



**Unified**

Investigations & Sciences, Inc.



## **Great Lakes Service Center**

**Louis F. Molnar, IAAI-CFI**

*Senior Mechanical Expert – Field Supervisor*

Detroit, Michigan

(586) 468-0231

lmolnar@uis-usa.com

### **EDUCATION:**

Michigan State University  
East Lansing, Michigan  
Bachelor of Science Mechanical Engineering  
Minor in Chemical Engineering

### **EMPLOYMENT:**

Unified Investigations & Sciences  
Detroit, Michigan  
Senior Investigator/Mechanical Engineer  
September 2008-Present

Prospect Engineering LLC  
Engineering Design & Fire Analysis  
Shelby Township, Michigan  
Owner/Operator  
March 2007 – August 2008

Ford Motor Company  
Dearborn, Michigan  
Product Design Engineer  
September 1978 – February 2007

## **SPECIALIZED TRAINING (FIRE INVESTIGATION):**

- IAAI CFI Trainer June 16, 2011, Effective Investigation and Testimony, 3 Hours – (Tested)
- IAAI CFI Trainer June 16, 2011, Fire and Explosion Investigations: Utilizing NFPA 1033 and 921, 4 Hours – (Tested)
- IAAI CFI Trainer June 21, 2011, Arc Mapping Basics, 4 Hours – (Tested)
- IAAI CFI Trainer August 4, 2011, Fire Protection Systems, 3 Hours – (Tested)
- IAAI CFI Trainer September 6, 2011, Introduction to Evidence, 4 Hours – (Tested)
- IAAI CFI Trainer September 29, 2011, Evidence Examination: What Happens at the Lab?, 4 Hours – (Tested)
- IAAI CFI Trainer October 3, 2011, Explosion Dynamics, 4 Hours – (Tested)
- IAAI CFI Trainer December 7, 2011, Fire Investigator Scene Safety, 3 Hours – (Tested)
- IAAI CFI Trainer June 2011, Fire & Explosion Investigation Utilizing NFPA 1033 & 921 4 Hours - (Tested)
- IAAI CFI Trainer June 2011, Effective Investigation & Testimony 3 Hours - (Tested)
- IAAI CFI Trainer June 2011, Arc Mapping Basics, 4 Hours – (Tested)
- IAAI State College PA. June 13, 14 & 15 2010, Vehicle Fire Investigation, 18 hours (tested)
- IAAI CFI Trainer April 2010 Scientific Method for Fire & Explosion Investigation 3 Hours (Tested)
- Oakland Community College – Forensic Fire Scene Reconstruction, Dr. John Dehaan and Dr. David Icove, (April/May 2009)
- University of Wisconsin – Madison, College of Engineering, Fire Investigation & Product Liability Litigation, (June 2004) 16 Hours.
- Bowling Green State University - Bowling Green, OH -- Ohio State Fire School, Advanced Fire Investigation, (Structural/May 2004) 36 Hours
- Bowling Green State University - Bowling Green, OH -- Ohio State Fire School, Advanced Fire Investigation, (Automotive/May 2001) 36 Hours

### **SPECIALIZED TRAINING (CON'T):**

- Fire Explosion Training with ATF agents, Nellis Air Force Base, NV (Oct 2000) 16 Hours
- University of Washington - Seattle, College of Engineering, Automotive Fire Investigation, (Sept. 2000) 16 Hours.
- Fire Investigative Training with ATF agents at the Federal Law Enforcement Training Center, Brunswick, GA. (Automotive and Structure/Aug 2000) 8 Hours
- Northwest Fire and Arson Investigation - Wilsonville, OR (May 2000) 20 Hours.
- Vehicle Fire Investigation, Georgia Public Safety Training Center, (May 2000) 8 Hours (Tested)
- University of Wisconsin – Madison, College of Engineering, Engineering Professional Development, (May 2000) 20 Hours.
- Fire Investigation Training Seminar, Georgia Fire Investigator’s Association, (March 2000) 8 Hours (Tested)

