



AUTOMOTIVE ACCIDENT LITIGATION SUPPORT



Engineering Systems Inc.
Engineering Consulting and Forensic Investigation

Combined Claims Conference
May 13-15, 2024
Garden Grove, CA

INTRODUCTIONS



Hernán Mercado-Corujo, P.E., IAAI-CFI, CFEI, CVFI

ESi Principal, Senior Director, Automotive/Marine Practice
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Hernán is a professional mechanical engineer specializing in the engineering analysis of vehicle product liability issues, crash reconstruction, and thermal events, specifically, the origin, cause, and spread of fires and explosions. He provides consulting and expert witness testimony for clients nationally.



Hayden J. Fetter, BSME, MSc, CFEI

Staff Consultant
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866.994.8315 Denver, CO

Hayden Fetter is a mechanical engineer and fire investigator where he assists the fire and explosion and automotive groups. Mr. Fetter has over 4.5 years of technical experience and training in forensic investigations. He has performed origin and cause analysis for residential, vehicle, marine, and product fire investigations.



Nikhil Kar, Ph.D., P.E.

Senior Managing Consultant
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Dr. Nikhil Kar has expertise in the fields of mechanical engineering, materials science, metallurgy, failure analysis, mechanical/materials behavior, laboratory testing, contamination analysis, and equipment function to determine cause(s) of failure.



Naresh J. Kar, Ph.D., P.E., FASM

Senior Managing Consultant
Lab Manager
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Dr. Naresh Kar's consulting experience spans areas of corrosion/wear/mechanical failures, patent infringement, surface techniques, and product development. He has provided expert witness testimony in over 500 depositions and 40 trials (civil and criminal) in California and Nevada.

JOIN US

Wednesday, May 15, 12:45 PM - 1:45 PM, Garden 1-2

6P - e-Mobility: Fire Investigations from Small (e-scooters) to Large (EVs)

