



#### Seminar 4: Fire Modeling

Talk Synopsis: "This presentation elevates technical proficiency in FDS and PyroSim for complex life safety analysis. The session demonstrates how to optimize computational workflows using new Mesh Refinement Zones and Scenarios to automate previously time-consuming mesh creation. Attendees will learn to balance geometric fidelity with computational load by navigating the specific rules of Rectilinear Obstructions (OBST) versus Unstructured Geometry (GEOM). Further topics include implementing complex combustion stoichiometry, utilizing validated sprinkler spray patterns, presenting a new tool for smoke control, pressurization and IAQ, along with integrating fire dynamics with pedestrian evacuation models for comprehensive assessments."



**Bryan Klein**  
Thunderhead Engineering

. Bio: "Bryan has been working in the field for more than 25 years. As a Senior Support Engineer at Thunderhead Engineering, he provides product development planning and technical support for PyroSim, Pathfinder, and Ventus. As the founding member of Apex Erudition, he provides project consulting services and develops/delivers educational content. He enjoys a similar Instructional role for SFPE training courses, along with his work on the SFPE Research Foundation Board of Governors and as the Chair of the Foundation Technical Committee."