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Mr. David A. Wilson is a Senior Consultant for Engineering Systems Inc. (ESi). Mr. Wilson performed 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 his training at the top of his class with honors. While serving his state and country, Mr. David A. Wilson attended Eastern Kentucky University (EKU) seeking a bachelor's degree in Fire, Arson and Explosion Investigation. He graduated EKU's Bachelor of Science program with Summa Cum Laude honors.

Mr. Wilson has investigated various structural, commercial, and vehicle fires and explosions over his 10+ year career. He has led, supervised and contributed to many investigations through fire origin and cause determination, fire scene reconstruction, and artifact collection and handling. Mr. Wilson's expertise includes fire behavior and dynamics, heat and flame vector analysis, and fire phenomenon. He has hands-on experience with forensic evidence collection, photography, diagramming, 3D laser scanning technology and drone operations.

Mr. Wilson is a member of the National Fire Protection Association (NFPA), 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). IAAI and NAFI award these designations based upon a thorough evaluation of a candidate's training and professional expertise.

Areas of Specialization

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

Education

B.S., Fire and Safety Engineering Technology (Summa Cum Laude), Eastern Kentucky University, 2011

January 2025

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

Professional Affiliations/Honors

International Association of Arson Investigators (IAAI)
IAAI North Carolina Chapter (IAAI-NC)
National Association of Fire Investigators (NAFI)
National Fire Protection Association (NFPA)

Positions Held

Engineering Systems Inc., Charlotte, North Carolina

Senior Consultant - Present
Senior Staff Consultant, 2021 – 2024
Staff Consultant, 2015 – 2020
Associate Consultant, 2012 - 2014

Kentucky Air National Guard, Louisville, Kentucky

Airport Firefighter, 2007 – 2013

United States Navy

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

Specialized Training

"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

"74" 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

Courses Instructed

“Basics of Fire and Fire Behavior” – Kentucky Air National Guard 123rd Airwing, 2011

Coursework

Fire Behavior & Combustion
Introduction to Fire & Explosions
Introduction to Forensic Science
Fire, Arson & Explosion Investigation
Systems and Failure Analysis
Fire & Explosion Scene Analysis
Fire Dynamics
Advanced Explosion/Bombing Investigation
Investigative Law
Fire & Explosions Case Prep
Fire Prevention
Building Construction
Legal Aspects of Fire Protection and Safety
Applied Fire and Safety Analysis
Fire Protection Systems



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January 2025*

Principles of Emergency Services
Fire and Emergency Scene Operations
Principles of Occupational Safety and Health
Terrorism / Counterterrorism