



NICHOLAS J. SPRUILL, CFEI, FIT SENIOR TECHNOLOGIST

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Nicholas Spruill, CFEI, FIT, is a Senior Technologist for the Southern California office of ESI. Mr. Spruill is experienced in mechanical testing, failure analysis, and site documentation techniques. He performs field investigations, laboratory testing, and evidence collection. He specializes in fire investigation, mechanical investigations, electrical investigations, digital & optical microscopy, videography, and forensic photography. Prior to joining ESI, he worked within the inventory control, automotive, logistics, and safety fields.

Mr. Spruill is a certified Divemaster, and has training that includes surveying and mapping of underwater environments, and inspection and analysis of underwater debris and wreckage. He is a member of the National Association of Fire Investigators (NAFI), and holds their designation as a Certified Fire and Explosion Investigator (CFEI). Mr. Spruill is also a member of the International Association of Arson Investigators (IAAI), and holds their designation of Fire Investigation Technician (FIT).

Areas of Specialization

Failure Analysis
Fire and Explosion Investigation
Mechanical Testing
Materials Testing

Education

B.A., History, California State University Fullerton, Fullerton, CA

Certifications

Certified Fire and Explosion Investigator (CFEI), NAFI 16135-8563
Fire Investigation Technician (FIT), IAAI

June 2017

Professional Affiliations/Honors

National Association of Fire Investigators (NAFI)

Certified Fire and Explosion Investigator (CFEI) 16135-8563
Member

National Fire Protection Association (NFPA)

Member

International Association of Arson Investigators (IAAI)

Fire Investigation Technician (FIT)
Member

California Conference of Arson Investigators (CCAI)

Member

Positions Held

Engineering Systems Inc., Foothill Ranch, California

Senior Technologist, 2016 – Present
Technologist/Office Manager, 2011 – 2016
Technologist, 2010 – 2011

West Marine, Newport Beach, California

Inventory Control Manager, 2008 – 2010

Scuba.com, Newport Beach, California

Webmaster/Copywriter, 2007

Land Rover Newport Beach, Newport Beach, California

Sales Guide, 2006 – 2007

Continued Education

OSHA 30hr General Industry Safety Training – American Safety Council – OSHA Outreach Training
Center University of South Florida – 2016

Residential Natural Gas Systems – IAAI – CFITrainer.net – 2016

Residential Electrical Systems – IAAI – CFITrainer.net – 2016

Basic Electricity – IAAI – CFITrainer.net – 2016

DNA – IAAI – CFITrainer.net – 2016

OSHA 30hr Construction Industry Safety Training – American Safety Council – OSHA Outreach
Training Center University of South Florida – 2016

The HAZWOPER Standard – IAAI – CFITrainer.net – 2016

Preparation for the Marine Fire Scene – IAAI – CFITrainer.net – 2016
NFPA 921 and 1033 2014 Editions: Important Revisions – IAAI – CFITrainer.net – 2016
Accreditation, Certification, and Certificates – IAAI – CFITrainer.net – 2016
“Burn to Learn” – CCAI – San Luis Obispo, California – 2016
3D Laser Scanning FARO Focus Training – FARO – Los Angeles, California – 2015
Fire Investigation Fundamentals – IAAI – Bowie, Maryland – 2015
Understanding Fire Through the Candle Experiments – IAAI – CFITrainer.net – 2015
Crash Data Retrieval (CDR) Technician 1 – Collision Safety Institute – 2014
PC-832 Laws of Arrest – Sheriff-Coroner Department – Orange County, California - 2014
Traffic Crash Reconstruction 1 – Northwestern University Center for Public Safety (NUCPS) – 2014
National Electrical Code (NEC) Essentials – Anaheim, California – National Fire Protection Association (NFPA) – 2014
Fire Investigation 2A – California Fire Service Training and Education System (CFSTES) – California State Fire Marshal – October 2013
Investigating Motor Vehicle Fires – IAAI – CFITrainer.net – 2013
Ethics & Social Media – IAAI – CFITrainer.net – 2013
Evidence Examination: What Happens at the Lab? – IAAI – CFITrainer.net – 2013
Fire Investigation 2B – California Fire Service Training and Education System (CFSTES) – California State Fire Marshal – June 2013
Fire Investigation 1B – California Fire Service Training and Education System (CFSTES) – California State Fire Marshal – November 2012
The Practical Application of the Relationship Between NFPA 1033 and NFPA 921 – IAAI – CFITrainer.net – 2012
Physical Evidence at the Fire Scene – IAAI – CFITrainer.net – 2012
NFPA1033 and Your Career – IAAI – CFITrainer.net – 2012
The Potential Value of Electronic Evidence in Fire Investigations – IAAI – CFITrainer.net – 2012
Arc Mapping Basics – IAAI – CFITrainer.net – 2012
Fire Investigation 1A – California Fire Service Training and Education System (CFSTES) – California State Fire Marshal – March 2012
2011 NFPA 921: Fire and Explosion Investigations Seminar
Anaheim, California – National Fire Protection Association – 2011
Fire Investigator Scene Safety – IAAI – CFITrainer.net – 2011

