



**KRISTEN L. LUSSIER, P.E.**  
**SENIOR STAFF CONSULTANT**

[kllussier@engsys.com](mailto:kllussier@engsys.com)

As Senior Staff Consultant in the fire and explosion practice, Kristen investigates fire and explosion incidents across the United States with Engineering Systems Inc. (ESi). Kristen has performed on-site and laboratory investigations regarding over 300 fires and explosions related to a variety of industries including residential, commercial, industrial, automotive, and fuel gas systems. Utilizing her degrees in mechanical engineering and fire protection engineering, Kristen provides clients with expert consultation regarding fire origin and cause, fire dynamics, fire testing, gas dispersion, and fire suppression systems. She also consults on mechanical systems and compliance with industry codes and standards. Kristen developed ESi Houston's explosion chamber, which is capable of various testing including the competency of ignition sources as well as flammability of diffuse fuel in air mixtures. She is a skilled problem solver and leverages the diverse resources of ESi to solve complex problems.

Prior to joining ESi, Kristen worked at Fiat Chrysler Automobiles as a Design Release Engineer, where she was responsible for the design, development, and production of HVAC controls and sensors for twelve different vehicle lines. She also conducted testing and validation of new software and hardware, managed issues for program launches, and authored and maintained specifications for design and validation activities.

Kristen is a licensed professional engineer in the state of Texas.

**Areas of Specialization**

- Fire and Explosion
- Oil, Gas & Industrial
- Gas Dispersion
- Residential Fires & Explosions
- Fire Protection Systems
- Heavy Equipment Fires
- Vehicle Fires

**Education**

- Master of Engineering, Fire Protection Engineering, University of Maryland, 2023.
- Bachelor of Science, Mechanical Engineering and Mathematics (Cum Laude), Tufts University, 2013.

**Licensed Professional Engineer (P.E.)**

- State of Texas License No. 138384
- NCEES Record ID No. 20-079-69

*January 2024*

## **Professional Affiliations/Honors**

### **American Society of Mechanical Engineers (ASME)**

Member

### **International Association of Arson Investigators (IAAI)**

Fire Investigation Technician, IAAI-FIT, #1403644, 2021

Member

### **National Association of Fire Investigators (NAFI)**

Certified Fire and Explosion Investigator, CFEI, # 24691-14303, 2020

Member

### **National Fire Protection Association (NFPA)**

Member

### **Society of Fire Protection Engineers (SFPE)**

Member

### **Society of Women Engineers (SWE)**

Member

## **Positions Held**

### **Engineering Systems Inc., Conroe, TX**

Senior Staff Consultant, 2021 – Present

Staff Consultant, 2019 – 2020

### **Fiat Chrysler Automobiles, Auburn Hills, MI**

Design Release Engineer, 2013 - 2018

## **Continued Education**

ENFP662 Performance Based Design, University of Maryland, 2023

ENFP663 Advanced Fire Risk Modeling, University of Maryland, 2023

ENFP661 Forensic Fire Analysis, University of Maryland, 2023

Hazardous Waste Operations and Emergency Response (OSHA HAZWOPER), 2023

Asbestos Awareness Training, 2023

ENFP613 Advanced Life Safety Analysis, University of Maryland, 2022

IAAI Expert Witness Courtroom Testimony Course, IAAI, Wayne Tyson, 2022

ENFP664 Advanced Industrial Fire Safety, University of Maryland, Arnaud Trouvé, 2022

ENFP653 Advanced Fire Suppression, University of Maryland, Jason Sutula, 2022

ENFP625 Advanced Fire Modeling, University of Maryland, Arnaud Trouvé, 2022  
Motor Vehicle Fire Investigation (Three-Day), IAAI, 2022  
Investigating Motor Vehicle Fires, CFITrainer.net, 2022  
ENFP652 Fire Assessment Methods, University of Maryland, Marc Janssens, 2021  
ENFP651 Advanced Fire Dynamics, University of Maryland, Stanislav Stoliarov, 2021  
ENFP655 Smoke Control, University of Maryland, James Milke, 2021  
NFPA 1033 and Your Career, CFITrainer.net, 2021  
The Practical Application of the Relationship Between NFPA 1033 and NFPA 921, CFITrainer.net, 2021  
The Scientific Method for Fire and Explosion Investigation, CFITrainer.net, 2021  
Ethics and the Fire Investigator, CFITrainer.net, 2021  
PE Mechanical Machine Design & Materials Live Online Course, Ray Burynski, 2020  
An Analysis of The Station Nightclub Fire, CFITrainer.net, 2019  
Charleston Sofa Super Store Fire, CFITrainer.net, 2019  
Digital Photography and the Fire Investigator, CFITrainer.net, 2019  
Documenting the Event, CFITrainer.net, 2019  
Physical Evidence at the Fire Scene, CFITrainer.net, 2019  
Writing the Initial Origin and Cause Report, CFITrainer.net, 2019  
Fire Flow Analysis, CFITrainer.net, 2019  
NRTLs in the Forensic World, Engineering Systems Inc., Perry Hopkins, 2019  
Cargo Vessel MV Courage Vehicle Fire, Engineering Systems Inc., Hernan Mercado, 2019  
Case Study – Bottle Rockets, Engineering Systems Inc., Michael Pratt, 2019  
VOC Detection Camera, Engineering Systems Inc., Matt Wilbur, 2019  
Self-Heating, Engineering Systems Inc., Dale Mann, 2019  
Case Study – Oil Field Fires, Engineering Systems Inc., Michael Craddock, 2019  
Case Study – Williams v. CenterPoint, Engineering Systems Inc., Amy Gray, 2019  
Gas Dispersion Analysis, Engineering Systems Inc., Shireen Afshan, 2019  
29 CFR 1910.120 Hazardous Waste Operations & Emergency Response, Engineering Systems Inc.,  
Scott Dillon, 2019  
Forensic Analysis Involving Fugitive Natural Gas and Propane, Weyler, M., Weyler Engineering, PC,  
SunCam, 2019

## **Presentations**

1. **K. L. Lussier**, “Proactive Investigation” ESi Lessons Learned Day. July 2023. Additional presentation at VP meeting. October 2023.
2. **K. L. Lussier**, D. Estrada, “What is Forensic Engineering: How does it relate to me?” Society of Women Engineers Local Detroit Conference. February 2023.
3. **K. L. Lussier**, “Gas Leak Residential Explosion Case Study” ESi Lessons Learned Day. July 2022.