

FORENSIC SERVICES TEAM

Consulting Chemist/Scientist (Forensics)

Mr Cheong Kuok Sum

Mr Keneddy Chat

Ms Chelsea Wong Wan Ling

Mechanical (Forensic) Engineer

Mr Amirul Azim Ali

Electrical (Forensic) Engineer

Mr Naim Iman

Metallurgical (Forensic) Engineer

Mr Muhammad Fadhil

FORENSIC SERVICES TEAM

Associate Consulting Scientist/Technical Advisor

Mr Yu Ong Sing

Associate - Marine Biologist & Aquaculture Engineer

Mr Paul Henderson

Business Development Manager - ASEAN Region

Ms Chew Wan Chyn



CHEONG KUOK SUM

MANAGER/
CONSULTING CHEMIST
(FORENSICS)

P R O F I L E S U M M A R Y

Bachelor of Science (Industrial Chemistry) (Hons.)

Registered Chemist, Member of Malaysian Institute of Chemistry (MMIC)

Member, National Association of Fire Investigators (NAFI)

About 11 years in the forensic services, more than 8 years in failure analysis and manufacturing industry.

Investigated over 150 fire and explosion cases throughout Malaysia, Thailand, Indonesia and Philippines.

Involved in multiple marine cargo claim assessment such as contamination, wetting, corrosion, and spoilage scenarios.

Acquired and upkeep ISO/IEC 17025:2017 accreditation for the in-house laboratory specializing in Forensic Science and Metallography.

SPECIALTY

Expert in **Chemistry Application and Equipment:**

Well versed in the design of experiment and data interpretation for product liability claims using wide spectrum of equipment such as SEM with EDS or WDS, FE-SEM, FTIR, XPS, AES, ToF-SIM, FIB, X-ray CT-Scan, DSC, TGA, TMA, Py-GCMS, XRF, ICP-OES, GPC, GC-FID.

Marine Cargo Claim Assessment:

Contamination, wetting, corrosion, spoilage, sea water ingress, etc of marine cargoes, goods in transits and storage.

High Hazard Process Incident:

Investigated fire, explosion, and equipment failure incidents across oleochemical, petrochemical, animal feed additive, and tapioca starch processing plants in Malaysia and Thailand.

H I G H L I G H T S

Fire and Explosion Investigation

Type of Industries:

Textile, timber/plywood/veneer, furniture, transport, department stores, houses, warehousing, entertainment, agricultural, plastics, petrochemical, palm oil processing and refinery, oleochemical, electroplating, automotive industries, tyres, paper, packaging films, textile, garments, food and beverages, latex and synthetic gloves, electronic/electrical appliances, department stores and hypermarkets.

Type of Structures/Buildings:

Shophouses, apartments, warehouse, various types of factory buildings, processing plants, process equipment, bulk material storage and handling facilities such as tank farms, cold room, restaurants and furniture malls.

Vehicles and Heavy Machineries:

Excavators and busses.

H I G H L I G H T S

Causes of Fires:

Arson, self-heating, spontaneous combustion, electrical, mechanical, smoking, mechanical friction, hot work and thermal runaway reaction.

Fire Protection System:

Post fire investigation into the operational status of the fire protection system.

Expert Witness Testimonies:

Court appearances in Sandakan and Penang High Court of Malaysia for fire origin and cause, as well as chemical analysis.



AMIRUL AZIM ALI

MANAGER -
MECHANICAL (FORENSIC)
ENGINEERING

P R O F I L E S U M M A R Y

Bachelor of Science in Mechanical Engineering, Pennsylvania State University, USA

Registered Graduate Engineer with Board of Engineers Malaysia (BEM)

Member, National Association of Fire Investigators (NAFI)

Member, International Association of Arson Investigators (IAAI)

Affiliate Individual, The Institute of Fire Engineers, Malaysia Branch (IFEM)

Member, National Association of Professional Accident Reconstruction Specialists (NAPARS)

More than seven (7) years of experience in forensic investigation.

