Expertise

- Construction Defect
- Catastrophe Claim
- Property Claim - Personal
- Fire and Explosives
- Fire - Origin & Cause
- Damages
- Litigation Support & Expert Testimony (Forensics)
- Consultation
- Subrogation
- Claim Escalation
- Warranty Claim
- Premise Liability Claim
- Product Liability Claim
- General Liability Claim
- Property Claim - Commercial

Aleksey Galkin, PE | Mechanical Engineer

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BIOGRAPHY

Aleksey Galkin, PE, has nearly a decade of experience in the field of Mechanical Engineering. As a key member of multi-disciplinary engineering teams, he has participated in the investigation of insurance claims and lawsuit matters. His areas of competency and experience include, but are not limited to:

Accidents and failures in mechanical systems and machinery with respect to mechanical power generation and distribution such as internal combustion engines, transmissions, shafts, axles, couplers, rotors, hubs and more; commercial accidents involving material handling and distribution equipment, cooking equipment, dry cleaning presses, product storage and shelving, fire suppression equipment including sprinklers and related plumbing; engineering analyses of accidents involving consumer products such as power tools, plumbing fixtures, aerosol cans, lithium batteries, hot tubs relating to electrical shock, and land and marine vehicles with respect to electrical and mechanical failures, carbon monoxide poisoning, and collisions; industrial and utility accidents involving electric power generating plant equipment and distribution network systems such as network transformers and underground cables; and analysis of fires and explosions resulting from electrical activity, and from liquid and gas fuels.

In aviation, Mr. Galkin has participated in investigations including engine power loss due to component failure of engine control systems in private and commercial aircrafts such as a failure of a full authority digital engine control module during take-off and climb maneuvers. Mr. Galkin has also been involved in the investigation and analysis of the inadvertent operation of electro-mechanical avionics relays resulting in incorrect information on the main instrument cluster and the deactivation of aural/illuminated warning systems. He has utilized finite element analysis to determine the effects of various attack angles on the airflow and ice accumulation around external airspeed sensors as well as the effects of the thermal environment and operation on flight critical avionics.

Mr. Galkin is an FAA certified sUAS commercial Pilot and is experienced as an accident site aerial documentation specialist.

Mr. Galkin is well versed in standard and special testing of mechanical and electrical systems and components as well as materials to determine the cause of a failure and sequence of events. He is knowledgeable in the operation of materials laboratory equipment, such as scanning electron microscope with EDS and microhardness instruments as they relate to fracture and materials composition analysis. He has designed and constructed automated testing systems for a variety of lithium battery packs in order to determine and record the thermal response to varying electrical loads and operating environments.

Mr. Galkin has expert knowledge of engineering analysis software including ANSYS, Pro/E, SolidWorks, and Inventor as applied to mechanical, thermal, and fluid analyses as well as NIST-FDS and PyroSim applied to fire analysis. He has a keen understanding of computational software such as MATLAB/Octave, MathCAD/SMath, and LabView for data acquisition and analysis.

EDUCATION/TRAINING

B.S., Mechanical Engineering, University of Maryland, College Park 2011

LICENSES/CERTIFICATIONS

Professional Engineer (PE) – Mechanical, State of CT, DC, MA, MD, RI, VA
UAS Commercial Pilot
OSHA 30
OSHA 10

SPECIAL TRAINING

IEEE: Modeling Batteries and Fuel Cells using COMSOL Multiphysics, 2012
VADA Trial Tactics Workshop, 2016
CFITrainer: An Analysis of The Station Nightclub Fire, 2018
CFITrainer: Arc Mapping Basics, 2017
CFITrainer: Electrical Safety, 2017
CFITrainer: Evidence Examination - What Happens at the Lab? 2017
CFITrainer: Explosion Dynamics, 2017
CFITrainer: Fire Chemistry, 2017
CFITrainer: Digital Photography and the Fire Investigator, 2017
CFITrainer: Fire Dynamics Calculations, 2017
CFITrainer: Fire Investigator Scene Safety, 2018
CFITrainer: Fire Protection Systems, 2018
CFITrainer: Investigating Motor Vehicle Fires, 2018
CFITrainer: Investigating Natural Gas Systems, 2017
CFITrainer: Preparation for the Marine Fire Scene, 2018
CFITrainer: Residential Natural Gas Systems, 2017
CFITrainer: The Impact of Ventilation in Building Structures on Fire Development, 2018
CFITrainer: The Scientific Method for Fire and Explosion Investigation, 2017

ASSOCIATIONS

- American Society for Testing and Materials (ASTM) Committee E30 on Forensic Sciences

PUBLICATIONS/PRESENTATIONS

- Role of the Scanning Electron Microscope in Forensic Investigations and Litigation. RTI, 2017
- Structural Impact of Ocean Currents and Weather on Mobile Offshore Drilling Units, an FEA Analysis. AVICON, 2015
- Analysis and Demostration of a Failure of an Experimental Aircraft Ignition System. AVICON, 2015