

Professional Summary:

Eric Lalli is a senior engineer with over 35 years of experience and has conducted hundreds of failure investigations involving complex integrated technical systems, across a broad range of industries.

Senior roles as investigations manager, policy analyst and claims management established Eric as an authority in regulatory compliance, legislation, codes, standards and policy.

Global experience leading multinational engineering firms, regulatory agencies and major manufacturers provides a combined perspective that enables Eric to effectively navigate and resolve large complex failure investigations.

Eric has provided expert witness testimony in multiple jurisdictions for Supreme Courts, dispute resolution and arbitration for International Commercial Arbitration cases. Eric is a featured speaker and frequently provides the insurance and legal sectors with seminars on topics including large complex loss investigations, claims consulting, product liability, workers compensation cases, risk mitigation and emerging issues.

Expertise:**Renewable Energy**

Wind turbines
Solar power
Hydroelectricity
Hydrogen energy
Biogas power

Heavy Industry

Machinery & manufacturing
Boilers & pressure vessels
Furnaces - industrial, commercial
Chillers & digesters
Forging & forming

Energy & Resources

Petrochemical processes
Oile & gas, pipelines
Metallurgical & chemical
Wood, pulp/paper mills
Mining & mineral

Mechanical Engineering

Mechanical failure analysis
Building mechanical systems
Complex integrated systems
Damage assessment, repair

Metallurgy & Materials

Metallurgical failure analysis
Materials design & defects
Corrosion, fatigue, wear
Advanced materials testing

Rotating Machinery

Turbines, gas & steam
Wind turbine farms
Generators & gearboxes
Mills, reactors & digesters

Transportation

Aircraft & aerospace
Automotive & heavy transport
Marine vessels

Cranes & Elevating

Cranes - mobile, harbour, tower
Hoists & lifts
Gondolas & elevators

OHS & Litigation

Product design & liability
Regulations, codes & standards
Workers Compensation
Personal injury

Education:

Bachelor of Science (BASc), Metallurgy & Materials Engineering, University of British Columbia, 1987

Postgraduate: Mechanical Engineering

- Vehicle design competition, won 1st place, internationally
- Major in advanced alloy development, thermodynamics and failure analysis
- Developed advanced alloys for gas turbine engines, industry sponsored project
- VP Communications, Engineering Undergraduate Society

Licenses & Certifications:

Professional Engineer (P.Eng./PE) - BC, AB, TX (rec), NV (rec), 1990, 2010

Welding Engineer & Supervisor Certification - Canadian Welding Bureau, 2000

Operating Engineer (cranes, heavy equipment) - International Union of Operating Engineers, 1990

Certified Quality Engineer (CQE) - American Society for Quality Control, 1997

Non-destructive Testing Technician - American Society for Non-destructive Testing, 1996

Concrete Testing Technician (ACI Level 2) - American Concrete Institute, 1992

Canadian Registered Safety Professional (CRSP) - Board of Cdn. Reg. Safety Professionals, 2010

Certified Health and Safety Consultant (CHSC) - Canadian Society of Safety Engineering, 2010

Lead Auditor ISO 9000 Quality Management Systems - Quality Management Institute, 2000

Fellow of Engineers Canada (FEC) - Canadian Council of Professional Engineers, 2000

Skippers License - Canadian Yachting Association, 1997

Professional Experience:

EFI Global, Managing Principal (2025 - current) / Assistant Vice President, 2022 - 2025

Lead forensic engineering practice for large complex losses with focus in power & energy industries globally.

Technical Safety BC, Leader Incident Investigations, 2018 - 2022

Led the Investigations department for the provincial regulatory authority of technical systems.

- Directed investigation officers in 11 regional offices to investigate over 500 incidents annually.
- Appointed as *Provincial Safety Manager*.

Envista Forensics, Practice Leader/Technical Lead, 2013 - 2018

Led complex forensic investigations worldwide as leader in the Mechanical and Electrical Division.

Workers Compensation Board, Sr. Policy Analyst/Investigations Engineer, 1998 - 2013

Led investigations of equipment failures and injuries in all industries, to identify cause and liability.

