

David A. Wilson, IAAI-CFI, CFEI, CVFI

Senior Consultant

Regional Operations Manager, North Carolina



Mr. David A. Wilson is a Senior Consultant and Regional Operations Manager for Engineering Systems Inc. (ESi). Prior to ESi, Mr. Wilson fulfilled five years of active-duty service in the United States Navy. He served honorably and with distinction during Operation Iraqi Freedom (OIF). Upon returning to the States, Mr. Wilson transferred his military service to the Kentucky Air National Guard as an Airport Fire Fighter for an additional six years. Mr. Wilson attended the Department of Defense Fire Academy, where he completed training at the top of his class with honors. While serving his state and country, Mr. David A. Wilson attended Eastern Kentucky University (EKU), securing a bachelor's degree in Fire, Arson, and Explosion Investigation.

Working at ESi since 2012, Mr. Wilson has investigated numerous structural, commercial, vehicle fires, and explosions over his 13+ year career. He has led, supervised, and contributed to hundreds of investigations through fire origin and cause determination, fire scene reconstruction, and artifact collection and handling. Mr. Wilson was an integral investigator during the Williams Olefin Plant explosion in 2013, 2017 Metropolitan Raleigh fire, 2019 Durham gas explosion, and the 2021 Rocky Mount QVC fire. Mr. Wilson's expertise includes fire behavior and dynamics, heat and flame vector analysis, and fire phenomena. He has hands-on experience with forensic evidence collection, photography, diagramming, and 3D laser scanning technology.

Mr. Wilson is a member of the National Fire Protection Association (NFPA), an alternate on NFPA 1033 Committee on Fire Investigator Professional Qualifications, the International Association of Arson Investigators (IAAI), the IAAI North Carolina Chapter, and the National Association of Fire Investigators (NAFI). He has tested and earned his IAAI's Certified Fire Investigator (IAAI-CFI) designation and NAFI's designations as a Certified Fire and Explosion Investigator (CFEI), and Certified Vehicle Fire Investigator (CVFI).

Education

BS, Fire and Safety Engineering (Summa Cum Laude). Eastern Kentucky University. 2011

Contact Information

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ESi North Carolina

3310 Green Park Circle
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Areas of Specialization

- Fire Origin & Cause Determination
- Residential Fires
- Commercial Fires
- Kitchen Fires
- Fire Behavior
- Fire Phenomena
- Fire Protection Systems
- Life Safety Codes
- Artifact Collection and Handling
- 3D Laser Scanning



Licenses & Certifications

- Certified Fire Investigator (CFI), IAAI 33-080930
 - Certified Fire Investigator (FI), IAAI / NFPA Pro Board 1361966
 - Certified Fire and Explosions Investigator (CFEI), NAFI 16248-9128v
 - Certified Vehicle Fire Investigator (CVFI), NAFI 16248-9128v
 - Firefighter I & II, DOD FFCS 1161708
 - Airport Firefighter, DOD FFCS 1161709
 - Driver/Operator ARFF, DOD FFCS 1367272
 - Driver/Operator Mobile Water Supply, DOD FFCS 1506156
 - Driver/Operator Pumper, DOD FFCS 1506157
 - Fire Instructor, DOD FFCS 1683481
 - Hazardous Materials Awareness and Operations, DOD FFCS 1161707
 - Hazardous Materials Technician, DOD FFCS 1165724
 - HAZWOPER OSHA 40 Hour, 121109170096
 - FARO Focus 3D Scanner Operator – FARO Authorized Asbestos Awareness Training
 - OSHA 30-Hour Construction Safety (Proctored), 6745_1945407
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Positions Held

Engineering Systems Inc., Charlotte, North Carolina

- Regional Operations Manager, 2024 – Present
- Senior Consultant, 2025 – Present
- Senior Staff Consultant, 2021 – 2024
- Staff Consultant, 2015 – 2020
- Associate Consultant, 2012 – 2014

Kentucky Air National Guard, Louisville, Kentucky

- Airport Fire Fighter, 2007– 2013

United States Navy

- Aviation Structural Mechanic Safety Equipment, 2002 – 2007
 - Aviation Structural Mechanic Safety, 2005 – 2007
 - Aviation Flight Line Mechanic, 2004 – 2005
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- Aviation Corrosion Control Technician, 2004
- Aviation Liquid Oxygen Serviceman, 2003 – 2004