Involved in on-site examination and executed consultation services for insurance claims involving fire, explosion, vehicle accident, reconstruction, lightning damage, and engineering failure throughout Malaysia, Indonesia, Thailand and Laos.

Published and co-authored over 400 technical investigation reports.

S I G N I F I C A N T C A S E S

Expert in **Failure Investigation** for **Heavy Machinery, Equipment, and Structures**:

Experienced in investigating failures involving chemical deflash equipment, CNC machines, mobile and side loader cranes, gensets, furnaces, boilers, underground cables, switchgear, and geomembrane HDPE covers.

Investigated incidents such as freefall lift failures, oil tanker topplings, explosions, structural collapses (chimneys, sheds, racking systems), and damage from lightning, water, and windstorms affecting lifts, escalators, and building structures.

S I G N I F I C A N T C A S E S

Specialist in **Fire Investigation and Accident Reconstruction** for
Motor Vehicles and Heavy Machinery:

Experienced in investigating fire incidents involving heavy machinery and trucks, including 4-axle semi-trailers, Doosan DX700LC excavators, Hitachi ZX130L units, and Sinotruk Howo A7 trucks.

Extensive experience in passenger car fire investigations and vehicular collision reconstructions, covering a wide range of vehicles such as Audi Q7, Bentley Continental Flying Spur, BMW (740Li, X3, X6), Chery Easter, Ford Mustang, Honda Civic, Jaguar XJL, Land Rover Range Rover Sport, various Mercedes-Benz models (CLA200, GL63 AMG, E200, S350L), Nissan X-Trail, Peugeot 308, Perodua (Alza, Axia, Myvi), Porsche Cayenne, Subaru XV, Toyota Hilux, Volkswagen Passat, and Volvo XC40.

S I G N I F I C A N T C A S E S

Structural Fire Investigation:

Experienced in investigating structural fires involving battery distributor warehouses, bus assembly plants, lighting appliance stores, shop lot buildings, supermarkets, general warehouses, and waste segregation areas.

Expert Witness Testimony:

Experienced in court appearances in Indonesia and Malaysia.



MUHD NAIM IMAN

ELECTRICAL
(FORENSIC) ENGINEER

P R O F I L E S U M M A R Y

Graduated with a Bachelor of Electrical & Electronic at Universiti Malaysia Sarawak.

Registered Graduate Engineer with Board of Engineers Malaysia (BEM).

Level I – Certified Infrared Thermographer.

Trained in Earthing & Electrical Protection System in Malaysia.

Trained and Registered OSH Coordinator.

A passionate and detail-oriented Electrical Forensic Engineer with one year of experience in investigating electrical failures, system malfunctions, and safety incidents. Proficient in data analysis, site inspections, and technical reporting, with a strong dedication to identifying root causes and apply engineering principles to improve safety.

Strong communication skills with experience preparing reports and presenting findings to client.

S I G N I F I C A N T C A S E S

Transformer Incidents (Dry-Type & Power Transformers)

1. Damage assessment of a toppled 1MVA, 11/0.42kV dry-type transformer
2. Failure of a 500kVA, 415/208V dry-type transformer
3. Failure of a 180MVA, 275/132kV power transformer
4. Failure of a 2000kVA, 21/0.4kV dry-type transformer

Cable & Power Distribution Failures

1. 33kV cable failure at a steel manufacturing facility

Switchgear and Arc-Flash Investigations

1. Arc-flash incident involving 11kV switchgear
 2. Failure of 11kV switchgear
 3. Arc-flash at 11kV bus section
4. Arc-flash incident on on-load tap changer (OLTC)

SIGNIFICANT CASES

Fire Cases

1. Fire incident involving a public transportation bus
2. Fire at a microturbine generator
3. Fire involving rooftop photovoltaic (PV) panels
4. Fire at a waste-to-energy plant
5. Battery room fire
6. Furniture Showroom Fire.
7. Fire at a salted egg processing facility.
8. Fire involving a scrubber dryer machine.