### **SPECIALIZED TRAINING (ENGINEERING):**

- Power train Controls for Design Analysis (July 2001) Ford Motor Co. 8 Hours.
- Failure Mode and Effects Analysis – FMEA (October 2000) 16 Hours.
- Business Leadership Implementation (December 1999) Ford Motor Co. 8 Hours.
- Business Leadership Implementation (September 1999) Ford Motor Co. 8 Hours
- C3P for Engineers (May 1999) Ford Motor Co. 8 Hours.
- Theory of Constraints (December 1997) Ford Motor Co. 8 Hours
- Systems Engineering Fundamentals (November 1997) Ford Motor Co. 8 Hours
- ISO 9000 (May 1997) Ford Motor Co. 16 Hours.
- Automated Issues Matrix (March 1996) Ford Motor Co. 8 Hours
- AUTOCAD III (February 1995) Ford Motor Co 8 Hours

## **SPECIALIZED TRAINING (CON'T):**

- AUTOCAD II (November 1994) Ford Motor Co. 8 Hours
- AUTOCAD I (August 1994) Ford Motor Co. 8 Hours
- Fuel System Design Class (December 1991) Ford Motor Co 40 Hours
- Dr Deming's Statistical Seminar (March 1988) Ford Motor Co 8 Hours.
- Quality Functional Deployment (October 1987) Ford Motor Co 8 Hours.
- Statistical Methods w/Engineering Applications (February 1987) Ford Motor Co. 8 Hours
- Statistical Analysis – Finite Element (December 1986) Ford Motor Co 8 Hours.
- Program Management (August 1986) Ford Motor Co 16 Hours.
- Design for Assembly (July 1986) Ford Motor Co 8 Hours.
- Value Engineering/Value Management (April 1986) Ford Motor Co 8 Hours.
- Program Management (February 1986) Ford Motor Co 8 Hours.
- Program Management (December 1985) Ford Motor Co 8 Hours
- Geometrical Dimensioning and Tolerances (August 1985) Ford Motor Co 8 Hours
- Analytical Problem Solving (April 1985) Ford Motor co 8 Hours.
- Management Training Seminar (April 1985)
- Engineering Applications (November 1984) Ford Motor Co 8 Hours.
- Statistical Methods w/Engineering Applications (October 1984) Ford Motor Co 8 Hours.
- Body Sheet Metal Fatigue Seminar (August 1982) Ford Motor Co 8 Hours.

## **EXPERIENCE:**

Twenty nine (29) years engineering experience with the Ford Motor Company working in various vehicle product design activities. As a Product Design Engineer, responsibilities included the design, development, testing and release of body structures, fuel and chassis systems, requiring an in depth knowledge of design, manufacturing and assembly processes. As a Design Analysis Engineer, responsibilities included litigation engineering discovery support and vehicle inspections while providing expert testimony regarding motor vehicle fires, post collision vehicle fires and fuel system design. Investigated over 600 vehicle and or structure fires and have testified on 38 occasions.

## **CERTIFICATIONS:**

- International Association of Arson Investigator IAAI-CFI Registration # 05- 052
- National Board on Fire Service Professional Qualifications Cert # 241888

