

## Patrick Kettenring | Senior Fire Investigator, IAAI-CFI

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### Professional Summary:

Mr. Kettenring is a 28-year veteran of the fire service, retiring in 2009 as an Assistant Chief. Patrick extended his fire service career as a Deputy Fire Marshal/Fire Investigator for a metropolitan county Fire Marshal's Office for an additional 7 years. He also worked with a national forensics engineering and consulting firm as a Fire Investigator, then for an insurance company, again as an investigator. Patrick has a degree in Fire Investigations, as well as Fire Command and Administration.

Patrick has also been Post-Blast Explosion certified through the Department of Justice Federal Bureau of Investigations. Patrick previously held IBC, IFC, and IRC certifications and had performed structural and fire protection plan reviews and field inspections. Of Mr. Kettenring's 37-year career, he has spent 16 years investigating fire and explosions.

- Commercial and residential fire and explosion losses
- Heavy equipment, marine equipment, and vehicle fires
- Mid-stream energy facilities for oil and gas industries

Patrick has been qualified and accepted as an expert witness in the State of Washington Judicial Court System, as well as United States District Court for the Western District of Washington.

Patrick has served as an Instructor for the Washington State Fire Training Academy, the Pierce County (WA) Fire Marshal's Office, the City of Tacoma (WA), the City of Phoenix (AZ), and at the Post-Blast Explosion School (WA) for the Federal Bureau of Investigations.

### Licenses and Certifications:

Certified Fire Investigator (IAAI-CFI), International Association of Arson Investigators, Certification #21-122026

Certified Fire and Explosion Investigator (CFEI), National Association of Fire Investigators, Certification #15157-8423

Certified Vehicle Fire Investigator (CFEI-V), National Association of Fire Investigators, Certification #15157-8423v

Arizona Private Investigator's License #1641492

### Project Experience:

#### **Hydraulic Fracturing Facility, North Dakota Explosion with fire**

Conducted an origin and cause investigation of a horizontal boring operation that breached a natural gas storage facility.

**Hot Mix Asphalt Plant explosion, Texas**

Conducted an origin and cause investigation of an explosion at an asphalt hot-mix facility with the loss of a 1,000,000-gallon storage tank and product.

**Regional Airport Hanger Fire, Washington**

Conducted an origin and cause investigation of a fire at a commercial airport hangar that resulted in the loss of an aircraft, additional vehicles, and the Hanger.

**Professional Experience:**

EFI Global /Unified Investigations and Sciences, Inc., Senior Fire Investigator, May 2017-Present  
Energi Insurance Services Inc., Technical Investigator, 2015-2017  
Rimkus Consulting Group, Inc., Senior Fire Investigator, August 2014-September 2015  
Pierce County Fire Marshal's Office, Deputy Fire Marshal, 2009-2014  
South King Fire & Rescue, Assistant Chief of Planning, Logistics, and Special Projects, Assistant Chief of Operations, Assistant Chief of Special Operations, Shift Battalion Chief, Chief of Training, Fire Marshal, 1981-2009

**Specialized Education:**

Arizona Advanced Fire Investigation Seminar, CFITrainer.net, IAAI, 2018  
Thermometry, Heat, and Heat Transfer, CFITrainer.net, IAAI, 2017  
Discovery in Civil Cases, CFITrainer.net, IAAI, 2017  
Fire Chemistry, CFITrainer.net, IAAI, 2017  
Residential Electrical Systems, CFITrainer.net, IAAI, 2017  
HAZWOPER Refresher Training, Safety Unlimited, Inc., OSHA Regulation 29 CFR 1910.120(e) & (p), 2017  
Asbestos Awareness Training, Safety Unlimited, Inc., 29 CFR 1910.1001(j)(7), 29 CFR 1915.1001(k)(9), 29 CFR 1926.1101(k)(9), 40 CFR Part 763 Subpart G, 2017  
NFPA 921: Origin and Cause Analysis Involving Appliances, Energi Insurance Services, 2017  
Anatomy of a Kitchen Fire, CFITrainer.net, National Fire Investigator Journal, 2016  
Ethical Duties Beyond the Fire Scene, CFITrainer.net, 2016  
The Deposition Part 2: Questioning Tactics and Effective Responses, CFITrainer.net, 2016  
The Deposition Part 1: Format, Content and Preparation, CFITrainer.net, 2016  
Process of Elimination, CFITrainer.net, 2016  
Residential Natural Gas Systems, CFITrainer.net, 2016  
Investigating Natural Gas Systems, CFITrainer.net, 2016  
Communicating the Value of Membership in the IAAI, CFITrainer.net, 2016  
Gas/Vapor Combustion Explosions, Energi Insurance Services, 2015  
Marine Fire Investigations, Energi Insurance Services, 2015  
Legal Considerations During the Investigation, Rimkus Consulting, 2015  
NFPA 921: Fuel Load, Fuel Packages and Properties of Flames, Rimkus Consulting, 2015  
NFPA 58 Liquefied Petroleum Gas Code, Rimkus Consulting, 2015  
NFPA 54 National Fuel Gas Code, Rimkus Consulting, 2015  
NFPA 77 Recommended Practice on Static Electricity, Rimkus Consulting, 2015