Electrical Safety – IAAI – CFITrainer.net – 2011
Documenting the Event – IAAI – CFITrainer.net – 2011
Fire and Explosion Investigations: Utilizing NFPA 1033 and 921 – IAAI – CFITrainer.net – 2011
The Scientific Method for Fire and Explosion Investigation – IAAI – CFITrainer.net – 2011
Ethics and the Fire Investigator – IAAI – CFITrainer.net – 2011
Introduction to Evidence – IAAI – CFITrainer.net - 2011
Digital Photography and the Fire Investigator – IAAI – CFITrainer.net – 2011
Q-318 Fire Service Supervision – National Fire Academy – 2011
Q-534 Emergency Response to Terrorism: Self Study – National Fire Academy – 2011
ICS-200, Basic NIMS ICS for Operational Fire Responders – National Fire Academy – 2011
ICS-100, Introduction to ICS for Operational First Responders – National Fire Academy – 2011
2010 Canadian National Advanced Fire, Arson & Explosion Training Program
Toronto, Canada – Fire Facts Inc. and the National Association of Fire Investigators – 2010
Fire Fighter 1 Training / Fire Academy, Santa Maria, California – Allan Hancock College –

Related Experience

Car customizations of SEMA show vehicles; customizing Jeeps and trucks for 4-wheeling; Supervising Off-Highway driving events
Small vessel customization and maintenance
Experience with high-pressure gases and multi stage regulator systems: Including industrial, medical, and self-contained compressed air systems like SCBA and SCUBA.
Welding and fabrication

Selected Project Experience

Vehicle fire cause and origin determination
Residential fire cause and origin determination
Commercial fire cause and origin determination
Destructive mechanical examination of appliances suspected of starting a fire
Field topographical survey of accident site
Failure analysis of household plumbing valves and copper plumbing systems
Load testing sliding door hardware to failure
Construction of a test fixture and load testing electro-magnetic latches
3D laser scanning of a failed loading ramp
Testing scaffolding beyond specifications

Digital Microscopy and 3D rendering of fossilized remains
Testing the rate of gas exchange in a sleeper cab truck
Harvest construction defect material and detailed analysis
Create molds and castings of failed components for detailed analysis
Inspect and take samples of a floating reservoir cover for UV degradation analysis
Photo document and inspect a commercial aquarium that failed
Torque testing consumer hand tools for potential failure modes
Testing load deformation of pipe couplings
3D scanning damaged vehicles and crash scenes
3D scan tunnel and tunnel boring equipment
Investigate transportation related mechanical damage
Document, inspect and sample commercial plumbing systems for lab analysis
Investigate electrical systems for potential failure modes
Document and test solar panels for potential failure modes
Investigate post-accident damage from motor vehicles for causes leading to failure