



Brian Vandal PE, MS FPE, MBA,
IAAI-CFI, CFEI, CVFI
Principal Engineer

PROFILE

Brian Vandal is a Professional Electrical Engineer and Licensed Electrical Contractor/Master Electrician with 30 years of experience, specializing in forensic engineering and failure analysis, while covering a broad range of industrial, institutional, municipal, and commercial applications. As a Certified Fire Investigator (IAAI-CFI) and Certified Fire and Explosion Investigator (NAFI-CFEI), he has extensive experience performing fire and explosion origin and cause investigations, as well as electrical and mechanical systems failure analyses, and product defect analyses.

In support of his forensic practice, Mr. Vandal has obtained a Master of Science in Fire Protection Engineering. An experienced consulting expert, he has authored numerous investigative reports, and provided testimony in Federal, State, and County courts toward the resolution of commercial and personal injury litigation involving the design, construction, operation, and maintenance of electrical systems, equipment, and devices. Mr. Vandal's background involves experiences including managing the development of an integrated electrical / electronic system and providing electrical engineering design and installation of critical data systems by implementing generator and uninterruptible power supplies.

- ▶ Arc Flash / Mapping Analyses
 - ▶ Electrical Codes and Standards
 - ▶ Fire and Explosion Investigations
 - ▶ Electrocution / Shock and Lightning Activity
 - ▶ Electrical and Mechanical Systems Failure Analysis
 - ▶ Lithium Ion and Polymer Batteries
 - ▶ Electrical Transmission / Distribution Equipment
 - ▶ Fire Alarm and Detection
 - ▶ Product Defect / Liability
 - ▶ Vehicle Defects and Fires
 - ▶ Solar Thermal / Solar Photovoltaic Systems
 - ▶ Electrical System Cost Estimating
- ▶ *Industries:* Forensics, electric utility, fire protection systems, automotive wiring and connections, AC-DC power systems, solar photovoltaic and solar thermal, telecommunications power systems, electrical contracting and engineering, generator and uninterruptible power supply selection, system design, and installation
- ▶ Investigated Solar Photovoltaic Module losses in California, Texas, Utah, Hawaii, Nebraska, and Colorado involving thousands of units and multiple array configurations.

EDUCATION

Master of Science, Fire Protection Engineering, 2023

California Polytechnic University – San Luis Obispo, California

Master of Business Administration, 1997

Baldwin Wallace University – Berea, Ohio

Bachelor of Science, Electrical Engineering, 1992

Ohio University – Athens, Ohio

OFFICE

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San Jose, CA 95136

CONTACT

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WEBSITE

www.infinityforensics.net



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LICENSES

Professional Engineer (PE):

- ▶ California
- ▶ Idaho
- ▶ Illinois
- ▶ Kentucky
- ▶ Louisiana
- ▶ Nevada
- ▶ North Carolina
- ▶ Ohio
- ▶ Oregon
- ▶ Washington
- ▶ Hawaii
- ▶ Utah

Electrical Contractor / Master Electrician:

- ▶ California C-10 (1072283), Current
- ▶ Ohio (EL29458), 2001-2016
- ▶ West Virginia (M760262REOH410), 2014

CERTIFICATIONS

Certified Fire Investigator (CFI) - IAAI

Certified Fire and Explosion Investigator (CFEI) – NAFI / PATC

Certified Vehicle Fire and Explosion Investigator (CVFI) – NAFI

Certified Fire Alarm Installer, Ohio

Certified Aerial and Scissor Lift Operator, 2010 – 2013

Certified Electrical Safety Compliance Professional (CESCP-18-294) NFPA, 2018-2021

CONTINUING EDUCATION

- ▶ Fire Dynamics, Fire Pattern Analysis, Fire Science & Fire Investigation Methodology, California Conference of Arson Investigators – 28 Credit Hours, San Luis Obispo, September 2021
- ▶ 2020 NFPA and Fire Investigation, CFITrainer.net – 2 Credit Hours, IAAI, May 2020
- ▶ Coursework toward Master of Fire Protection Engineering – California Polytechnic Institute:
 - FPE 501 – Fundamental Thermal Sciences, December 2017
 - FPE 502 – Fire Dynamics, March 2018
 - FPE 503 – Flammability Assessment Method, May 2018
 - FPE 504 – Fire Modeling, April 2023
 - FPE 521 – Egress Analysis & Design, December 2018
 - FPE 522 – Fire Alarm & Communication Systems, June 2019
 - FPE 523 – Water-Based Fire Suppression, March 2019
 - FPE 524 – Structural Fire Protection, August 2022
 - FPE 554 – Forensic Fire Analysis, June 2020
 - FPE 551 – Fire Safety Regulations and Management, December 2019
 - FPE 596 – Culminating Experience in Fire Protection, April 2023
- ▶ FSE 305: Hazardous Materials, Eastern Kentucky University – Fire, Arson & Explosion Program, August 2017
- ▶ FSE 120: Fire Behavior and Combustion, Eastern Kentucky University – Fire, Arson & Explosion Program, May 2017
- ▶ FSE 101: Fire Prevention – NFPA 1 and NFPA 101, Eastern Kentucky University – Fire, Arson & Explosion Program, March 2017



