



**MANAGING FIRE RISKS
AT THE WORKPLACE :**

**AN INTEGRATED
WORKPLACE
SAFETY AND
HEALTH APPROACH**

VENUE:

NUS SHAW FOUNDATION
ALUMNI HOUSE
AUDITORIUM, LEVEL 2

DATE:

29TH JUNE 2018 (FRI)

TIME:

08:15 TO 17:30

Jointly organized and sponsor:



Office of
Alumni Relations



the heart of
health and safety



**Occupational and
Environmental Health Society**

TO PROMOTE AND ADVANCE THE HEALTH
OF ALL AT WORK

Supporting Organisation:



**THE INSTITUTION
OF ENGINEERS
SINGAPORE**



**Singapore Institution
of Safety Officers**

Institute of Occupational Safety and Health (IOSH), Occupational and Environmental Health Society (OEHS) and NUS Alumni – SHE Society are proud to have our first collaboration.

We have brought together health care professionals, industrial hygienists, professional engineers and workplace safety and health (WSH) professionals to share their experiences on Managing Fire Risks at the Workplace.

Traditionally, we recognize the importance of workplace safety to keep ourselves safe at work. The recent UK fire recalibrated our attention to manage fire risks which is critical at any workplace. The characteristics of flammable materials, managing fire during crisis or emergency situations, and how to manage burns.

Come join us for an exciting multidisciplinary seminar and it can be a great benefit in shaping a culture of safety, health and well-being of our workers.

Programme Highlights:

1. Crisis Management Framework of a Metro Operator

By: Prof Vincent Ho - President - Elect IOSH (UK)

2. Risk Management of Flammable Chemicals

By: Mr. Tan Kia Tang and Mr Ang Boon Tian - Executive members of OEHS

3. Sharing 30 years of Fire Safety Engineering Design Experience

By: Er. Vincent Tong - Institute of Engineers Singapore

4. Management of Acute Burns in Singapore

By: Dr. Chong Si Jack - Consultant, Dept of Plastic, Reconstructive and Aesthetic Surgery,

Singhealth Deputy Head and Consultant plastic surgeon in Sengkang General Hospital

5. Learning's from Large Scale Fire Tests on Façade Safety

By: Mr Jagdish Vatapalli - Underwriters laboratories

6. How to Develop a Workable Emergency Response Plan

By: Mr. Benedict Koh - Fire Safety Managers' Association Singapore

7. A Single Spark can start a Huge Blaze

By: Er. Lucas Ng Hong Kiang - General Manager of plant,

Petrochemical Corporation of Singapore Pte Ltd

8. Application of quantitative fire risk assessment for railway

By: Prof Vincent Ho – President - Elect IOSH (UK)

FEES (INCLUDING GST)

\$180.00

(IOSH MEMBERS / OEHS MEMBERS / NUS ALUMNI / IES MEMBERS / FSMAS MEMBERS / SISO MEMBERS)

\$250.00

(NON MEMBERS)

FEES INCLUDE:

2 REFRESHMENTS
1 LUNCH BUFFET
COMPLIMENTARY
PARKING COUPON

GROUP PURCHASE

(INCLUDING GST)

\$650: 3 seats

\$1050: 5 seats

\$2000: 10 seats

CPD PROGRAM:

- SDUs (WSHO) - Pending
- 5 CPD Pts (FSM) - Approved
- PDUs (for PEs) - Pending
- STU (Safety)(RE/RTO) - Pending
- CET (Contractor) – Pending
- CPD (Architects) – Pending
- 2 CM Pts (RIH) - Approved

Crisis Management Framework of a Metro Operator

By Dr Vincent Ho

President- Elect IOSH



In Hong Kong, the MTR Corporation operate railway network and provides management services to commercial and residential properties, and is one of the major property developers in Hong Kong. The Corporation also involves in property developments and management services in Mainland China. As crises are often unique, rare, unforeseen or poorly managed events, or combinations of such events, that can create exceptional challenges for an organization and are not well served by prescriptive, pre-planned responses, the Corporation's unique multi-national rail and property business portfolio demands a flexible, agile, strategic, and sustained response to crisis situations. He will describe the Corporation's crisis management framework in addressing different types of crisis, and the journey it has taken in ensuring business resilience and continuity.

Application of Quantitative Fire Risk Assessment for Railway

Conducting a risk assessment would not make a system safer, but taking reasonably practicable risk control actions would. He will show how risk measures were successfully implemented to reduce the risk of accidents that may affect train operation inside a tunnel, based on recommendations from a risk assessment.

He will describe the methodology of a systematic, comprehensive Quantitative Fire Risk Assessment using integrated fault tree/event tree analyses to quantify the risk to passengers should a stalled train developed a fire inside a railway tunnel. Fire Risk Models were developed to address the interactions of engineering systems and the progression of over 4,000 accident scenarios postulated for different possible initiating events and outcomes. He has successfully argued that certain risk mitigation measures could reduce the risk to the passengers, using a Cost/Risk-Benefit Analysis to show the cost-effectiveness of the measures in terms of collective risk and societal risk reduction.

