

HEALTHY & CONDUCTIVE LIVING SPACES - THE WAY FORWARD



GUEST SPEAKER: RAYMOND PATENAUDE
ASHRAE Distinguished Lecturer

DATE : 20 MARCH 2019

**BEM CPD
APPLIED**

Ir. Chen Thiam Leong
Managing Director, Primetech



Mr. Tee Tone Vei
Managing Director, Intrix Group

Mr. Jack Ng
Branch Manager (North Region), Mayair



HEALTHY & CONDUCTIVE LIVING SPACE - THE WAY FORWARD

8.30AM-5.30PM

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PROGRAM

0800 - 0900	Registration (Breakfast Served)
0910 - 0915	Opening Remark
0915 - 1015	Topic 1 # Fundamentals of Building Envelopes and Humidity Control in Hot & Humid Climates <i>By Raymond Patenaude</i>
1015 - 1115	Topic 2 # 360° on Water Heater Safety <i>By Mr Tee Tone Vei</i>
1115 - 1130	15min Break
1130 - 1230	Topic 3 # Humidity Control in the building <i>By Raymond Patenaude</i>
1230 - 1400	Lunch
1400 - 1445	Topic 4 # Maintain Good IAQ in Hospital Saves Life <i>By Mr. Jack Ng</i>
1445 - 1530	Topic 5 # Stay Comfort in Good IAQ Hotel <i>By Mr. Jack Ng</i>
1530 - 1630	Topic 6 # The Perils of High Humidity <i>By Mr. Chen Thiam Leong</i>
1630 - 1700	Networking (Light Refreshment Served)

Mr. Raymond E. Patenaude

Raymond E. Patenaude, PE, CMA, CIAQP, CEM, RPIH, Principal Engineer for the Holmes Engineering Group LLC, is a registered Professional Engineer specializing in HVAC systems, moisture intrusion into buildings, and microbial contamination of building environments. He has been a Consulting Engineer for over thirty-eight years involved with the analysis, design and construction of building HVAC systems. As a recognized expert in his field, Mr. Patenaude, provides professional consultation and investigation in building science including: cause and origin of construction defects; building envelope assessments; HVAC failure causation analysis; energy analysis; moisture intrusion; mold growth investigations; and remediation management.

Mr. Patenaude is a former ASHRAE Vice President, DRC for Region XII and Chair of TC 1.12, Moisture Management in Buildings. In addition he was the Chair of the Project Monitoring Sub-Committee for the new "ASHRAE Guide for Buildings in Hot and Humid Climates". Currently Mr. Patenaude serves ASHRAE as a member of Standard 100, "Energy Conservation in Existing Buildings" and TC 1.12, "Moisture Management in Buildings". In addition, Mr. Patenaude is also a member of the National Society of Professional Engineers, the Florida Engineering Society, the National Academy of Forensic Engineers, the National Academy of Building Inspection Engineers, the National Institute of Building Sciences, Association of Professional Industrial Hygienists, the American Conference of Governmental Industrial Hygienists, American Industrial Hygiene Association and Chairman of the Board of the Certified Indoor Air Quality Professionals.

TOPIC 1 # Humidity Control in Buildings

Designing buildings for humidity control requires the integration of techniques found in the ASHRAE Humidity Control Design Guide. Mr. Patenaude, P.E. will provide a presentation on the fundamentals of humidity control including estimating dehumidification loads, control of outdoor ventilation air with the use of dedicated outdoor air systems and building air pressurization.

TOPIC 3 #Fundamentals of Building Envelopes and Humidity Control in Hot & Humid Climates

Designing buildings in hot & humid climates requires the integration of techniques found in the ASHRAE Guide for Buildings in Hot and Humid Climates and the ASHRAE Humidity Control Design Guide. Mr. Patenaude, P.E. will provide a presentation on the fundamentals of building envelopes in hot and humid climates, estimating dehumidification loads, control of outdoor ventilation air with the use of dedicated outdoor air systems and building air pressurization. These techniques are the main cause for concern for HVAC Engineers and comprise most building failures in hot and humid areas.

Mr. Tee Tone Vei

Mr. Tee Tone Vei graduated with BSc. in Electrical Engineering from South Dakota State University (USA) in year 1990 & MBA from University of South Australia on year 1999, with over 28 years of experience in engineering industry. He has also been trained in Temperature/Humidity measurement, calibration and instrumentation at UKAS (UK) and SPRING (Singapore). Mr. Tee is a Member of the Expert Committee and Chairman of Heating Appliances Working Group for SIRIM and Department of Standard Malaysia in Safety of Household and Electrical Appliances for SIRIM MS Standard & Malaysian representative in IEC Standards. He also represented Malaysia in IEC conference for Energy and Resource Saving Standard. He now pioneered a Pioneer Status Contract R&D consultancy company, Thermo Hygro Consultants which specializes in heating appliances R&D consultancy. Some of his experiences include designing and constructing heating system for leading European companies, which includes the largest Water Heating company in United Kingdom and 3rd largest heating group in Europe. Presently, in Thermo Hygro Consultants, Tee's focus is towards Renewable Energy Heating, providing solutions to residential, commercial and industrial applications.

