

## ***Our Professional Team***

Our consultants are professionally qualified in the applied sciences and engineering, and are engaged full time in the work described; with graduates in chemical engineering, mechanical engineering, electronic and electrical engineering, metallurgy, chemistry and materials science. Every investigation is conducted with the view that the findings may need to be presented and justified in a court of law. Our consultants have appeared as expert witnesses in courts in Australia, Malaysia, Singapore, Thailand and the Philippines.



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Has overall responsibility for investigations and the quality of FSA's work. Has investigated over 1000 fires, explosions and engineering failures in 9 countries since 2001. He has also given evidence as an expert witness with respect to fire investigation, vehicle accident reconstruction, damage assessment and engineering failures. He is a certified fire and explosion investigator (CFEI) and certified vehicle fire investigator (CVFI) since 2005.



**Anand Ghnavello**  
**BE (Mechanical)**  
**ME (Forensic)**

**Mechanical Engineer**

Has carried out more than 200 investigations in various aspects of failure analysis throughout Peninsula and East Malaysia as well as Indonesia, Thailand, Philippines and South Korea.

Consultant for materials, metallurgical and corrosion failure analyses to the Oil & Gas and general industries including PETRONAS Floating LNG 1&2 (PFLNG1&2), PETRONAS Chemicals Fertiliser Sabah (PCFS), Pengerang Refining and Petrochemical (PRefChem), ExxonMobil Exploration and Production Malaysia Inc. (Exxon), Hengyuan Refining Company Berhad (HRC), Petrofac Malaysia, Asean Bintulu Fertilizer (ABF), Setegap Ventures Petroleum (SVP), Kebabangan Petroleum Operating Company (KPOC), Carigali-PTTEPI Operating Company (CPOC), SGS Malaysia, TUV NORD Engineering Services Malaysia, Reliacraft Bhd and Danamin Malaysia Bhd.



**Ts. Kwok Wai Kit**  
**BE (Metallurgical)**

**Metallurgical Engineer**

In charge of our materials laboratory.

An experienced failure analysis engineer, in the laboratory failure analysis of a wide range of accident samples, including boiler and heat exchanger tubes. Attends accident sites and selects samples for laboratory examination.

Failure mechanisms identified include stress corrosion cracking, general corrosion, sigma phase embrittlement, erosion, brittle and ductile failures and numerous instances of fatigue.



**Shalini Devi Ramaiya**  
**BE (Metallurgical)**  
**ME (Materials)**

**Metallurgical Engineer**

Carries out electrical related investigations, including lightning claims, transformer failures and cables.

**Lightning:** The lightning claims have included medical equipment, CNC machines and miscellaneous items in high rise.

**Transformers:** The transformer failures have involved oil cooled transformers ranging from 7.5 to 500MVA in Malaysia and Indonesia, and dry-type transformers in shopping centres. The cause of failure included bushing deterioration and/or water penetration, corrosive sulphur in transformer insulating oil, improper environment and poor maintenance.

**Generators:** Generator failures in power stations in Indonesia and Philippines, caused by insulation breakdown, poor operating regime, overspeeding, circuit breaker failure.

**Miscellaneous:** Miscellaneous accidents including 33 kV cable joints failures, oil cooled resistance starter, thyristor controlled reactor, motor starter panel, circuit breaker failure, inverter unit.

Also experienced in thermographic surveys and electrical fire investigation.



**Lim Sze Hue**  
**BE (Electrical)**

**Electrical Engineer**



Have investigated fires and explosion throughout Peninsula and East Malaysia, Thailand and Philippines with emphasis on chemical fires, spontaneous ignition, and determining effect of fire on stock.

A registered chemist, over sees the laboratory operation in Fire Debris analysis using GC/MSD.

Experienced failure analysis engineer, conducted over 3000 cases of failure analysis involving product defect failures for electronics, plating and semiconductor industry. Proficient in design of analysis and interpretation of data for product liability claim and failure analysis using advanced scientific analytical equipment such as: Scanning Electron microscope (SEM/EDS), Focused ion Beam (FIB), Fourier Transform Infra- red (FTIR), Xray Photo Spectrometer (XPS), Auger Electron Spectroscopy (AES), X-ray CT-Scan, Thermal analysis using Differential Scanning Calorimeter (DSC) and Thermal Gravimetric Analysis (TGA).