Dr. Vincent Ho holds safety professional with 35 years of experience in risk management on transportation, nuclear, and weapons industries. He is the President-Elect of the Institutional of Occupational Safety and Health (IOSH). With its headquarters in the UK, IOSH is the world's largest health and safety body acting as a champion, supporter, adviser, advocate, and trainer for safety and health professionals working in organisations of all sizes. IOSH has a clear vision: a safe, healthy and sustainable world of work. Dr Ho is the Head of Corporate Safety of MTR Corporation, responsible for setting direction, policy, strategy, and requirements for the Corporation on safety governance, cyber security, health and hygiene standards, and crisis management plan. On his academic achievements, Dr. Ho received his BS, MS, PhD, and MBA from the University of California, Los Angeles. He is an Adjunct Professor at the City University of Hong Kong, and also teaches at the Hong Kong University of Science and Technology on risk management related subjects.

Risk Management of Flammable Chemicals

By: Mr Tan Kia Tang and Mr Ang Boon Tian

Executive Members of OEHS

Many chemicals used in the industry are known to be associated with fire and explosion risks. The severity depends mainly on the heat of combustion and amount of the flammables. The risk factors include fuel flammability (flash point), explosive range, vapour pressure, auto – ignition temperature, etc. which can be found in the SDS), physical form of flammable liquids or solids (e.g. mists and dust clouds), quantity of flammable liquids, work environment and pressure, chemicals reactions, incompatibility of flammable liquids with oxidizing agents, physical environment (e.g ventilation and confinement), competence of workers and human factors. All these should be taken into consideration when assessing the risk. Measures to contain and mitigation are frequently applied judiciously.

However, an often overlooked fact is that exposure to small amounts of many flammable chemicals – well below the flammable dangerous level, may effect health of the workers in the short or long term. In this aspect, the field of industrial hygiene in the identification, evaluation and control of (flammable) solvents are discussed.

This presentation also illustrates example(s) to dispel the “myth” that containing/controlling fire and explosive risks in some common flammable solvent(s) would most often than not, also protect workers from incurring deleterious health effects.

Mr Ang Boon Tian

Regional Industrial Hygienist, Asia Pacific, Shell



Boon Tian is currently the Regional Industrial Hygienist, Asia Pacific, Shell. He is the current Chair of the Singapore Registered Industrial Hygienists Board. Boon Tian currently assumes as a member of Executive Committee of the Occupational and Environmental Health Society (OEHS). Representing the OEHS, Boon Tian is a member of the Workplace Safety and Health (WSH) Council (Chemical Industries) Committee. He assisted the WSH Council in chairing the drafting of guidelines on Case Studies (Chemical Industries).

Boon Tian has represented the OEHS as member of the SPRING Technical Committee (Safety & Health) from year 2010 to 2017. He is presently a representative of the OEHS as a Director of the International Occupational Hygiene Association (IOHA). He holds a B Eng. (Chemical), a M.Sc. (Env Eng) and a MPH with specialty in Occupational Health.

Besides a Registered Industrial Hygienist - RIH (SG) and a Registered WSH Officer in Singapore, Boon Tian is also a Certified Industrial Hygienist (CIH) with the American Board of Industrial Hygiene.

Mr Tan Kia Tang
Executive Members of OEHS



A pioneer in industrial hygiene, Kia Tang was one of the key persons in instrumenting the national industrial hygiene programmes and the IH professional framework, the Globally Harmonized System of hazard communication And the WSH risk management framework in Singapore.

Currently, he is Co-Convenor of the CP 99 Workgroup responsible for reviewing the Singapore Standard on Industrial Noise Control, and also Co-Convenor of the LEV Workgroup responsible for developing the SS on Local Exhaust Ventilation Systems.

He holds a B.Sc. (1st-Class Honours) in Physics, a M.Sc. in Radiation Safety and a M.Sc. in Industrial Hygiene. He received the William Yant Award from the American Industrial Hygiene Association in 2012 for his outstanding contributions in IH.

Learning's from large scale fire tests on façade safety

By: Mr Jagdish Vatapalli
Underwriters Laboratories



Underwriters Laboratories Inc. has partnered with the Indian Institute of Technology in Gandhinagar, India to undertake fire research to better understand the impact of glass on high rise buildings an actual large scale fire test was carried out on a multi storied building. This presentation will provide details of the testing, videos from the actual test and key take-away from the results and what this would mean for fire protection professionals and regulators world-wide.