Drafted regulations and policy, promulgated to law.

- Directed 400 officers investigating equipment/process failures, serious injury and fatalities.
- Occupational health & safety regulatory compliance consulting to industry, and jurisdictions globally

Crown, Quality Manager, 1996 - 1998

Implemented ISO 9001 quality & ISO 14001 environmental programs at three manufacturing plants.

ALCOA, Plant Manager, Lafayette IN, 1994 - 1996

Developed new technology and managed operations for large scale casting, forging, machining and heat treating plants. Produced aerospace and automotive components for Boeing, Airbus, British Aerospace, NASA, Rolls Royce, Ford and GM.

Kaiser Aluminum & Chemical Corp, Plant Engineer, Los Angeles CA, 1993 - 1994

Designed new patented technology and casting/manufacturing equipment at operations in CA, WA, TX and OH. Manufactured structural components for automotive and architectural markets.

Rio Tinto - Alcan, Process Engineer/Plant Engineer/Quality Manager, 1987 - 1993

Designed new manufacturing technology for mining, mineral processing and metallurgical processes for large scale operations in North America. Developed and implemented new patents.

Specialized Education (partial list):

Equipment

Design & Fabrication of Pressure Vessels - Technical Safety BC, 2018

Boiler & Pressure Vessel Design - ASME, 2018

Steam Turbine Maintenance & Reliability - Siemens/Northpoint Technical Services, 2019

Gas Turbine Engine Technology - The American Society of Mechanical Engineers (ASME), 2012

Cranes, Lifting Devices and Rigging - International Union Operating Engineers, 1990 - 2024

Casting Technology - Rio Tinto, Alcoa 1988 - 1995

Welding Inspector-Certified - Canadian Welding Bureau, 1998

Equipment Breakdown Insurance - The Boiler Inspection and Insurance Co., 2013

Machine & Process Safeguarding - OSHA, 1998

Metallurgy & Materials

Fracture Mechanics & Fractography - ASM International, 1995

Failure Analysis - ASM International, 1995

Corrosion - ASM International Materials Engineering Institute, 1998

Superalloys - ASM, 1994

Polymers and plastics - ASM

X-Ray Diffraction (XRD) & X-Ray Fluorescence (XRF) - Thermo Fisher Scientific, 1996

Fourier Transform Infrared Spectroscopy - Thermo Fisher Scientific, 1996

Scanning Electron Microscopy & Energy Dispersive Spectrometry - ASM International, 1995

Tribology and Lubrication Engineering - American Petroleum Institute, 1994

Advanced Metallography - ASM International, 1993

Advanced Composites - ASM International, 1992

Safety & Risk Management

Integrated Safety Investigation Methodology - Transportation Safety Board, 2000

Risk Management - Institution of Occupational Safety and Health, 2010

Applied Risk Communications - CSSE, 2010

Occupational Health Safety and Environmental Systems - University of Fredericton, 2010

Human Factors Analysis - Transportation Safety Board, 2000

Occupational Health and Safety Regulations - Workers Compensation Board, 1998

Root Cause Analysis - TSBC, 2000

Operational Excellence-Lean Six Sigma - Price Waterhouse Coopers, 2007

Legal

Conflict Resolution & Mediation - Justice Institute, 2001

Expert Witness Testimony - Justice Institute, 2001

Product Liability - ANSI, 1998

Professional Associations:

Professional Engineer (P.Eng./PE), BC, AB, TX, NV
Society of Safety Engineering, professional member (CSSE)
Board of Registered Safety Professionals (BCRSP)
American Concrete Institute (ACI)
Canadian Society for Civil Engineering, Chair-Forensic Engineering committee (CSCE)
American Society for Testing and Materials (ASTM)
Failure Analysis Society (American Society of Materials)
American Society of Mechanical Engineers (ASME)
American Society for Quality Control, certified member (ASQC)

Professional Practice:

Engineers and Geoscientists of B.C.
Registration Committee 2001 - 2012
Vancouver Branch Chair 1997 - 2003

Applied Science Technologists and Technicians of B.C.
Practice Review Board 2004 - 2006
Board of Examiners 2004 - 2005