ASTM E1188: Standard Practice for Collection and Preservation of Information and Physical Items by a Technical Investigator, Pierce County Fire Marshal's Office, 2014  
ASTM E860: Examining and Preparing Items That Are or May Become Involved in Criminal or Civil Litigation, Pierce County Fire Marshal's Office, 2014  
Investigating HMA Plant (Asphalt) Fires, Pierce County Fire Marshal's Office, 2014  
Anatomy of an Arson Prosecution, Tacoma Police Department, Tacoma, Washington, 2014  
Basic Electricity, CFITrainer.net, 2014  
The HAZWOPER Standard, CFITrainer.net, 2014  
The Practical Application of the Relationship Between NFPA 1033 and NFPA 921, 2014  
2011 NFPA 921 Changes, CFITrainer.net, 2014  
Preparation for the Marine Fire Scene, CFITrainer.net, 2014  
Ethics and Social Media, CFITrainer.net, 2014  
DNA, CFITrainer.net, 2014  
Improvised Explosive Device Awareness, Tacoma Police Department, Tacoma, Washington, 2013  
Physical Evidence at the Fire Scene, CFITrainer.net, 2013  
Motive, Means, and Opportunity: Determining Responsibility in an Arson Case, CFITrainer.net, 2013  
NFPA 1033 and Your Career, CFITrainer.net, 2012  
Managing Complex Fire Scene Investigations, CFITrainer.net, 2012  
How First Responders Impact the Fire Investigation, CFITrainer.net, 2012  
Using Resources to Validate Your Hypothesis, CFITrainer.net, 2012  
MagneTek: A Case Study in the Daubert Challenge, CFITrainer.net, 2012  
Fire Protection Systems, CFITrainer.net, 2012  
Fundamentals of Residential Building Construction, CFITrainer.net, 2012  
Fundamentals of Interviewing, CFITrainer.net, 2012  
A Ventilation-Focused Approach to the Impact of Building Structures and Systems on Fire Development, CFITrainer.net, 2012  
Writing the Initial Origin and Cause Report, CFITrainer.net, 2012  
Ethics and the Fire Investigator, CFITrainer.net, 2012  
Introduction to Evidence, CFITrainer.net, 2012  
Investigating Fatal Fires, CFITrainer.net, 2012  
Explosion Dynamics, CFITrainer.net, 2011  
Critical Thinking Solves Cases, CFITrainer.net, 2011  
Insurance and the Fire Investigation, CFITrainer.net, 2011  
Electrical Safety, CFITrainer.net, 2011  
Investigating Motor Vehicle Fires, CFITrainer.net, 2011  
Fire Investigator Scene Safety, CFITrainer.net, 2011  
Digital Photography and the Fire Investigator, CFITrainer.net, 2011  
Evidence Examination: What Happens at the Lab?, CFITrainer.net, 2011  
Search and Seizure, CFITrainer.net, 2011  
Fire and Explosion Investigations: Utilizing NFPA 1033 and 921, CFITrainer.net, 2011  
Fire Pattern Recognition and Identification, Public Agency Training Council, 2010  
Hands-on Electrical Fire/Arson Investigation, Public Agency Training Council, 2010  
Documenting the Event, CFITrainer.net, 2010  
Post-flashover Fires, CFITrainer.net, 2010  
The Scientific Method for Fire and Explosion Investigation, CFITrainer.net, 2010  
Introduction to Fire Dynamics and Modeling, CFITrainer.net, 2010  
Effective Investigation and Testimony, CFITrainer.net, 2010  
Arc Mapping Basics, CFITrainer.net, 2010

### Education:

Associates Degree Fire Investigations, Bellevue College, Bellevue, Washington, 2001-2002  
Associates Degree Fire Command and Administration, Bellevue College, Bellevue, Washington, 2003-2004

### Affiliations:

International Associations of Arson Investigators (IAAI)  
National Association of Fire Investigators (NAFI)  
Arizona Chapter, International Association of Arson Investigators

### Courses Instructed/ Guest Lecturer:

Incendiary Fire Investigations, Instructor, 3 hours, Phoenix (AZ) Fire Training Academy  
Basic Fire Investigation Techniques, Instructor, 8 hours, Phoenix (AZ) Fire Investigation Division  
Vehicle Fire Investigation, Instructor, 6 hours, Hattiesburg (MS) Police and Fire Training Academy  
NFPA 921 and 1033  
Origin and Cause Investigations  
Fire Behavior  
Writing the Initial Origin and Cause Report  
Lithium, Lithium-ion, and Lithium-polymer Battery Fire Investigations  
Post-Blast Scene Investigations  
Fire Investigations for Law Enforcement Personnel  
NFPA 58 Liquefied Petroleum Gas Code  
NFPA 54 National Fuel Gas Code  
ASTM E1188: Standard Practice for Collection and Preservation of Information and Physical Items by a Technical Investigator

\*\*Litigation CV available upon request.