Jagdish is a Fire Engineering graduate with over 30 years' experience in the field of Fire Safety & Fire protection. He is now working with Underwriter Labortories as the Regional Regulatory Head – Codes & Advisory services for Emerging Markets. He also heads the UL's Western Regional office in Mumbai.

He was instrumental in driving the business in India for the UL safety mark which helped local manufacturers gain global market access.

In the past, Jagdish had worked industries such as; Chennai Petroleum, Reliance, Shell etroleum Development & Gujarat State fertilizers and Chemicals. Today Jagdish is conducting burn tests for Glass Façade Safety and new projects on Forensics Science behind orgin and cause of fire. His plan is to establish India's first Lab on Fire Forensics at IIT GN.

Jagdish headed the Fire Suppresion Sales and Business Development in India, Middle East & ASEAN cuntries and played a key role in the opening of Dubai office in the Middle East.

He is well experienced working with AHJ/Codes and Standards and End users in the industry. This enabled the new Markets establish UL as the benchmark for Safety & Performance. His 12 years of experience with UL made him the industry leader in the certification business.

Sharing 30 Years of Fire Safety Engineering Design experience

By: Er Vincent Tong

Managing Director, Mechanical & Electrical Engineering (Infra)

Surbana Jurong Consultants Pte Ltd



Er. Vincent Tong's current main focus is to lead and oversee the generation and growth of profitable business, prospects and revenue streams for the Mechanical & Electrical Engineering team in Surbana Jurong.

Er. Tong graduated from the University of Hong Kong, He started his professional journey as a Trainee Engineer in Public Works Department of Hong Kong Government and after one year of training, he has decided to begin his career in Singapore. Er. Tong has obtained a Bsc in Mechanical Engineering, a MSc in Building Science and a Master of Fire Safety Engineering. He is currently a registered Professional Mechanical Engineer, Fire Safety Engineer and ASEAN Chartered Professional Engineer as well as Senior Member of IES, Singapore.

With more than 30 years of experience as an engineering professional, Er Tong has been involved in many prestigious and mega projects in Singapore, SEAsia, the Middle East and China including North-South Expressway, Circle Line, Thomson Line, Tuas West Extension and Cross Island Line MRT and depots, KV MRT Line 1 & 2. Jakarta and HCM Metro, Power Grid Cable Tunnels, Suntec City, Asia Square Tower, Tampines Town Hub, Resorts World Sentosa, The Sail and Marina Bay Financial Centre; major upgrading to Changi Airport T1; Airport Transformation project in Brunei; Jakarta Airport T3; Signature Towers and Dubai Mall in UAE; Capital Plaza in Abu Dhabi and Great Mall of China in China. Some of these projects required the development of complex mechanical and fire engineering solutions to ensure public fire safety and fire fighting operation in large open space, underground station and tunnel environments.

In additions to his outstanding professional career, Er. Tong has earned industry-wide recognition for his expertise and has been appointed by several international and local government agencies and professional institutions to share his insights and experience to advance the development of the building and fire engineering industry. He is a past board member of professional Engineers Board and Board of Architects both appointed by the Minister of National Development. A current member of the SFSRTS Fire Code Review Committee and a member of the Fire Safety Appeal Advisory Panel for SCDF. In the past, Er. Tong served as a member of BCA Green Mark Advisory Committee for 10 years; BCA Academy Advisory Panel; a past President of ASHRAE Singapore Chapter; a council member of Association of Consulting Engineers Singapore; and a member of M & E Review Panel for National Art Gallery Singapore. In 2017, Er Tong was awarded the inaugural Fire Safety Design contributions in ingenious design solutions in overcoming project challenges to achieve high standard in fire safety design and regulatory compliance of building projects

Management of Acute Burns in Singapore

By: Dr. Chong Si Jack - Consultant, Dept of Plastic, Reconstructive and Aesthetic Surgery, Singhealth Deputy Head and Consultant plastic surgeon in Sengkang General Hospital



Dr Chong will be sharing his hands-on experience on treatment and management of acute burns in Singapore.

Dr Chong Si Jack is the Deputy Head and Consultant plastic surgeon in Sengkang General Hospital. He is currently the president of Asia Pacific Burn Association and the founding council member of the AP Scar Society. He is concurrently director SGH Burn Centre, Skin Bank Unit and Emergency Preparedness. He is also a consultant in the hyperbaric and Diving Medicine Centre. He spearheads the strategic development of burn care in Singapore. He presents extensively and has over 100 research publications. He is also associate editors of various indexed journals. He holds multiple grants with current interest in innovative dressings and skin substitutes.

How to develop a workable emergency response plan

By: Mr. Benedict Koh

President, Fire Safety Managers' Association Singapore



Most safety professionals are familiar with the development of Emergency Response Plan(ERP). However, many of these plans are not tested for its effectiveness during an emergency. This presentation will touch on the importance and the methodology of developing a practical and workable ERP. It will cover the legal requirements for ERP in Singapore and what makes the ERP workable. It will also touch on the background of how we can achieve workability and the effectiveness of the ERP.