S I G N I F I C A N T C A S E S

Lightning Strike Assessment

1. Alleged lightning strike on EST3 fire alarm panel
2. Alleged lightning strike on cold room equipment
3. Alleged lightning strike on digital corrugated printer
4. Reported lightning strike on a 450T crawler crane
5. Reported lightning strike at a 50MW solar plant
6. Reported lightning strike at an LPG terminal

Miscellaneous Cases

1. Loss incident involving the CO2 Laser Processing Machine
2. Investigation of generator set break-in incident
3. Desktop review and assessment of electricity usage patterns



MUHAMMAD FADHIL

METALLURGICAL
(FORENSIC) ENGINEER

P R O F I L E S U M M A R Y

Graduated with a Bachelor of Science (Hons) in Material Science from Universiti Putra Malaysia.

- Graduate Technologist, Malaysian Board of Technologist
- Member, Malaysian Society for Non-Destructive Testing
- Affiliate Member, Institute of Materials Malaysia

Metallurgist with 5 years of experience in condition assessment and failure analysis of power plant and oil & gas facilities.

Specialized in metallurgical testing, damage mechanism analysis, and technical consulting. Strong knowledge in microstructure evaluation, NDT, API 571, and ISO 17025 compliance.

Known for creative problem-solving, multitasking, and effective team contribution.

S I G N I F I C A N T P R O J E C T S

Failure Analysis

Extensive experience in failure investigations using metallography, fractography, and corrosion assessment:

- **Compact Substation Unit** – Flashover due to ohmic heating and localized oxidation.
- **Shackle Coupler at Single Anchor Leg Mooring (SALM)** – Fatigue crack growth under cyclic marine loads.
- **Centrifugal Gas Compressor** – Combined corrosion and wear damage on rotor components.
- **Manifold C2 Tube** – Chloride Stress Corrosion Cracking (CLSCC) in high-temperature service.
- **Offshore Bolt** – Hydrogen embrittlement in high-strength steel.
- **Aluminum Pontoon** – Exfoliation corrosion from chemical exposure.
- **Aluminum Blade** – Failure from combined Sulphur and Chloride Stress Corrosion Cracking.
- **Spool, Gasket Holder, Stud Bolt** – Stress corrosion cracking and fatigue due to cyclic loading.

S I G N I F I C A N T P R O J E C T S

On-Site Assessment (Replica & Hardness Testing)

Performed in-situ metallurgical evaluation for high-temperature equipment:

- **Heat Recovery Steam System (HRSG) & High Pressure Super Heater (HPSH) & Reforming Unit** – Creep assessment via replica and hardness testing.
- **High Pressure Flare Scrubber & Furnaces (F7001-F7003)** – Life assessment under thermal aging.
- **Boiler Tubes** – Hotspot investigation confirming local creep and thermal degradation.



KENEDDY CHAT

CONSULTING CHEMIST
(FORENSICS)

P R O F I L E S U M M A R Y

Graduated with a Bachelor of Science (Hons) in Chemistry (Forensic Analysis) from Universiti Teknologi MARA.

Experience in fire investigation, including fire debris analysis and GC-MS interpretation for accelerant detection, conducted within an MS ISO/IEC 17025:2017 accredited forensic laboratory specializing in forensic science and mechanical testing.

Actively involved in determining cause and origin of fires through both laboratory analysis and on-site investigations, with a strong track record of contributing to complex forensic cases across diverse industries. Experienced in reviewing and interpreting forensic reports with attention to technical accuracy and evidentiary integrity.

Currently pursuing professional membership with the Malaysian Institute of Chemistry (IKM) and undertaking training as an OSH Coordinator to further strengthen capabilities in workplace safety and regulatory compliance during forensic site operations.