Continuing Education

- **Discovery in Civil Cases** – CFI Trainer.net Course, January 2026
- **Insurance and the Fire Investigation** – CFI Trainer.net Course, January 2026
- **76th IAAI Annual International Training Conference** – International Association of Arson Investigators, April 2025
- **Critical Evaluation and Testing of Commonly Reported Accidental Causes** – CFI Trainer.net Course, July 2023
- **Charting Your Career Path in Fire Investigation** – CFI Trainer.net Course, July 2023
- **OSHA 30-Hour Construction Safety (Proctored)** – Safety Unlimited Online Course, July 2023
- **Commercial Kitchen Fire Investigations** – Randolph Community College, May 2023
- **74th IAAI Annual International Training Conference** – International Association of Arson Investigators, April 2023
- **Preparation for the Marine Fire Scene** – CFI Trainer.net Course, January 2023
- **Motor Vehicles: The Engine and the Ignition, Electrical, and Fuel Systems** – CFI Trainer.net Course, January 2023
- **Motor Vehicles: Transmission, Exhaust, Brake, and Accessory Systems** – CFI Trainer.net Course, January 2023
- **Alternative Fuel Vehicles** – CFI Trainer.net Course, January 2023
- **Asbestos-Awareness Training** – Safety Unlimited Online Course, September 2022
- **73rd IAAI Annual International Training Conference** – International Association of Arson Investigators, April 2022
- **Fire Investigative Approaches** North Carolina & South Carolina IAAI Conference – October 18- 22, 2021
- **The Impact of Ventilation in Building Structures on Fire Development** – CFI Trainer.net Course, July 2021
- **Lithium-Ion Battery Fires** – CFI Trainer.net Course, July 2021 “Ethics & Social Media” – CFI Trainer.net Course, June 2020
- **70th IAAI Annual International Training Conference** – International Association of Arson Investigators, April 2019
- **69th IAAI Annual International Training Conference** – International Association of Arson Investigators, May 2018

- **Thermometry, Heat, & Heat Transfer** – CFI Trainer.net Course, April 2018
- **Residential Natural Gas Systems** – CFI Trainer.net Course, February 2018 “Residential Electrical Systems” – CFI Trainer.net Course, February 2018
- **Fire Protection Systems** – ESI training, April 2017
- **Propane Systems and Failures** – ESI training, April 2017 “Arc Mapping” – ESI training, April 2017
- **68th IAAI Annual International Training Conference** – International Association of Arson Investigators, April 2017
- **67th IAAI Annual International Training Conference** – International Association of Arson Investigators, July 2016
- **Investigating Natural Gas Systems** – CFI Trainer.net Course, July 2015
- **66th IAAI Annual International Training Conference** – International Association of Arson Investigators, May 2015
- **Residential Electricity for Fire Investigators** – Fire Findings Course May 2015
- **Basic Electricity** – CFITrainer.net Course, May 2015
- **Effective Investigation** – CFI Trainer.net Course, March 2015
- **Explosion Dynamics** – CFI Trainer.net Course, March 2015
- **Expert Witness Courtroom Testimony Course** – International Association of Arson Investigators Course, November 2014
- **FARO Operator Certification Training** – ESI Norcross, GA by Scott Karlins, August 2014
- **Northwestern University Center of Public Safety One Week Traffic Crash Reconstruction Course** – May 2014.
- **FARO Focus 3D Laser Scanner Training / Post Processing** – ESI Norcross, GA by Scott Karlins, April 2014
- **FARO Focus 3D Laser Scanner Training / Post Processing** – ESI Norcross, GA by Scott Karlins, December 2013
- **Fire Investigative Approaches** – North Carolina & South Carolina IAAI Conference – October 14-18, 2013.
- **64th IAAI Annual International Training Conference** – International Association of Arson Investigations, 2013
- **Introduction to Fire Dynamics and Modeling** – CFI Trainer.net Course, 2013
- **Understanding Fire through Candle Experiments** – CFI Trainer.net Course, 2012
- **Documenting the Scene** – CFI Trainer.net Course, 2012



- **Investigating Motor Vehicle Fires** – CFI Trainer.net Course, 2012
- **FARO Focus 3D Laser Scanner Training** – ESI Workshop Presented by Scott Karlins, 2012 “NFPA 1033 and Your Career” – CFI Trainer.net Course, 2012
- **The Practical Application of the Relationship Between NFPA 1033 and NFPA 921** – CFI Trainer.net Course, 2012
- **Arc Mapping Basics** – CFI Trainer.net Course, 2012
- **The Scientific Method for Fire and Explosion Investigation** – CFI Trainer.net Course, 2012 “Ethics and the Fire Investigator” – CFI Trainer.net Course, 2012
- **Vehicle, Fire, Arson, and Explosion Investigation Science & Technology Seminar** – National Association of Fire Investigators, 2011

Professional Affiliations/Honors

International Association of Arson Investigators (IAAI) North Carolina Chapter (IAAI-NC)

- Member, 2012 – Present

National Association of Fire Investigators (NAFI)

- Member, 2011 – Present

National Fire Protection Association (NFPA)

- Member, 2020 – Present

Fire Investigator Professional Qualifications (PQU-FIV) NFPA-1033 Committee

- Alternate, 2020 – Present

Project Experience

Fire Scene Origin and Cause Investigations

Residential, Commercial, Industrial

- Investigations of residential and commercial fires with an alleged failure of a lithium-ion powered battery and device involved. Proper product identification through detailed analysis is paramount.
- Evaluation of spontaneous ignition or self-heating fires involving staining materials, massage oils, and cooking oils.
- Investigations of indoor and outdoor, residential and commercial grade cooking fires, installation practices, and documentation and evaluation of fire protection systems.

Presentations

"Fire Investigation: Dynamics to Deliverables," D.A. Wilson, TJTA Trial Tactics Seminar, Cherokee, North Carolina, August 2022.

"Fire Investigation Guidelines: What to Expect," D.A. Wilson, IASIU, Livonia, Michigan, October 2019.

"Technology and the Investigator" D. A. Wilson, Raleigh Claims Association, Raleigh, NC, June 2018.

"Basics of Fire and Fire Behavior" D.A. Wilson, Kentucky Air National Guard 123rd Airwing, Louisville, KY, 2011.