

**Michael R. Rugh** | Senior Fire Investigator, IAAI-CFI (V), IAAI-ECT, NAFI-CFEI/ CVFI

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### Professional Summary:

Mr. Rugh has performed origin and cause investigations on over 2,000 fires. These fire investigations consisted of vehicles, residential structures, commercial structures, wildland, agricultural, post blast and fatal fire investigations. In addition, he has over 23 years investigating criminal incidents with twelve years specifically investigating arson cases for the Pennsylvania State Police and has testified in local, state and federal courts as well as numerous civil depositions.

### Licenses and Certifications:

Certified Firefighter I, PA State Fire Commissioners Office and National Pro Board #16273  
Certified Firefighter II, PA State Fire Commissioners Office and National Pro Board #1909065  
Certified Fire Instructor I, PA State Fire Commissioners Office and National Pro Board #238439  
Certified Fire Investigator I, PA State Fire Commissioners Office & National Pro Board #345652  
Certified Fire Investigator, International Association of Arson Investigators (V) #29-061233  
Certified Evidence Collection Technician, International Association of Arson Investigators #755  
Certified Vehicle Fire Investigator, NAFI, #23368-16369V  
Certified Fire and Explosion Investigator, NAFI, #23368  
Pennsylvania Private Investigator #CP-10-MD-0000328-2019  
Maryland Private Investigator #101-26139  
Delaware Private Investigator #AAA0286999  
District of Columbia Private Investigator #PD202127  
West Virginia Private Investigator

### Professional Experience:

Pennsylvania State Police, Deputy Fire Marshal, 1993-2014  
Ryhal & Associates, Certified Fire Investigator, 2014-2017  
EFI Global Inc., Certified Fire Investigator, 2017 to present  
Monroe Fire Company, Mechanicsburg, PA, Career Driver / Firefighter, 2015-2017  
Union Fire Co. No. 1, Carlisle, PA, Career Driver / Firefighter, 1996 to present  
Volunteer Firefighter 1981 to present

### Specialized Education:

Asbestos Awareness, SCM 2026  
Lithium-Ion Battery Fires, CFI Trainer 2026  
O&C Hypothesis Test Methods, CFI Trainer 2026  
Hazwoper Refresher, Safety Unlimited 2026  
Electrical Safety, CFI Trainer 2026  
Site Safety Assessment, CFI Trainer 2026  
Preventing Occupational Exposures to Carcinogens, CFI Trainer 2026  
USPS-VFIS Program, Sedgwick 2026  
Hazwoper Refresher, SCM 2025  
Asbestos Awareness, SCM 2025  
Fatal Fires, Gen AI, Combating Arson for Profit, Natural Gas and propane Explosions, Fuel / Air Explosions, PAAI 2025  
Understanding the Fire Investigators Job, CFI Trainer 2025  
Understanding Undetermined, CFI Trainer 2025  
Building Confidence in O&C Investigations, PAAI, 2025  
Bias, Presupposition, Heuristics and other concerns, PAAI, 2025  
Exploding candles, investigating candle fires, PAAI, 2025  
Fire scene evidence and collection, PAAI 2024  
Gas explosions and fires, PAAI 2024  
Hazwoper refresher, SCM 2024  
Asbestos awareness, SCM 2024  
Hazmat Ops Refresher, HACC 2024  
Lithium battery fires, EFI Global 2024  
Asbestos awareness, SCM 2023  
Hazwoper refresher, SCM 2023  
Jack Christmas training weekend, PAAI 2023  
Hypothesis development in fire investigation, CFI Trainer, 2023  
Fire Effects part 1, heat effects on fuels, CFI Trainer, 2023  
Fire Effects part 2, combustion by products effects, CFI Trainer 2023  
Was the fire accidental, CFI Trainer 2023  
Hazmat Ops Refresher, Bucks County 2023  
Vehicle fire investigation training, NAFI 2023  
Residential electrical systems and appliances, PAAI 2023  
The use of forensic toxicology in fire deaths, PAAI 2023  
Fatal fire investigation, PAAI 2023  
Expert deposition and trial testimony in fire litigation, PAAI 2023  
The 1995 Bricelyn Street fire, case conclusion, PAAI 2023  
Jack Christmas training weekend, PAAI 2023  
OSINT open source intelligence, PAAI 2023  
The mechanics of interviewing, PAAI 2023  
Fire investigator health and safety, PAAI 2023  
Jack Christmas training weekend, PAAI 2022  
Annual Training Seminar, PAAI 2022  
High voltage vehicle battery fires awareness, ESI 2022  
Electric and Hybrid vehicle design basics, CFI Trainer 2021  
Electric and Hybrid vehicle fires, CFI Trainer 2021  
Emerging technologies in fire investigation, CFI Trainer 2021