SIGNIFICANT CASES

Fire and Explosion Investigations

Industrial & Manufacturing Facilities:

Tire, lithium-ion battery, and golf cart warehouse, corrugated box factory, foam production warehouse, plastic recycling factory, cotton bale production warehouse

Heavy Equipment & Machinery:

Excavator, Sky-lift in a palm oil refinery

Commercial Properties:

Automotive workshop, Furniture shop, Food & beverage storage warehouse



CHELSEA WONG

CONSULTING SCIENTIST
(FORENSICS)

P R O F I L E S U M M A R Y

Graduated with a Bachelor of Forensic Science (Hons) from Management and Science University (MSU).

Trained in an MS ISO/IEC 17025:2017 accredited laboratory specialising in forensic science and mechanical testing (SAMM 1196).

Currently experiencing extensive hands-on in fire investigation, fire debris analysis, and accelerant detection using GCMS using ASTM E 1412-19 and ASTM E 1618-19.

Currently pursuing professional membership with the Malaysian Institute of Chemistry (IKM).

P A S T E X P E R I E N C E

Grit and Dedication in Malayan Tiger Protection

Was part of a PERHILITAN-led research project.

Diligently collected the tiger's DNA samples from the virgin forest of Peninsular Malaysia.
Conducted DNA extraction and DNA analysis to determine the genetic varieties and generate a whole genomic profile for *Panthera Tigris Jacksoni*.

A Chemistry-Based Research Project at MSU

ATR-FTIR Analysis and Chemometric Evaluation of PVC and PE Cling Films, which are often used as wrappers of illicit drugs.

Forensic determination of the base polymer of each cling film brand available in the Malaysian market, enabling the classification and differentiation of the films.

OUR PROFESSIONAL ATTRIBUTES

Meticulous

Analytical

Inquisitive

Persistent

Consistent



YU ONG SING

ASSOCIATE
CONSULTING
SCIENTIST/
TECHNICAL ADVISOR

P R O F I L E S U M M A R Y

MSc Materials Science, BSc (Hons) Physics
Certified Fire & Explosion Investigator, NAFI-CFEI
Certified Fire Investigator, IAAI-CFI

With over 24 years of experience in fire and explosion investigations across a wide range of industries throughout Asia, primarily serving insurance clients.

Also conducts fire risk inspections for industrial facilities, post-fire assessments of fire protection systems.

Provided expert testimony for fire-related cases in multiple jurisdictions throughout Asia, including Malaysia, Thailand, Vietnam, the Philippines and Northern Mariana Islands.

H I G H L I G H T S

Countries:

Investigated fires and explosions in Malaysia, Indonesia, Indonesia, China, Thailand, Vietnam, the Philippines, Taiwan, Cambodia, South Korea, Guam and Saipan.

Industries:

Automobile, Food and Beverage, Pharmaceutical, Chemical, Garments/Textile, Wooden/Steel Furniture, Confectionery, Oil and Gas, Skincare Products, Department Stores, Plastics, Restaurant, Electronics/Electrical Appliances, Packaging Films, Steel Manufacturing, Semiconductors, Agricultural products, Latex and Synthetic Gloves, Entertainment Centers, Papers and Rubber

H I G H L I G H T S

Type of Structures/Buildings:

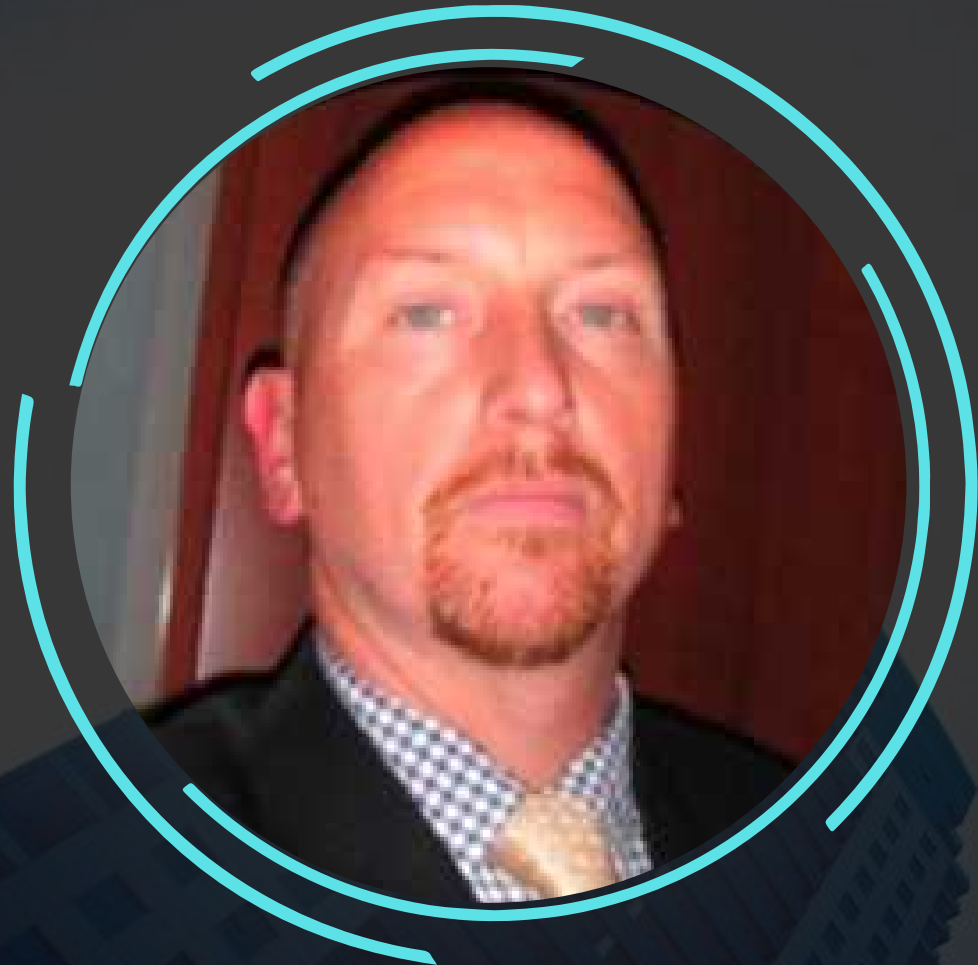
Cool Rooms, Processing Plants, Sawmills, Factory buildings, Restaurants, Tank Farms, Solar Panels, Furniture Malls, Shophouses, Warehouses, Mini Markets, Supermarkets, Workshops, Shopping Malls.

Causes of Fires:

Arson, Self-heating, Spontaneous Combustion, Electrical, Mechanical, Smoking and Hot Work.

Furnace Failures:

Steel: Investigated blast furnace failures, electric arc furnace failures, and explosions.
Brass & Copper: Examined explosions in melting induction furnaces.



PAUL HENDERSON

ASSOCIATE
MARINE BIOLOGIST &
AQUACULTURE ENGINEER

PROFILE SUMMARY

MSc (Aquaculture Engineering)
Hons BSc (Marine Biology)

With 28 years of experience in the oil and gas sector, including 8 years of offshore operations on jack-ups, semi-submersibles, and fixed platforms across the British, Danish, and Norwegian sectors of the North Sea, as well as the West African and Indian coasts.

Engaged by Forensic Services on an ad-hoc basis, delivering specialized expertise in oil and gas drilling equipment failures, marine pollution investigations, and aquaculture-related incidents.

H I G H L I G H T S

1. Investigated a reported electrocution event affecting high-dollar aquaculture fish stocks, concluding the cause was oxygen deprivation due to inadequate air supply and the absence of backup systems, alarms, and failsafes.
2. Devised a safe and cost-effective procedure for the disposal of a chemical product at a landfill, mitigating the need for expensive treatment processes.
3. Assessed and reported on damage to a Blowout Preventer (BOP) stack following a rupture incident during cavity pressure testing.
4. Conducted failure analysis of a twist-off Bottom Hole Assembly (BHA) Mud Motor at an onshore drilling site in Indonesia.
5. Investigated oil contamination on silt nets in Penang through underwater diving operations, photographic documentation, sample collection, and the recommendation of environmentally sustainable recovery solutions.
6. Consulted on coil tubing failures and down-hole tool failures in conjunction with FSM's resident metallurgist.