Mr. Benedict Koh, PBM graduated from the University of Technology Sydney with a Bachelor of Electrical Engineering. Registered Chartered Professional Engineer in Australia, Registered international . Professional Engineer, APEC Engineer, Fellow of the Institution of Engineers Singapore, and Certified Fire Safety Manager, he was elected as the President of the Institution of Engineers Australia (Singapore Chapter) in 2004. He is currently a Fellow and President of the Fire Safety Managers Association Singapore and is an appointed Board of Director in the National Fire and Civil Emergency Preparedness Council under the Ministry of Home Affairs Singapore. He is currently the Chairman for both the National Mass Fire Evacuation Drill Committee and National Fire Safety Design Excellence Awards Committee. He also sits in the Technical Committee in Enterprise Singapore (formerly SPRING) under the Electrical and Electronics Standards Committee overseeing six Singapore Standards. On the community front, he is also a Council Exco and Chairman of the Community Emergency & Engagement Committee.

A single spark can start a huge blaze

By: Er. Lucas Ng

General Manager of Plant, Petrochemical Corporation of Singapore Pte Ltd



Fire prevention and emergency preparedness are top priority in a complex housing chemical and petroleum facilities. Managing fire risks of such high hazards facilities must have good knowledge of handling and controlling ignition sources as well as flammable materials being used or processed. Should the solutions through elimination, substitution, control and administrative procedure deemed inadequate as layers of protection, further protection measures are required. These protection measures will be deliberated. Owners who outsource flammable waste materials disposal must ensure the waste management operator has full knowledge on the fire risks involved as well as health and environmental impacts. On the other hand, it is prudent to have emergency response plans complete with response procedures by the corporate emergency response team (CERT) in preventing any emergency escalating into a major incident. CERT competency development for readiness through training, drills and exercises are essential to resolve any vulnerable situation at workplace.

Er. Lucas Ng is the General Manager of Plant of Petrochemical Corporation of Singapore (PCS). PCS is the upstream company of the Singapore Petrochemical Complex. He is responsible for the entire operations of PCS facilities in Ayer Merbau supporting all downstream companies in Jurong Island. He serves PCS for 34 years.

He is actively leading and driving his workforce in the workplace safety and health activities and is committed to process safety management beyond PCS. Lucas is also serving in various institutions and committees, both in academic institutions, government agencies and professional bodies.

He has been in the hydrocarbon processing industries for more than 38 years since his graduation as a chemical engineer in 1980, advocating process safety, asset integrity & reliability, fire safety, water conservation and energy efficiency. Lucas is a registered Professional Engineer (Chemical) with Professional Engineers Board of Singapore, and a Chartered Engineer (Chemical and Process) with the Chartered Engineer Board / Institution of Engineers, Singapore (IES).

Registration

1. Registration Link

Please register using this website, otherwise you may wish to copy and paste the following link in your browser:

<http://events.eventzilla.net/e/managing-fire-risk-at-the-workplace-an-integrated-workplace-safety--health-approach-2138931727>

If you face any difficulties during registration, please drop an e-mail to sgp-events@ioshnetworks.co.uk, Alternative you may wish to contact Sarah at 9741 6327 or Molly at 9039 9668.

2. Payment Mode

- 1). Payment via Paypal/VISA/Master/AMEX online
- 2). *Payment via bank transfer to DBS Current Account 005-902380-1.

Please register on Eventzilla and select bank transfer. You will receive an order receipt in your e-mail. Indicate the order receipt number and participant name in the transfer description.

Please forward the order receipt and bank transfer details or screenshot to our email address (sgp-events@ioshnetworks.co.uk) for expedited verification.

- 3). *Payment via crossed cheque payable to "IOSH Singapore Branch"

Please register on Eventzilla and select cheque payment. You will receive an order receipt in your e-mail. Please print the order receipt, indicate the participant and company name on the cheque and mail them to:

Link @ AMK Building, 3 Ang Mo Kio Street 62 #08-29, Singapore 569139

Upon verification of payment an email will be sent to you **within 7 working days as a confirmation.*

If you did not receive the confirmation email, please let us know via e-mail. Alternatively, you may wish to contact Sarah at 97416327 or Molly at 90399668.

3. Cancellation

There will be **no refund** if you are unable to attend the Seminar. However, we allow you to seek a replacement attendee and inform us in writing via email at least 5 working days before the event date.

Our email address is sgp-events@ioshnetworks.co.uk

Getting to Shaw Foundation Alumni House



Shaw Foundation Alumni House
11 Kent Ridge Drive, Singapore 119244
Tel: (+65) 65167700 Fax: (+65) 64641498
Email: sfahw@nus.edu.sg



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