Electrical aspects of fire investigation, CFI Trainer 2021  
Updates to NFPA 921, PAAI 2021  
Annual training conference, PAAI 2021  
Hero to zero, PAAI 2021  
Hazwoper refresher, SCM 2021  
Asbestos awareness, SCM 2021  
Preventing occupational exposure to carcinogens at the fire scene, CFI Trainer 2020  
The new impact NFPA 921 and 1033NASP 2020  
Respiratory protection training, EFI Global 2020  
Fire investigator health and safety in the post fire environment, EFI Global 2020  
Historical development of fire codes, EFI Global 2020  
Hazwoper Refresher Training, OSHA, tested, 2020  
Fire Flow Analysis, CFI Trainer, 2020  
Critical Evaluation and Testing of Commonly Reported Accidental Causes, CFI Trainer, 2020  
Introduction to Appliances, CFI Trainer, 2020  
Fire Investigation for Fire Officers Multi-Program, CFI Trainer, 41 hr. tested, 2020  
Principles of Fire Investigation Multi-Program, CFI Trainer, 67 hr. tested, 2020  
Spontaneous Combustion, EFI Global C.E., 2020  
Asbestos Awareness Training, EFI Global C.E., 2020  
Asbestos Awareness Refresher Training, OSHA, tested 2020  
Annual Jack Christmas Training Weekend, PAAI, tested 2020  
Hazardous Materials Operations Refresher, PA State Fire Academy, 2020  
Asbestos Awareness, OSHA, tested, 2019  
Hazwoper Occasional Site Worker, OSHA, tested, 2019  
Explosion Dynamics, CFI Trainer, 2019  
Fundamentals of Residential Building Construction, CFI Trainer, 2019  
Fire Protection Systems, CFI Trainer, 2019  
Wildland Fires Investigation, CFI Trainer, 2019  
Motive Means and Opportunity. Determining Responsibility in an Arson Case, CFI Trainer, 2019  
Introduction to Fire Dynamics and Modeling, CFI Trainer, 2019  
The Impact of Ventilation in Building Structures on Fire Development, CFI Trainer, 2019  
Thermometry, Heat and Heat Transfer, CFI Trainer, 2019  
Investigating and Litigating Fire Loss Claims for Subrogating Insurers, CFI Trainer, tested  
PAAI Annual Training Conference, 2019, tested  
Fireworks Training Seminar, Reading Training Academy, 2018  
PAAI Annual Training Conference, 2018  
Annual Jack Christmas Training Weekend, PAAI, 2018  
IASIU Insurance Fraud Conference, 2015  
IASIU Insurance Fraud Conference, 2014  
Interview and Interrogation, PA State Police, 2014  
Electrical Aspects of Fire Investigation, National Fire Academy, 2013  
Post Blast Investigator, U.S. Dept. of Justice, 2013  
Annual Jack Christmas Training Weekend, PAAI, 2013  
PAAI Annual Training Conference, 2013  
IASIU Insurance Fraud Conference, 2013  
Wildland Fire Observations and Origin Scene Protection, DCNR, 2013  
Analysis of the Station Nightclub Fire, CFI Trainer, 2013  
Post Flashover Fires, CFI Trainer, 2013  
PAAI Annual Training Conference, 2012  
Annual Jack Christmas Training Weekend, PAAI, 2012  
PAAI Annual Training Conference, 2011

Arc Mapping Basics, CFI Trainer, 2011  
Electrical safety, CFI Trainer, 2011  
Utilizing NFPA 921 and 1033, CFI Trainer, 2011  
Evidence Examination, CFI Trainer, 2011  
Digital Photography and the Fire Investigator, CFI Trainer, 2011  
Testifying as an Expert Witness, PA State Police, 2011  
Forensic Evidence Collection, National Fire Academy, 2011  
Annual Jack Christmas Training Weekend, PAAI, 2011  
DNA, CFI Trainer, 2011  
IASIU Insurance Fraud Conference, 2011  
IASIU Insurance Fraud Conference, 2010  
Fire Pattern Recognition and Identification Certification, PATC, 2010  
In-Service Training, PA State Police Fire Marshal Unit, 2010  
Ventilation Practices Refresher, HACC, 2010  
PAAI Annual Training Conference, 2010  
Physical Evidence at the Fire Scene, CFI Trainer, 2010  
Introduction to Evidence, CFI Trainer, 2010  
PAAI Annual Training Conference, 2009  
Hero to Zero- Firefighter Arsonist, PAAI, 2009  
Flashover Simulator, MAMA, 2009  
PAAI Annual Training Conference, 2008  
Hero to Zero- Firefighter Arsonist, PAAI, 2008  
Annual Jack Christmas Training Weekend, PAAI, 2008  
Statement Analysis, FBI, 2008

#### Education:

Pennsylvania State Police Academy, Hershey, PA 1993  
United States Marine Corps, Honorably Discharged, 1983-1987

#### Affiliations:

Pennsylvania Association of Arson Investigators (PAAI) - Board of Directors  
2013 Annual Seminar Chairman  
International Association of Arson Investigators (IAAI)  
National Association of Fire Investigators (NAFI)  
Pennsylvania State Firemen's Association (PSFA)  
Central District Volunteer Firemen's Association (CDVFA) - County Vice President, Senior Delegate  
Fraternal Order of Police (FOP)- Lodge Delegate

#### Courses Instructed/ Guest Lecturer:

Hero to Zero - Firefighter Arsonist  
Fire Investigation / Arson Awareness

#### Honors and Awards:

Photography Award, IAAI, 2011, 2025  
Medal of Honor, PA State Police, 2002



Photography Award, PAAI, 2005, 2008, 2009, 2010, 2011, 2012