



Advanced Engineering Investigations



## **DENNIS E. SHELP, MS, PE, CFI, CFEI**

Mr. Shelp has been providing forensic engineering services since 1997. He specializes in origin and cause investigation of fires and explosions, vehicle accident reconstruction, and injury accident analysis. Mr. Shelp has given presentations on fire and explosion investigation, and accident reconstruction, and has provided expert testimony in numerous state courts.

### **LICENSURE, EDUCATION & CERTIFICATIONS**

Licensed Professional Engineer in Colorado, Alabama, Nevada, and Oklahoma

BS, Mechanical Engineering, Michigan State University, 1991

MS, Mechanics, Michigan State University, 1994 (Graduate Research: Biomechanics)

Certified Fire Investigator (CFI), International Association of Arson Investigators (IAAI), 2009

Certified Fire and Explosion Investigator (CFEI), National Association of Fire Investigators (NAFI), since 2001

Accredited Reconstructionist, Accreditation Commission for Traffic Accident Reconstruction (ACTAR), since 2001

Certified in Hazardous Waste Operations and Emergency Response (HAZWOPER) OSHA, yearly since 2003

Certified in DOT Haz-Mat Transportation, 49 CFR 172, 704 (1-4), since 2004

### **WORK HISTORY**

Principal Engineer, *AEI Corporation*, 2006 to Present

Project Engineer, *AEI Corporation*, 2005 to 2006

Project Engineer, *Western Engineering & Research Corporation*, 2002 to 2005

Senior Engineer/Analyst, *Engineering and Fire Investigations (EFI)*, Denver, CO, 2000 to 2002

Senior Engineer/Analyst, *Engineering and Fire Investigations (EFI)*, Houston, TX, 1998 to 2000

Associate/Principal Forensic Analyst, *Billy Cox & Associates*, Houston, TX 1997 to 1998

Validation Engineer, *General Motors (contracted through Sycron Corp.)*, Flint, MI, 1995 to 1997

Research Assistant, *Michigan State University, Department of Biomechanics*, East Lansing, MI, 1991 to 1994

Production Supervisor, *General Motors*, Flint, MI, summer 1990

Engineering Intern, *Eaton Corporation, Engine Components Division*, Marshall, MI, 1989

Engineering Intern, *IBM, Environmental Evaluation Division*, Charlotte, NC, 1988

### **EXPERIENCE**

Mr. Shelp is an expert at investigating the origin and cause of residential and commercial structural fires, and motor vehicle fires. He has investigated numerous natural gas and propane explosions and has examined and tested various fuel gas systems and components. He has examined and tested heating equipment such as furnaces, boilers, water heaters, ranges and fireplaces, and has collected propane and natural gas samples for chemical analysis. In addition, he has participated in the planning and execution of fire and explosion tests for both research and training purposes.

Mr. Shelp has reconstructed motor vehicle accidents involving commercial and passenger vehicles, and motorcycles. He has downloaded air bag module data, evaluated occupant injury potentials, and has planned and participated in vehicle crash tests. He has examined automotive components and systems to determine how they failed, and if the failure contributed to the cause of an accident.

Mr. Shelp has also investigated non-automotive injury accidents involving mechanical equipment failures and carbon monoxide exposures.

### **AFFILIATIONS**

*ASTM International*

*Society of Automotive Engineers (SAE)*

*National Propane Gas Association (NPGA)*

*National Fire Protection Association (NFPA)*

*National Association of Fire Investigators (NAFI)*

*American Society of Mechanical Engineers (ASME)*

*International Association of Arson Investigators (IAAI), Colorado and International Sections*