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- ▶ FSE 250: Introduction to Fire and Explosions, Eastern Kentucky University – Fire, Arson & Explosion Program, October 2015
- ▶ How to Perform an Arc Flash Calculation Study, Brianfiller, Inc., December 2017
- ▶ Basic Electricity, CFITrainer.net – IAAI, September 2017
- ▶ High Voltage Qualified – NFPA: Electrical Safety, e-Hazard, April 2017
- ▶ Low Voltage Qualified – NFPA: Electrical Safety, e-Hazard, April 2017
- ▶ Electrical Safety and Awareness, Ihsa.ca – IHSA, April 2017
- ▶ Electrical Safety, BlueVolt, March 2017
- ▶ The Scientific Method for Fire and Explosion Investigation, CFITrainer.net – IAAI, January 2017
- ▶ An Analysis of The Station Nightclub Fire, CFITrainer.net – IAAI, January 2017
- ▶ Electrical Safety, CFITrainer.net – IAAI, January 2017
- ▶ Thermometry, Heat, and Heat Transfer, CFITrainer.net – IAAI, January 2017
- ▶ Charleston Sofa Super Store Fire, CFITrainer.net – IAAI, January 2017
- ▶ Grounded Systems (NEC Expert), December 2016
- ▶ Overcurrent Protection of Conductors (NEC Expert), December 2016
- ▶ Deposition Training, PT&C|LWG Talent Development, December 2016
- ▶ NFPA921 and NFPA 1033: Understanding the Legal Impact for Experts, PT&C|LWG Talent Development, December 2016
- ▶ Respiratory Safety, PT&C|LWG Talent Development, December 2016
- ▶ DRI Fire Science Litigation Seminar, Ohio State Board of Registration for Professional Engineers and Surveyors, November 2016
- ▶ Hazard Communication, PT&C|LWG Talent Development, July 2016
- ▶ Documenting the Scene, CFITrainer.net – NAFI, June 2016
- ▶ Job Site Safety, PT&C|LWG Talent Development, 2016
- ▶ Ethics and the Fire Investigator, CFITrainer.net – NAFI, 2015
- ▶ Certified Vehicle Fire & Explosion Training Program, National Association of Fire Investigators (NAFI) – Lexington, Kentucky, September 2015
- ▶ Investigating Motor Vehicle Fires, CFITrainer.net – NAFI, 2015
- ▶ Writing the Initial Origin and Cause Report, CFITrainer.net – NAFI, 2015
- ▶ Introduction to Fire Dynamics and Modeling, CFITrainer.net – IAAI, 2015
- ▶ A Ventilation-Focused Approach to the Impact of Building Structures and Systems on Fire, CFITrainer.net – NAFI, 2015
- ▶ Vehicle Fire, Arson & Explosion Investigation Science & Technology Seminar, Defense Research Institute, Scottsdale, AZ, November 6-7, 2014
- ▶ NASP Subrogation College 200 – Fire Investigation, National Association of Subrogation Professionals, Emeryville, CA, October 2014
- ▶ Product Liability Conference, Defense Research Institute, Phoenix, AZ, April 9-11, 2014
- ▶ Engineering Ethics, Course No. R102, John C Huang, Phd, PE, PDH Online, 2013-2014
- ▶ Certification in Fire Pattern Identification and Recognition, Steve Chasteen, CFI, CFEI, Public Agency Training Council/NAFI, November 14-16, 2012
- ▶ Probability and Statistics for Engineers and Scientists, Devry University MSEE Program, June 2012
- ▶ Project Management Systems, Devry University MSEE Program, February 2012
- ▶ National Association of Subrogation Professionals (NASP) - Investigation of Vehicle Defects and Fires, 6/27/12
- ▶ National Association of Subrogation Professionals (NASP) - Introduction to Metro-Tomography, CT Analysis of Fire Artifacts, 6/27/12
- ▶ Arc Flash – 2012 Update, Central Ohio Builders Exchange, February 2012



