



WADE CARMAN

CARMAN & ASSOCIATES FIRE INVESTIGATION, INC.

wade@carmanfire.com
P.O. Box 273
Grass Valley, CA 95945
(530) 263-4087 – cell
(888) 838-8261 – fax

FORMAL EDUCATION & CERTIFICATIONS:

- **Embry Riddle Aeronautical University (2005-2009)** Prescott, Arizona
2009 - Graduated with B.S. Degree in Aeronautical Engineering
- **Commercial Glider Pilot & Private Pilot Single Engine Aircraft (2005 - Present)**
Certified Remote (Drone) Pilot FAA# 30186118
- **CFEI - Certified Fire and Explosion Investigator (March 2018)**
National Association of Fire Investigators (NAFI) 23039-13264
- **IAAI - Certified Fire Investigator (February 2025)**
International Association of Arson Investigators, Inc. (IAAI) 22-0224173

PROFESSIONAL WORK EXPERIENCE:

March 2018 – Present Fire Investigator - Carman & Associates Fire Investigation, Inc.
Sep 2010 – Mar 2018 Design Engineer - Windward Performance Aircraft Design
Aug 2009 – Sep 2010 Flight Test Engineer - United States Air Force Flight Test Center

FIRE INVESTIGATION EXPERIENCE:

I have investigated and/or assisted with the investigation of more than 250 fires to determine Origin, Cause, and General Fire Behavior. The types of fires include commercial and residential structure fires, aircraft, automobile, marine, and large wildland fires. Other experience includes explosion investigations. I have participated in non-destructive and destructive laboratory examinations of evidence.

I have attended and conducted approximately 30 burn tests to study and document burn patterns, flame spread and general fire behavior.

I have operated drones and single engine aircraft to map multiple wild land fire scenes as large as 4000 acres. Aerial images were used to create a single high-resolution aerial image documenting wild land burn patterns and fire damage. I have used aerial and terrestrial photogrammetry to create 3D computer models of structural fire and explosion scenes.



EXPERT WITNESS TESTIMONY

US District Court, Central District of California, Southern Division at Santa Ana
Testified in jury trial of State Farm Insurance v. Techtronic Industries North America
January 14, 2025. Santa Ana, CA
US District Court Case No. 8:23-cv-01731-FWS

US District Court, Central District of California, Southern
Deposition for State Farm Insurance Company V, Techtronic Industries North America, Inc,
August 29, 2024 – Remote Deposition
US District Court Case No. 8:23-cv-01731-FWS

TRAINING PRESENTED:

- Aug 2024 **Artificial Intelligence in Fire Investigation**
CCAI Roundtable
Folsom, California (2 hours)
- May 2022 **Scanning Technology in Fire Investigation**
CCAI Roundtable
Roseville, California (2 hours)
- Mar 2019 **Use of 3D Scanners and Drones in Fire Department Pre-Planning**
Contra Costa Fire Department
Contra Costa, California (2 hours, 10 students)
- Jan 2019 **Use of 3D Scanners and Drones in Forensic Investigations**
Grass Valley Police Department
Grass Valley, California (2 hours, 15 students)

PROFESSIONAL DEVELOPMENT & SPECIALIZED TRAINING RECEIVED:

- Feb 2025 **Fire Protection Systems - Tested**
International Association of Arson Investigators
<http://www.cfitrainer.net> (3 hours)
- Residential Electrical Systems - Tested**
International Association of Arson Investigators
<http://www.cfitrainer.net> (4 hours)
- Commercial Kitchen Fires 2: Investigation - Tested**
International Association of Arson Investigators
<http://www.cfitrainer.net> (3 hours)



Commercial Kitchen Fires 1: Fundamentals - Tested

International Association of Arson Investigators

<http://www.cfitrainer.net> (3 hours)

Nov 2024

Fundamentals of Residential Building Construction - Tested

International Association of Arson Investigators

<http://www.cfitrainer.net> (3 hours)

Aug 2024

The Practical Application of the Relationship Between NFPA 1033 and NFPA 921 - Tested

International Association of Arson Investigators

<http://www.cfitrainer.net> (2 hours)

Jan 2024

Fire Flow Analysis - Tested

International Association of Arson Investigators

<http://www.cfitrainer.net> (3 hours)

Understanding Fire Through the Candle Experiments - Tested

International Association of Arson Investigators

<http://www.cfitrainer.net> (4 hours)

Fire Chemistry - Tested

International Association of Arson Investigators

<http://www.cfitrainer.net> (3 hours)

Dec 2023

Fire Effects Part 2: Combustion By-Products Effects - Tested

International Association of Arson Investigators

<http://www.cfitrainer.net> (3 hours)