CHEW WAN CHYN

BUSINESS DEVELOPMENT
MANAGER
ASEAN REGION

P R O F I L E S U M M A R Y

MSc Fire Safety Engineering, BSc (Hons) Forensic Science
CFEI (NAFI/IAFI), AIFireE, MIAAI, IAAI-FIT, MMIC, FRA (IFEM)

Since January 2025, she is leading business development effort for Forensic Services (M) Sdn Bhd across the ASEAN region, focusing on market expansion, strategic growth, and brand visibility.

Key responsibilities include:

- Driving social media marketing and webinar/seminar campaigns
- Managing customer relationships and sourcing new prospects and partnerships
- Shaping business strategy and overseeing website redevelopment
- Supporting talent acquisition and leading the Occupational Safety and Health Committee

P A S T I N V E S T I G A T I O N E X P E R I E N C E

With 9 years field experience, she led the Fire Forensic Department as Senior Forensic Consultant, specializing in fire and explosion investigations, chemical-related disputes, engineering and material failures, motor vehicle accident reconstruction, and lift auditing.

She conducted on-site examinations, evidence gathering, technical analysis, and authored over 223 investigation reports while peer-reviewing more than 281 cases. She supervised over 500 fire and forensic investigations across structural, vehicular, and industrial incidents.

Certified as a Fire and Explosion Investigator (CFEI) since 2019 and an Accredited Fire Risk Assessor (IFE Malaysia) since 2022, she complemented her professional practice by completing a Master's degree in Fire Safety Engineering in 2024.

S I G N I F I C A N T C A S E S

Fire and Explosion Investigations

Extensive experience in industrial fires involving food production (noodles, vermicelli, flour mills, creamer dryers), palm oil mills, chemical plants (biodiesel, agrochemical, disinfectant), plastics and foam manufacturing, textile factories, and steel mills. Commercial property fires at shopping malls, supermarkets, warehouses, retail outlets, hotel laundries, and office buildings. Explosion investigations involving boilers, tank failures, pyrolysis reactors, paint ovens, and kitchen cooking systems.

Motor Vehicle and Heavy Transport Investigations

Fire and damage investigations involving a wide range of passenger vehicles (Audi, BMW, Bentley, Mercedes-Benz, Toyota, Volkswagen, Nissan, Mazda, Perodua, etc.). Specialized in hybrid and electric vehicle (EV/PHEV) fire cases, including BMW i8 and Mercedes-Benz hybrids. Public transport and heavy equipment fires (buses, excavators, tugboats, prime movers). Collision reconstruction and post-impact fire analysis.

S I G N I F I C A N T C A S E S

Specialized and High-Risk Case Types

Investigations of deliberate fires targeting industrial premises, vehicles, workshops, and public facilities. Spontaneous combustion events linked to oil palm processing, essential oil storage, and restaurant operations. Hot work-induced fires in active industrial plants. Specialized assessments of spontaneous ignition, static discharge incidents, and chemical reaction losses.

Causation Analysis and Damage Assessment:

Electrical faults, mechanical failure, friction, hot work, smoking material, chemical reactions, spontaneous combustion, static discharge, arson, collision impacts, and natural hazards (lightning, windstorm, flood).

Investigation Scope:

On-site examinations, remote investigations, damage assessments, causation analysis, forensic laboratory work, desktop reviews, and multi-party collaborations.

OUR VALUES

Commitment

Integrity

Excellence

C O N T A C T U S

Forensic Services (M) Sdn Bhd

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C O N T A C T U S

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