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- ▶ Appliance Fire and Failure Investigation, Pennsylvania Association of Arson Investigators (PAAI) – State College, PA, 2011
- ▶ Transmission Line Planning Conductor Selection Methodology, IEEE Power Energy Society, AEP, September 2010
- ▶ Arc Mapping Analysis, CFI Trainer – IAAI, 2010
- ▶ National Electric Safety Code, University of Wisconsin – Madison, 2010
- ▶ Energy Storage Projects in American Electric Power, IEEE, 2010
- ▶ National Electric Code Update & Training, 10-Hours, 2003-2013
- ▶ Solar photovoltaic & solar thermal design & installation training, Hocking Technical College program, 2008
- ▶ Training on Power Generation Equipment for Emergency Standby and Prime Power Applications, 2007
- ▶ Solutions for Extreme Heat and Power Density, 2002
- ▶ Application Standards for Surge Protection Devices, 2002
- ▶ Fault Tolerant Power Protection Solutions-Network & Server, 2002
- ▶ Fundamental Grounding & Wiring Practices for High Availability Facilities, 2002
- ▶ Power quality identification, measurement, and correction (BMI), 1993

PROFESSIONAL AFFILIATIONS

- ▶ California Conference of Arson Investigators (CCAI)
- ▶ Institute of Electrical and Electronic Engineers (IEEE)
- ▶ International Association of Arson Investigators (IAAI)
- ▶ National Association of Fire Investigators (NAFI)
- ▶ National Fire Protection Association (NFPA)

PROFESSIONAL BACKGROUND

March 2022 – Present: Infinity Forensics LLC – San Jose, California
Principal Engineer

October 2019 – February 2022: Envista Forensics – Fremont, California
Senior Principal Consultant

September 2018 – September 2019: Envista Forensics – Fremont, California
Technical Field Supervisor

July 2013 – September 2018: Envista Forensics/LWG Consulting – Fremont, California
Senior Project Engineer

November 2009 – July 2013: Robson Forensic, Inc. – Columbus, Ohio
Area Manager / Project Engineer

January 2010 – December 2015: Infinity Power LLC – Columbus, Ohio
Electrical Engineer / Licensed Electrical Contractor

March 2002 – December 2009: Titan Power Solutions – Columbus, Ohio
Electrical Engineer / Licensed Electrical Contractor



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July 2000 – February 2002: Qwest Communications – Columbus, Ohio
Senior Program Manager

January 1999 – July 1999: Lucas Varity – Hampton, Virginia
Project Engineer

July 1995 – July 2000: Delphi Automotive Systems – Warren, Ohio
Program Manager / Applications Engineer

May 1992 – July 1995: Ohio Edison Company / First Energy – Youngstown, Ohio
Distribution Engineer

January 1990 – March 1992: American Electrical Power Fuel Supply – Wilkesville, Ohio
Engineering Technician

January 1986 – December 1991: United States Army – Columbus, Ohio
Sergeant / E-5

PUBLICATIONS

- ▶ "The Case of the Air & Vacuum Machine Electrocution", EC&M Magazine, March 2017.
- ▶ "The Case of the Livestock Farm Fire", EC&M Magazine, May 2014.

PRESENTATIONS

- ▶ "Batteries: Get Charged and Subro Opportunities", 2019 National Association of Subrogation Professionals Annual Conference, Washington DC, October 2019
- ▶ "Engineering Design and Product Liability", Claims Conference of Northern California, Lake Tahoe, California, August 2018
- ▶ "Where Lightning Strikes, Subrogation Lurks," National Association of Subrogation Professionals, October 2017
- ▶ "Live Demonstrations – Investigating Electrical Incidents," Claims Conference of Northern California, Sacramento, California, September 2017
- ▶ Electrical Arc Mapping Live Burn in Orange County, California, April 2017
- ▶ Electrical Arc Mapping Live Burn in Arvada, Colorado, September 2016
- ▶ "Understanding Electrical Engineering Issues in Claims and Litigation," Property Claims of the Pacific, Oakland, California, May 2016
- ▶ Electrical Arc Mapping Live Burn in Valencia, California, April 2016
- ▶ "Fire Investigation Regarding Electrical Systems," Eberl Claims Service 22nd Annual Conference, Dallas, Texas, Feb 2016
- ▶ "Fire Origin and Cause: Arcing vs. Melting of Electrical Wiring," Southern California Claims Association, Temecula, California, July 2015
- ▶ "Forensic Approaches in Insurance Cases," National Society of Professional Insurance Investigators (NSPII) Ohio Chapter, September 2011
- ▶ Course Instructor, National Electric Code for Central Ohio Builders Exchange, 2005