Fire Effects Part 1: Heat Effects on Fuels - Tested

International Association of Arson Investigators

<http://www.cfitrainer.net> (3 hours)

Deposition Preparation Part 1 and Part 2 - Tested

International Association of Arson Investigators

<http://www.cfitrainer.net> (6 hours)

Effective Investigation and Testimony - Tested

International Association of Arson Investigators

<http://www.cfitrainer.net> (3 hours)

Arc Mapping Basics - Tested

International Association of Arson Investigators

<http://www.cfitrainer.net> (4 hours)



- Oct 2023 **Lithium Ion / Battery Fires - Tested**
California Conference of Arson Investigators (Instructor: Mike Eskra)
San Louis Obispo, California (16 hours)
- Live burns including battery fires, spontaneous ignition, building materials, smoldering fires, flame height crib burns, electrical fires.**
California Conference of Arson Investigators (Instructor: Multiple)
San Louis Obispo, California (6 hours)
- Fire Investigation Fundamentals: Scientific Method, Burn Patterns - Tested**
California Conference of Arson Investigators (Instructor: Jeff Campbell)
San Louis Obispo, California (6 hours)
- January 2023 **Scientific Protocols for Fire Investigations - Tested**
South Bay Arson Task Force (Instructor: John Lentini)
Torrance, CA (24 hours)
- June 2022 **The Science of Alarm Systems for Fire Investigators - Tested**
California Conference of Arson Investigators (Instructor: Jeff Zwirn)
San Louis Obispo, California (4 hours)
- Court Testimony Prep - Tested**
California Conference of Arson Investigators (Instructor: Rob Rappaport)
San Louis Obispo, California (4 hours)
- The Science of the Vehicle Black Box - Tested**
California Conference of Arson Investigators (Instructor: Randi Kasongo)
San Louis Obispo, California (2 hours)
- Forensic Cell Phone Records and Search Warrants - Tested**
California Conference of Arson Investigators (Instructor Detective Justin Russell)
San Louis Obispo, California (4 hours)
- CT Scanning in Fire Investigation - Tested**
California Conference of Arson Investigators (Instructor: Adam Bovie)
San Louis Obispo, California (4 hours)
- The Psychology of a Fire Investigation - Tested**
California Conference of Arson Investigators (Instructor: Jim Brown)
San Louis Obispo, California (2 hours)
- May 2021 **FI-210 Wildland Fire Investigator Training - Tested**
El Dorado Hills Fire Dept Training Facility (Instructor: Terry Taylor)
Live fire and classroom training (36 hours)



Feb 2021

Advanced Fire Dynamic Simulator with Pyrosim & Smokeview

Society of Fire Protection Engineers (Instructor: Bryan Klein)

Online training (24 hours)

Fire Scene Research Sources - Tested

California Conference of Arson Investigators (Instructor: Scott Kuhlman & Jim Brown)

San Louis Obispo, California (4 hours)

Lithium-Ion Batteries - Tested

California Conference of Arson Investigators (Instructor: Mike Eskra)

San Louis Obispo, California (4 hours)

Fireplace Investigations - Tested

California Conference of Arson Investigators (Instructor Dale Feb)

San Louis Obispo, California (4 hours)

Wildland Fire Investigations - Tested

California Conference of Arson Investigators (Instructor: Ray Falcon)

San Louis Obispo, California (4 hours)

Fire Dynamics and Fire Pattern Analysis - Tested

California Conference of Arson Investigators (Instructor: Jeff Campbell)

San Louis Obispo, California (8 hours)

**Fire Science, Fire Investigation Technology & Fire Investigation
Methodology in Reaching Your Origin and Cause- Tested**

California Conference of Arson Investigators (Instructors: Joe Konefal)

San Louis Obispo, California (4 hours)

Presenting Your Case to the District Attorney - Tested

California Conference of Arson Investigators (Instructor: Lauren Guber)

San Louis Obispo, California (2 hours)

Sep 2020

Fire Dynamics / Fire Pattern Analysis - Tested

California Conference of Arson Investigators (Instructor: Steve Carman)

San Louis Obispo, California (4 hours)

NFPA 921 Scientific Methodology - Tested

California Conference of Arson Investigators (Instructor: Randy Watson)

San Louis Obispo, California (4 hours)

Building an Arson Case - Tested

California Conference of Arson Investigators (Instructor Ed Nordskog)

San Louis Obispo, California (6 hours)



Civil and Criminal Investigation Case Studies

California Conference of Arson Investigators (Instructors: Rick Jones & Steve Carman)
San Louis Obispo, California (4 hours)

Report Writing and Creating Your CV - Tested

California Conference of Arson Investigators (Instructors: Rob Rappaport & Rob Toth)
San Louis Obispo, California (6 hours)