Publications:

Incident Investigations, Systemic Causal Factors - Technical Safety BC, 2022
Wind turbine failures - EFI Global, 2024
Industrial Furnace and Heat Exchanger Failures - Technical Safety BC, 2021
Refrigeration System Failure - Technical Safety BC, 2018
Automotive Equipment Failures - Workers Compensation Board/OSHA, 2012
Construction Hoist Failure, TSBC, 2021
Mobile Equipment General Requirements, WCB, 2010
Machinery and Equipment Regulations - Workers Compensation Board/OSHA, 2009
Cranes and lifting devices, WCB, 2010
Marine Vessel Hazards, WCB, 2005
Machinery and Equipment Hazards, WCB, 2001
Scaffolds and Work Platforms, WCB, 2000
Resource Industry Manufacturing - Workers Compensation Board, 2004
Safeguarding Best Practices - Workers Compensation Board, 2000
Occupational Health & Safety Regulations, multiple sections - WCB, 2008 - 2013
Root Cause Analysis, Best Practices Guide, WCB, 1999
OHS Policies and Guidelines, multiple sections, WCB, 2010 - 2013
After the Floods, Insurance West, 2013
Wood Products Manufacturing, WCB, 2004
Authored multiple publications through Technical Safety BC, WCB/WorkSafeBC and others.

Presentations:

Combined Cycle Power Plants - American International Group, Global Energy, 2023 - 2024
Renewable Energy, Wind Turbines - Transición Energética conference (Cali, Colombia), 2023
Wind Turbine, failure investigations – FM Global & AIG, 2022 - 2024
Turbine Failure Analysis (gas/steam) - Lloyd's of London HQ (London Power Forum), 2014
Industrial Furnaces - Webinar, 2025
Crane Failure Claims - Webinar series, 2016 - 2025
Equipment Loss Consulting - Webinar series, 2024 - 2025
Metals, Polymers and Ceramic Failures - Webinar Series, 2014
Elevating Devices - TSBC, 2019
Automotive Lifts and Vehicle Supports - Ministry of Education, 2012
Passenger Ropeway and Amusement Devices - TSBC, 2021
Gas Furnace Heat Exchanger Failures - TSBC, 2021
Ammonia Release, Equipment & Process Failures - TSBC, 2021

Leading Issues, Trends & Challenges Impacting the Expert Witness - Expert Witness Forum, 2017
Safeguarding the Case File, Best Practices for Experts - Expert Witness Forum, 2016
Liability Investigations - Oregon Claims Adjusters Association, 2013
Forensic Investigation of Complex Losses - Cansure, Intact, ClaimsPro, 2018
Investigations by Regulatory Authorities - TSBC, 2019
Incident Investigations, Systemic Causal Factors - Technical Safety BC, 2022
Forensic and Environmental Investigations - Vancouver Club, 2022
Forensic Engineering - Lake Okanagan Insurance Society, 2014

Arc Flash Incidents - TSBC, 2021
Carbon Monoxide Fatality Investigations - TSBC, 2021
Safety Guarding Standards: Their role in assessing liability - Webinar, 2013
Occupational Safety & Health Regulations (OSHA/OHSR) - Workers Compensation Board 1999 - 2013
Law & Ethics - EGBC Professional Development Seminars, 1998 - 2010
Root Cause Analysis - Canadian Society of Safety Engineering, 2006
The Engineers Role, OHS Investigations - University of British Columbia (Engineering Faculty), 2006
Forensic Engineering - Ministry of Education, 2000 – 2005
Lecturer for University of British Columbia - Faculty of Engineering, 1998 - 2013

Expert Witness:

Litigation support provided in over 24 cases and class actions tried in Supreme Courts in USA, Canada and Korea, and International Arbitration. Expert testimony provided in multimillion dollar losses involving:

Boilers and pressure vessels
Turbine machinery
Oil & gas, Pipelines
Mining & mineral process
Pulp & Paper Vessels

Personal injury
Automotive
Ladders and scaffolds
Metal casting and forging
Furnaces

Machine guarding
Fire suppression systems
Cranes and lifting devices
Elevating devices
Corrosion failures