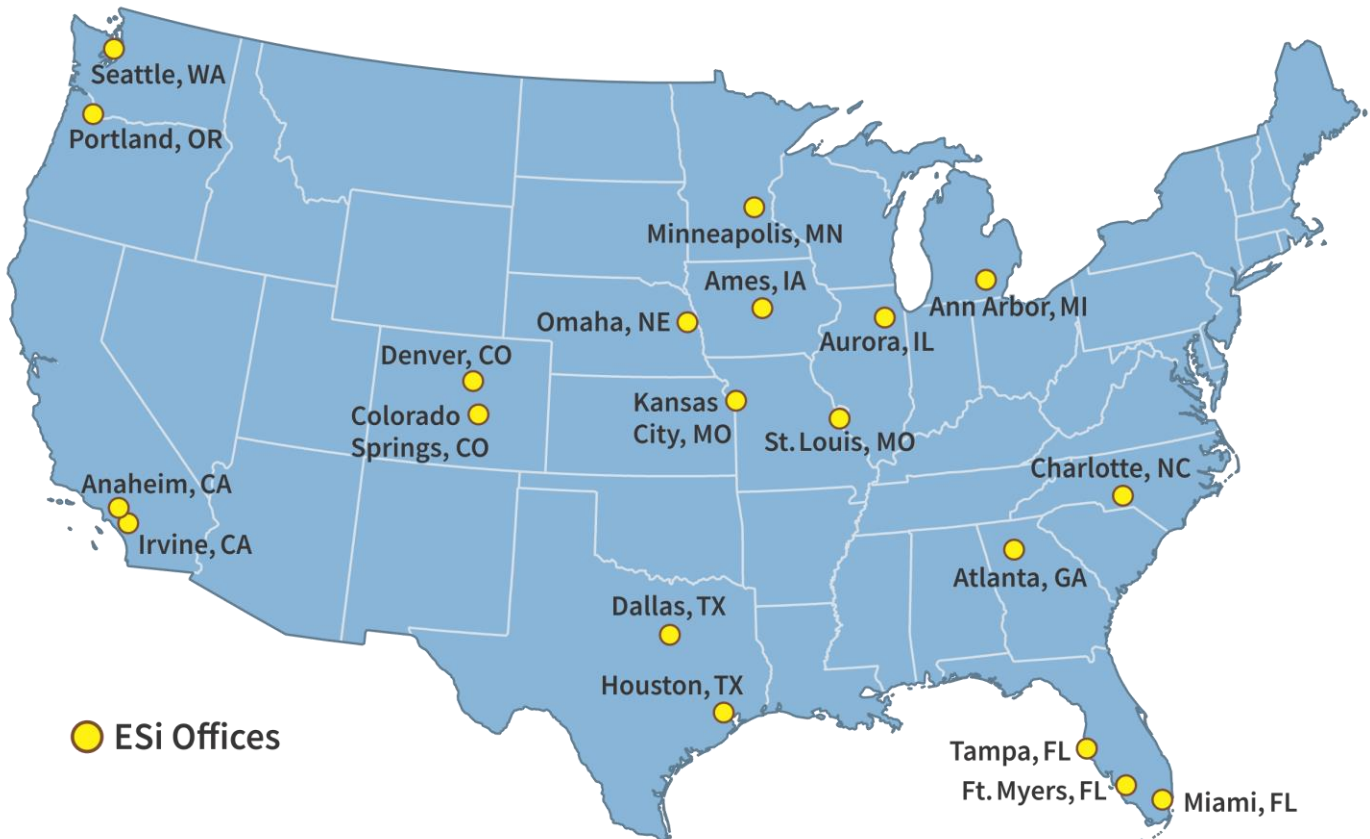
This session will help participants understand the fire investigation nuances of e-Mobility products such as e-bikes, e-scooters, ride-on toys, and passenger EVs, among others. Participants will learn about common failure modes associated with the various product types and how to approach the investigation of complex thermal events involving lithium-ion batteries. An introduction to the external infrastructure interacting with these products will be presented. Relevant field and laboratory examination techniques will be explored, including what to look for and what questions to ask. Case studies are presented for the participants to see how the application of this knowledge works in claims and litigation scenarios.

Session Speakers:

Hernán Mercado-Corujo, P.E., IAAI-CFI, CFEI, CVFI
Hayden J. Fetter, BSME, MSc, CFEI

ESi LOCATIONS

ESi locations have expanded over the past 35+ years to include 20 offices in 14 states across the country. Our newest offices with labs are located in Kansas City, MO and Anaheim, CA.



AUTOMOTIVE CAPABILITIES



ESi consultants have worked with some of the largest automotive and recreational vehicle manufacturers in the world. They are noted experts regarding how vehicles are designed, manufactured, and operated. Their expertise extends bumper-to-bumper and includes the brake system, chassis, electrical systems, fuel systems, powertrain and engine, steering and suspension systems, and driver aids and restraints.

Accident Reconstruction

Initial on-site documentation and laser scanning, evidence preservation, retrieving & analyzing crash data from EDRs, testing, report preparation, and litigation support.

Automotive Part Analysis

Materials engineers and state-of-the-art laboratory equipment help us understand a component's failure mode and whether it caused an accident or was the result of it.

Commercial Vehicles

Access and interpret heavy vehicle event data recorders and inspection of heavy truck braking systems, evaluation their performance in a crash.

Recreational Vehicles

Investigation and analysis of accidents related to motorcycles, watercraft, ATVs, side-by-sides, golf carts, specialty purpose vehicles, and other products and activities.

Regulatory & Compliance

Guidance and expertise on a broad range of issues including federal guidelines, standards and regulations,

Statistics & Reliability

Derive meaning from various types of data including warranty claims, production data, and product performance measures.

