicles. He has presented research at technical conferences for the NFPA, SFPE, AIChE, and been published in peer reviewed journals such as Fire Technology. He is a licensed professional engineer in Maryland.