## **GUEST LECTURER/INSTRUCTOR:**

- Motor Vehicle Fire Investigation Seminar – Instructor at Detroit Fire Academy, Detroit, Michigan (April 2008).
- Fuel System and Mechanical Fires, Fire Investigate Approaches – Instructor at the I.A.A.I. Fire Seminar, State College, PA (June 2005)
- Fuel System and Mechanical Fires, Fire Investigate Approaches – Instructor at the I.A.A.I. Fire Seminar, Salt Lake City, UT (September 2004)
- Auto-Ignition of Engine Compartment Fluids – Instructor at Detroit Fire Academy, Detroit, Michigan (April 2004)
- Fuel System Design, Fire Investigative Approaches – Instructor at Downriver Mutual Aid Fire Investigation Task Force Seminar, Grosse Ile, Michigan (Sept. 2002)
- Midwestern Ohio Fire Investigators Seminar – Fuel System Instructor at IAAI Seminar, Sidney, Ohio. (April 2002)
- Fuel System Design -- Fire Investigative Approaches -- Instructor at IAAI Seminar, Myrtle Beach, South Carolina. (Nov. 2001)
- Post-Impact Collision Fire Instructor at IAAI Louisville NFPA 921 Structural and Vehicle Burn Seminar, Louisville, Kentucky (August 2001)

## **ASSOCIATIONS/MEMBERSHIPS:**

- National Association of Fire Investigators (NAFI)
- Georgia Fire Investigator's Association (GFIA)
- Society of Automotive Engineers (SAE)
- Motor Vehicle Fire Investigation Task Force MEMBE, MVFITF is a part of the Accident Investigation & Reconstruction Practices Committee, SAE International.
- National Fire Protection Association (NFPA)
- National Fire Protection Association (NFPA) Codes and Standards Voting Member
- International Association of Arson Investigators (IAAI)
- International Association of Arson Investigators Training and Education Committee
- Oakland County Association of Fire Investigators Inc.

## **TESTIMONY:**

- February 14, 2008, Expert Arbitration, Vehicle Fire Origin/Cause Testimony, AFI, Oakland County, Michigan
- January 10, 2008, Expert Arbitration, Vehicle Fire Origin/Cause Testimony, Niagara County, New York
- November 15, 2007, Expert Deposition, Vehicle Fire Origin/Cause and Fuel System Design Testimony, Common Pleas Court, Richland County, South Carolina
- November 15, 2007, Expert Arbitration, Vehicle Fire Origin/Cause Testimony, AFI, Ingham County, Michigan
- October 30, 2006, Expert Deposition, Vehicle Fire Origin/Cause Testimony, Circuit Court, Lynchburg City, Virginia
- January 20, 2005, Expert Deposition, Vehicle Fire Origin/Cause Testimony, District Court, Western District, Louisiana

## **TESTIMONY (CON'T):**

- October 22, 2004, Expert Deposition, Vehicle Fire Origin/Cause Testimony, District Court, St. John the Baptist, Louisiana
- September 14, 2004 Expert Trial, Vehicle Fuel & Electrical Systems Design Testimony, Common Pleas Court, Allegheny County, Pennsylvania
- June 30, 2004, Expert Deposition, Vehicle Fuel System Design Testimony, Superior Court, Monmouth County, New Jersey
- June 10, 2004, Expert Deposition, Vehicle Fuel System Design Testimony, Superior Court, Los Angeles County, California
- May 28, 2004, Expert Deposition, Vehicle Fire Origin/Cause Testimony, Superior Court, Maricopa County, Arizona
- November 13, 2003, Expert Trial, Vehicle Fuel System Design Testimony, District Court, Maverick County, Texas
- August 21, 2003, Expert Deposition, Vehicle Fuel System Design Testimony, District Court, Maverick County, Texas
- July 24, 2002, Expert Deposition, Vehicle Fire Origin/Cause Testimony, Common Court, Harris County, Texas
- April 26, 2001, Expert Deposition, Vehicle Fire Origin/Cause Testimony, District Court, Denver County, Colorado

## **PUBLICATIONS:**

- Co-Authored SAE Paper 08B-369 on Motor Vehicle Fire Investigation, Approved. Paper Number 2008-1-0555
- Submitted recommended changes to the 2001 Edition of NFPA 921 "Guide for Fire And Explosion Investigations." - Changes focused on improving the analysis of Electronic Fuel Injection System behavior during a vehicle fire. Changes were accepted by the NFPA 921 Committee with approval by the General Membership. Changes have been incorporated into the 2004 Edition of NFPA 921.