



Our experts perform independent engineering and scientific investigations. We have over 100 years combined multi-disciplinary experience, licensed and insured, in all types of investigations.

- Crash Data Recovery (black box) downloads
- Evidence collection, preservation, and storage
- Failure analysis – product/operator/environment
- In-house laboratory support and testing
- Certified Fire Investigator
- Scene documentation
- Rapid response availability
- Metro Chicago area location

Experience

Fire Investigations

- Certified Fire Investigator
- Origin and cause analysis
- Vehicles, structures, and equipment
- Analysis and fire debris/artifacts/damage

Electrical

- Shock and electrocution
- Wiring/fuses/circuit protection systems
- Arc flash/electrical explosions
- Motors/generators/batteries
- Power distribution equipment

Materials

- Corrosion analysis
- Component and system failure analysis
- Environmental degradation
- Materials compliance testing and analysis
- Manufacturing and fabrication assessment

Consumer Products

- Aerosol cans
- Appliances/Office products
- Athletic and Sporting Equipment
- Lawn Equipment
- Medical Equipment
- Plumbing components and systems

Agricultural

- Animal containment failure
- Crop loss evaluation and assessment
- Farm equipment accident investigation
- Operations/processing issues

Accident Investigations

- Automobiles
- Buses/trucks/railroad
- Golf carts/ATVs
- Aviation

Chemistry and Chemicals

- Materials and chemical analysis
- Polymers and plastics failure analysis
- Coatings and surface analysis
- Contamination – product & environmental
- Footwear material analysis

Mechanical

- Accident reconstruction
- Product design and manufacturing analysis
- Product failure analysis and testing
- Defect analysis
- Product liability

Machinery and Equipment

- Boiler System
- Construction/Cranes
- Forklifts and material handling
- Railroad/Mining
- Wind turbines
- Statistical process control, including Weibull

Firearms and Safety Devices

- Accident investigation and litigated matters
- Certified California DOJ testing laboratory
- Firearm and safety device failure analysis
- Federally Licensed Class 01 FFL Dealer

Roch Shipley, Ph.D., FASM, P.E. – Principal Engineer, Materials/Metallurgical He has been consulting in failure analysis for almost thirty years. He specializes in complex issues involving multiple disciplines and/or accident reconstruction. He has experience with both ferrous and non-ferrous alloys, including aluminum, titanium, and nickel-base superalloys. He is active in the ASM community and co-edited the ASM Handbook, Volume 11, Failure Analysis and Prevention, a best-selling reference in failure analysis.

Michael G. Koehler, Ph.D. – Principal Scientist, Materials/Chemistry His experience crosses a broad range including polymers and plastics, paints and coatings, fuels, catalyst, metals, refrigerants, filtration media, membranes, and pharmaceuticals. He has extensive experience in Six Sigma Quality Control including as a master trainer for Black and Green Belt scientists and engineers. He has served as Director and Chair of the ACS Chicago Section, and serves on the ACS Committee on Chemical Safety.

Timothy M. Hicks, P.E. – Principal Engineer, Mechanical He has over thirty years of experience designing, developing, analyzing and overseeing the manufacturing of products and systems in diverse industries. His consulting projects have involved vehicle and non-vehicle accident investigation and reconstruction, product liability, intellectual property, design analysis, manufacturing, and testing. He is Chairman of the Chicago Section for the Society of Automotive Engineers (SAE), and a member of the American Society of Mechanical Engineers (ASME).

Johannes C. Laun, P.E. IAAI-CFI, MIFireE – Senior Engineer, Fire/Electrical He is an electrical engineer, physicist, and Certified Fire Investigator (IAAI-CFI) trained in arson investigation techniques. He has investigated fires and explosions of chemical facilities, residential-commercial-industrial facilities, passenger vehicles and trucks, and heavy equipment. He has extensive experience with electrical power distribution systems, switchgear, transformers, circuit breakers and cabling for all voltage levels and plant sizes.

Glen K. Leckie, P.E. – Senior Engineer, Civil/Structural He has over thirty five years of experience and responsible for investigations involving commercial, institutional, industrial, and residential buildings and civil work. Investigations include failures of roof structures, restoration of older structures, foundation issues, basement wall and slab cracking, mechanical equipment, and piping investigations. He also provides expertise as to design and failure of equipment including industrial lifting devices, bridge cranes, high reach cranes, booms and telescopic cranes and other technology.

George J. Theus, Ph.D., FNACE, FASM, P.E. – Senior Engineer, Materials/Metallurgical He has over forty years of experience involving corrosion and material issues. His projects have involved utility/industrial boilers (nuclear and coal), turbines, scrubbers, pressure vessels, and natural gas systems. His expertise includes heat treatment of metals, welding, forging and machining, production tubing (oil/gas) corrosion, fracture mechanics, and corrosion fatigue. He has been honored with Fellowships by the National Association of Corrosion Engineers (2003) and ASM International (2012).

Charles A. Ogborn – Mechanical/Agricultural Consultant He has hands-on operational experience in farming gained from his family's farm. He has a wide range of agricultural equipment experience. He is responsible for providing farm infrastructure and crop loss evaluations and assessments, identification of plant operation/processing issues, and conducts OSHA and FDA regulation evaluations. He investigates farm machinery damage and related injuries, and performs testing. He also conducts fire investigations of mechanical equipment and grain storage systems.