Honey Oil Extraction Fire Scenes - Tested

California Conference of Arson Investigators (Instructors: Vic Massenkoff)
San Louis Obispo, California (2 hours)

The Prosecution of Cannabis and it's Bi-Products - Tested

California Conference of Arson Investigators (Instructor: Lauren Guber)
San Louis Obispo, California (2 hours)

Oct 2019 **IAAI Expert Witness Testimony Class**

IAAI Chapter 31 Oregon (Instructor: Ryan Fields)
Lake Oswego, Oregon (24 hours)

Sep 2019 **Accidental Fire Causes - Tested**

California Conference of Arson Investigators (Instructor: Rob Rappaport & Keith Marshall)
San Louis Obispo, California (4 hours)

Electrical Fire Causes - Tested

California Conference of Arson Investigators (Instructor: George White & Jeff Barnes)
San Louis Obispo, California (4 hours)

Burn to Learn Live Scenarios

California Conference of Arson Investigators
San Louis Obispo, California (6 hours)

- **Molotov Cocktails**
- **Incendiary Devices**
- **Pour Patterns**
- **Hypergolic Material Fires**
- **Electrical Fires**
- **Spontaneous Combustion**

Legal Aspects of Subrogation & Case Studies

California Conference of Arson Investigators (Instructor: David Brisco)
San Louis Obispo, California (4 hours)



The Scientific Method for Fire & Explosion Investigation - Tested

International Association of Arson Investigators

<http://www.cfitrainer.net> (4 hours)

July 2019

Solar Panel Fires

California Conference of Arson Investigators – Roundtable

Instructors: Jim Nolt – JHNolt Associates

Roseville, CA (1.5 Hour)

Arc Mapping New Technology or Myth & Copper Conductor - Tested

International Association of Arson Investigators: International Training Conference

<http://www.cfitrainer.net> (4 hours)

Explosions and Bombings A Fire Investigator's Perspective - Tested

International Association of Arson Investigators: International Training Conference

<http://www.cfitrainer.net> (2 hours)

Behavior Context Relating to Vegetation Fire Investigation - Tested

International Association of Arson Investigators: International Training Conference

<http://www.cfitrainer.net> (2 hours)

Flame Jetting Awareness and Investigative Challenges - Tested

International Association of Arson Investigators: International Training Conference

<http://www.cfitrainer.net> (4 hours)

Patterns of Heat Flow and Melted Conductors - Tested

International Association of Arson Investigators: International Training Conference

<http://www.cfitrainer.net> (4 hours)

Spontaneous Heating Fire with Vegetable Oils & Fats - Tested

International Association of Arson Investigators: International Training Conference

<http://www.cfitrainer.net> (2 hours)

Ventilation Considerations in Origin Hypothesis Testing - Tested

International Association of Arson Investigators: International Training Conference

<http://www.cfitrainer.net> (4 hours)

May 2019

The Impact of Ventilation on Fire Patterns in Full-Scale Structures -Tested

International Association of Arson Investigators: International Training Conference

<http://www.cfitrainer.net> (4 hours)

Apr 2019

Fire Dynamics - Robert Schaal

International Association of Arson Investigators: International Training Conference



Arc Mapping Basics - Tested

International Association of Arson Investigators: International Training Conference
<http://www.cfitrainer.net> (4 hours)

Mar 2019

Basic Electricity - Tested

International Association of Arson Investigators
<http://www.cfitrainer.net> (4 hours)

Feb 2019

Cognitive Interviewing - Tested

California Conference of Arson Investigators (Instructor: Mike Bryant)
San Louis Obispo, California (28 hours)

Residential Fire Failure Modes - Tested

California Conference of Arson Investigators (Instructor: Jeff Campbell)
San Louis Obispo, California (2 hours)

Nov 2018

Light Volatiles in Fire Debris

California Conference of Arson Investigators – Roundtable
Instructor: Dr. John DeHaan
Roseville, CA (1 Hour)

Apr 2018

Investigation of Gas and Electric Appliance Fires - Tested

Fire Findings
Benton Harbor, Michigan (30 hours)

March 2018

Certified Fire & Explosion Investigator Advanced Training - Tested

National Association of Fire Investigators
Advanced Fire Investigator Training and CFEI Exam
Dallas, TX (32 hours)

Nov 2017

Pre and Post Flashover Fire Investigation with Live Burn Demonstration

California Conference of Arson Investigators (Instructors: Steve Carman & Jeff Campbell)
San Louis Obispo, California (6 hours)

PROFESSIONAL ASSOCIATIONS:

- **International Association of Arson Investigators**
Member, 2018 – Present
- **National Association of Fire Investigators**
Member, 2018 – Present
- **California Conference of Arson Investigators**
Member, 2018 – Present