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JAMIE FERRINO-MCALLISTER, P.E., C.F.I, Ph.D.

EDUCATION:

Ph.D., Toxicology, University of Maryland, Baltimore, MD, 2010.
M.S., Fire Protection Engineering, University of Maryland, College Park, MD, 2002.
B.S., Fire Protection Engineering, University of Maryland, College Park, MD, 2000.

MASTER THESIS:

Ferrino, J. "An Investigation of Fire Phenomena in Residential Electrical Wiring and Connections", University of Maryland, College Park, December 2002.

DOCTORAL THESIS:

Ferrino-McAllister, J. "Fire Victim Blood Cyanide Stability and the Development of a Cyanide Uptake", University of Maryland, Baltimore, May 2010.

PROFESSIONAL EXPERIENCE:

Senior Engineer, Combustion Science & Engineering, Inc., Columbia, MD, 2006 to present.

Conduct and direct residential, commercial, and industrial cause and origin fire investigations; Conduct and direct engineering fire hazard analysis and forensic failure investigations to prevent and/or explain fires and explosions. Conduct and direct post-fire reconstruction analysis, fire victim toxicological analysis, computational fluid dynamics fire modeling, fire dynamics analysis, case related large and small-scale experimentation, and building/fire code review and analysis. Conduct and direct investigations of carbon monoxide poisoning incidents from combustion devices. Expertise in fire department operations analysis as it related to fire spread, damage, and pattern development. Litigation experience spans a broad range of both criminal and civil cases involving residential, commercial, and industrial fires

Project Engineer, Combustion Science & Engineering, Inc., Columbia, MD, 2003 to 2006.

Perform residential, commercial, and industrial cause and origin fire investigations; Conduct engineering fire hazard analysis and forensic failure investigations to prevent and/or explain fires and explosions; Responsible for overseeing post-fire reconstruction and laboratory testing. Expertise in code review, fire modeling (CFAST and FDS), fire dynamics analysis, fire victim toxicological analysis, and small and full-scale fire testing. Additional expertise combustion device carbon monoxide poisoning incidents and fire department operations analysis. Litigation experience spans a broad range of both criminal and civil cases involving residential, commercial, and industrial fires.

Staff Engineer, Combustion Science & Engineering, Inc., Columbia, MD, 2000 to 2003.

Assist in the investigation of residential, commercial, and industrial fires; Conduct engineering fire hazard analysis and forensic failure investigations to prevent and/or explain fires and explosions; Responsible for designing and conducting post-fire reconstruction analysis, code review, fire modeling (CFAST and FDS), fire dynamics analysis, and small and full-scale fire testing for litigation support.

Engineering Technician, Combustion Science & Engineering, Inc., Columbia, MD, 2000.

Assist in the investigation of residential, commercial, and industrial fires; Conduct laboratory experiments for the purposes of post-fire reconstruction analysis and product failure analysis in conjunction with fire litigation; Conduct laboratory experiments for the purposes of fire modeling validation; Conduct laboratory experiments for government or corporate funded research and development; Responsible for designing data acquisition programs, constructing small and large-scale test compartment, and instrumenting compartments with thermocouples, heat flux gauges, and gas probes.

Engineering Technician, Stanton Engineering, Laurel, MD, 1999 to 2000.

Used National Fire Codes, specifically NFPA 13, 72, and 101. Performed life safety analysis, fire alarm and sprinkler system design, fire modeling, and fire risk assessment. Notable projects: The Pentagon, United States Naval Academy, The Smithsonian Institute. Used *Microstation*

Fire Laboratory Technician, University of Maryland, College Park, MD, 1999 to 2000.

Used the cone calorimeter, performed flammability characteristics calculations. Conducted research project in conjunction with the National Institute of Standards and Technology studying burning characteristics of gypsum wallboard with varying layers of paint (over 150 tests). Research was published in "Flammability of Oil-Based Painted Gypsum Wallboard Subjected to Fire Heat Fluxes" by Dr. Mowrer and presented at the 2001 NFPA World Fire Safety Congress and Exposition.

Sprinkler System Designer, Tilley Fire Equipment Company, Doylestown, PA, 1999.

Used National Fire Codes, specifically NFPA 13, 13D, and 13R. Designed retrofit, tenant finish, and new sprinkler systems. Performed field checks, surveyed installation and fabrication. Assessed blueprints, cut sheets, fabrication reports, and hydraulic calculations. Used *Autocad 14 w/ SprinkCad*

RELATED EXPERIENCE:

Assistant Professor, University of Maryland, Fire Science Program (April '08-Present)

Volunteer Firefighter, Colmar Volunteer Fire Company (July '95- December '00)

Volunteer Firefighter/EMT, Station 41, Prince George's County Fire Department (Oct '98-Jan '03)

Volunteer Firefighter/EMT, Station 48, Prince George's County Fire Department (Jan '03-June '03)

Volunteer Firefighter/EMT, Driver, Station 27, Prince George's County Fire Department (June '03-Present);

Highest Rank Held: Lieutenant

Related Training: Firefighter Level I & II, Emergency Medical Technician, Hazardous Materials Technician, Rescue Technician, Emergency Vehicle Operator, Pump Operator, Fire Service Instructor I

PRESENTATIONS:

"Electrical Fire Research" presented at NFPA 921 Committee Meeting, Tucson, AZ, February 2002.

"Comparison of Gasoline Weathering on Carpet Samples Exposed to Various Thermal Environments", presented at International Symposium on Fire Investigation Science and Technology, Cincinnati, OH, June 2006.

"The Extent of Evaporation of Ignitable Liquids Under Exposure to Compartment Fires, Non-Fire Thermal and Non-Thermal Environments" presented at Fire and Materials, San Francisco, CA, January 2007.

"Smoke Detection Systems, Fire Modeling, and Fire Toxicology: Useful Tools in Fire Investigation and Reconstruction," presented at Cozen O'Connor Continuing Legal Education seminar, Philadelphia, PA, April 2007.

“Application of Fundamental Principles”, presented at International Association of Arson Investigators Conference, Denver, CO, April 2008.

“Applications of Forensic Toxicology in Fire Origin and Cause Determination”, presented at the Society of Fire Protection Engineers Professional Development Conference, Charlotte, NC, October 2008.

“The Use of Forensic Toxicology in Fire Origin and Cause Determination”, presented to the Advanced Fire Investigation Class, Montgomery College, Rockville, MD, February 2009.

PROFESSIONAL CERTIFICATIONS:

Registered Professional Engineer (Fire Protection), State of Delaware, License # 13162
Certified Fire and Explosion Investigator, National Association of Fire Investigators, Registration # 10121-4644
Certified Fire Investigator, International Association of Arson Investigators, Certification #53-120705

PROFESSIONAL AFFILIATIONS:

Alumni Member, Salamander Honorary Fire Protection Engineering Society, Beta Chapter
Friend, NFPA 921, Guide for Fire and Explosion Investigations
Member, International Association of Arson Investigators (IAAI)
Member, International Association for Fire Safety Science (IAFSS)
Member, International Code Council (ICC)
Member, International Organization for Standardization (ISO), TC92 Committee on Fire Safety
Member, National Association of Fire Investigators (NAFI)
Member, National Fire Protection Association (NFPA)
Member, Society of Forensic Toxicology (SOFT)
Member, Society of Toxicology (SOT)
Member, Society of Fire Protection Engineers (SPFE)
Member, Technical Working Group for Fire and Explosives (TWGFEX)