BATTERY CAPABILITIES



ESi battery experts have a broad range of hands-on experience in the design, construction, testing, safety assessment, and failure analysis of batteries and battery-powered consumer products. We also possess the expertise to analyze how a battery's internal chemistry can contribute to a fire event or other failure. Our experts can help resolve whether a battery, or battery-powered device, was an ignition source.

No amount of design, testing, or careful manufacturing can prevent attorneys, insurance personnel, and investigators from implicating a battery as the cause of a fire, even if the battery was not at fault. ESi can scientifically evaluate these claims thanks to our expertise in fire investigation, failure analysis, and testing. Even after a fire, our advanced laboratory capabilities can help identify the battery model and signs of failure in the evidentiary remains.

When batteries are falsely accused, we can provide an evidence-based defense. When design or manufacturing issues arise, we can propose corrective action and if needed, help guide the recall.

Battery Management System Testing & Evaluation

- Prevent over-charging, over-discharging, and short circuits
- Evaluate circuit design and component selection
- Provide guidance on fault condition handling
- Test performance during fault conditions

Product Charge & Discharge Evaluation

- Review safety features of charge circuitry
- Analyze charging technique and discharge controls
- Recommend methods to improve battery life

Battery Design & Manufacturing Methodology

- Evaluate battery cell design and construction
- Review manufacturing process methodology
- Audit manufacturing facility
- Test mechanical and electronic safety features

CALIFORNIA – ANAHEIM OPERATIONS



KARS' was established in Southern California in 1988. The facility is equipped with state-of-the-art instrumentation to perform inspections and tests using microscopy, computed tomography, mechanical testing, and material identification equipment.

KARS' Advanced Materials, as it was formerly named, has provided engineering consulting, failure analysis, and laboratory testing services for over four decades.

The facility has 4000 square feet of office space with its own large parking lot; and is ideal for hosting independent and multi-party inspections. Secure handling and storage of artifacts is also available. The KARS' Testing & Research Labs office is conveniently located in northwest Anaheim near the crossroads of the 91 Riverside and 5 Santa Ana Freeways.

Areas of Specialization

- Engineering Consulting
- Laboratory Testing & Evidence Examinations
- Failure Analysis
- Evidence Inspection
- Contamination Analysis
- Mechanical Laboratory Testing
- Fire Origin & Cause Investigations
- Rapid Prototyping
- Materials Science Consulting
- Materials Identification & Characterizing
- Metallurgy & Materials Science
- Realtime Remote Inspections in HD
- Electrical Component Failure Analysis

For more details:
www.engsys.com/anaheim



CALIFORNIA – IRVINE OPERATIONS



The ESi Irvine office is conveniently located near the crossroads of the 405 and 5 freeways, a short distance from John Wayne Airport (SNA) and the Irvine Train Station. The spacious facility occupies close to 10,000 square feet and is ideal for hosting independent and multi-party inspections. We also offer secure handling and storage of artifacts.

Areas of Specialization

- Architecture
- Automotive Standard of Care
- Aviation
- Building Sciences & Construction
- Cargo Transportation
- Chemical Analysis
- Civil & Structural Engineering
- Consumer Products
- Hydrology & Flood Hazards
- Intellectual Property
- Geology & Seismic Hazards
- Geotechnical Engineering & Earth Movement
- Mechanical Engineering
- Mechanical Building Systems
- Natural Disasters & Property Loss
- Pipelines & Piping
- Plastics & Composites
- Process System Analysis Risk Assessment
- Water Resources & Environmental Engineering
- Wildfire Damage Assessment

For more details:
www.engsys.com/irvine

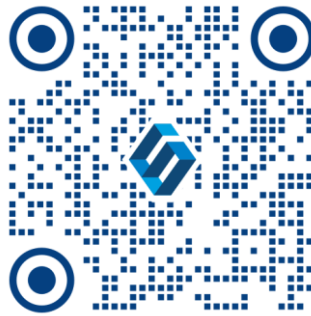




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ESi at the CCC

Learn more



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