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

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

### Experience

#### Fire Investigations
- Certified Fire Investigator
- Origin and cause analysis
- Vehicles, structures, and equipment
- Analysis of fire debris/artifacts/damage
- Ground and aerial-drone scene inspections

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

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

#### Consumer Products
- Aerosol cans
- Appliances
- Athletic and sporting equipment
- Lawn equipment
- Plumbing components and systems
- Shredders

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

#### Motor Vehicle Accident Investigation
- Golf Carts
- ATVs
- Automobiles
- Buses
- Railroad

#### Chemistry and Chemicals
- Materials and chemical analysis
- Polymers and plastics failure analysis
- Chemical release investigations
- Coatings and surface analysis
- Contamination – product & environmental
- Fuels and lubricants

#### 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
- Mining
- Railroad
- Wind turbines

#### Manufacturing Process
- Industrial accidents and injuries
- Manufacturing system evaluations
- Safety analysis
- Statistical process control, including Weibull
Roch Shipley, Ph.D., FASM, P.E. – Principal Engineer, Materials/Metallurgical  He has been consulting in failure analysis for over twenty-five 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).

John W. Kidd – Director, Field Services  He has extensive accident investigation experience focusing on field inspections, scene documentation, evidence collection, and laboratory inspections. He holds an FAA Airman Certification for Remote Pilots for Small Unmanned Aircraft Systems (UAS/Drone) and is also an FAA licensed private pilot. In addition to laser scanning and total station, he also incorporates the UAS technology into investigations utilizing photogrammetry. He is experienced in firearm safety, firearm storage, and coordinating testing for California DOJ standards and requirements.

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.