Advises on accidents resulting in alleged contamination and liaises with other laboratories both in Malaysia and overseas when specialized analytical services are required.



**Cheong Kuok Sum**  
**BSc (Industrial Chemistry)**

**Fire Investigator**  
**Consulting Chemist**

Has investigated fires in various industries throughout Malaysia involving warehouse, processing plant, manufacturing, retail shop and residential buildings. Causes found have included electrical malfunction at distribution boxes and lights, smoking and lightning strike. Assists senior consultants on damage assessment of building materials following a fire.

Conducts laboratory operations involving Fire Debris Analysis. In charge of the chemical laboratory and performs analyses of samples from fire sites using GC-MS.



**Saviniya Nair Sugumaran**  
**BSc. (Forensic Science)**

**Consulting Scientist**

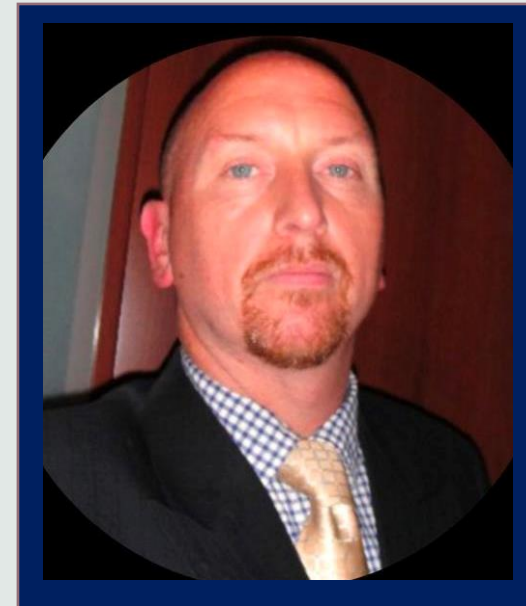


25 years' experience in the oil and gas industry, with 8 years offshore experience working rig floors on jack ups, semi subs and platforms in British, Danish and Norwegian sectors of the North Sea and off the West Coasts of Africa and India.

Carries out assignments for Forensic Services Asia on an ad-hoc basis. Involving Oil & Gas Drilling Equipment failures, marine pollution incidents and aquaculture related issues.

These have included:

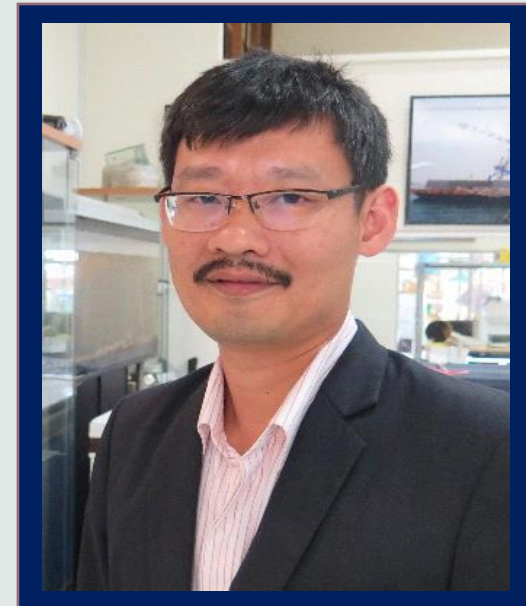
- Claimed electrocution of fish. Determined that their demise was a result of loss of air supply to water, with no backup facility.
- Determined a procedure for the safe disposal of a chemical to a landfill, eliminating the claimed need for costly treatment.
- Advised on the extent of damage to a BOP stack following a rupture during pressure testing of cavity.
- Investigated a twist-off BHA Mud Motor on land rig site in Indonesia.
- Investigated oil contamination of silt nets in Penang. Diving, photographing and collecting samples as well as examining environmentally safe recovery solutions.



**Paul Henderson**  
**Hons BSc (Marine Biology)**  
**MSc (Aquaculture Engineering)**

**Associate - Marine Biologist &  
Aquaculture Engineer**

Has investigated over 800 fires and explosions in 11 countries and has given evidence in three of these as an expert witness. He is an experienced and qualified fire and explosion investigator since 2001 in the field, interspersed with relevant courses in USA covering fire, arson, explosion, fire protection, risk inspection and fire modeling.



**Yu Ong Sing**

**Associate - Materials Scientist**

***For further info, please contact:***

**Jacqueline Chin**  
**Business Development & Marketing Manager**



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