TOPIC 2 # 360° on Water Heater Safety

Electrocution is often associated with safety of water heater. Unlike other electrical appliances, water heater is the only electrical device that comes in close contact with water and current massively, that its' users covers an infant up to the elderly. Despite multiple efforts by the manufacturers and government authorities to promote the safety measure of water heater to million of users in the country, accidents and injuries by or via water heater persist.

Take a high level view on safety of water heater, is electrocution the only risk in water heater? In Oct 2017, reported in NST - Nation section, a Port Dickson hotel roof collapse: Water heater exploded; entire block evacuated. Earlier in Feb 2017, a water heater in a condominium in Mont Kiara exploded, causing huge damage to the wall and 80% of the ceiling in the condominium.

Here's the fact - Electrocution is only one of the 4 safety concerns.

The talk will focus on water heater safety mitigating various risks including electrical, pressure, thermal and biological aspects. As a heating device with intense usages at home, water heater definitely deserves more attention on its plumbing and electrical design and installation practises. This is crucial to ensure a safe application for the users as well as our role to provide a safe solution to the community.

Outline of the talk:

- What Can Cause Water Heater Accident?
- What Can Be Done To Improve The Safety Of Water Heater?
- Design & Installation Of Water To Prevent Risks Of :
 - Electrocution
 - Explosion
 - Scalding
 - Legionella

The speaker will elaborate on current water heating safety feature and point out the shortfalls in design or installation for improvement purposes. The speaker will also share his experience in developing the Malaysia Safety Standards for SIRIM and Suruhanjaya Tenaga. Come and join this technical talk for a 360° view on safety of water heater.

Mr. Jack Ng

Jack Ng pursued his undergraduate studies in mechanical engineering at University of Malaya (UM), his master studies in engineering management at University Putra Malaysia (UPM) and currently studies his Ph.D in chemical engineering (electrospun nanofiber) in University Science Malaysia (USM).

He started his career more than 10 years ago in air filtration industry. He has vast experience in air quality solution for cleanroom industry, hotel, hospital and pharmaceutical industry.

Jack Ng serves as committee in ASHRAE Penang branch, as well as sub-committee in the Membership promotion (MP) of Ashrae Malaysia Chapter for Year 2018- 2019. He is also registered member in The Institution of Engineers Malaysia.

TOPIC 4 # Maintain Good IAQ in Hospital Saves Life

Hospital is a place where a lot of bacteria and virus will be exposed easily. To prevent any cross-contamination among the patient or publics, good IAQ shall be maintained in hospital. Sometime a good facility is built but the maintenance not well done will cause a disaster. Hospital might be the dangerous place for the publics and also the health worker. Someone will be infected by the virus/ bacteria which is not well handled/ filtered. Therefore, understanding the good maintenance in Hospital is very important to save life.

TOPIC 5 # Stay Comfort in Good IAQ Hotel

The return of investment for hotel business always is very long duration. Therefore some hotel might choose to reduce the maintenance cost to improve the ROI. People are looking for a good shelter during their golden holiday. Sometime people enjoy the sight-seeing during the day time and looking forward for tomorrow activities. Unfortunately, they stay in poor IAQ Hotel and do not sleep well because of sneezing, coughing and etc. These sickness cause them has a bad experience in their holiday. People go holiday to look for excitement, but the poor IAQ hotel make them not comfort for the whole holiday trip. Hence, the IAQ in the hotel shall be well kept to ensure the health and comfort of people staying inside the bedroom.

Ir. Chen Thiam Leong

Ir. Chen Thiam Leong is a Past President of the Association of Consulting Engineers Malaysia (ACEM), the Institution of Fire Engineers Malaysia (IFEM) and the Malaysian Chapter of ASHRAE. He is also Advisor to the Malaysian Air-Conditioning & Refrigeration Association (MACRA) and the Building Automation System Association of Malaysia (BASAM).

Chen is a practising Consulting Engineer and is the Managing Director of Primetech Engineers Sdn Bhd based in Kuala Lumpur. Notable projects include the New Securities Commission HQ which was Malaysia's first winner of the ASEAN Energy Award (where he introduced the concept of totally ductless and uninsulated floor plenum for comfort air-conditioning exceeding 600 sq.m. per zone) and the Energy Commission HQ, winner of the ASEAN Energy Award 2012, EMERSON CUP 2012 and ASHRAE Technology Award 2013 (2nd Place).

Chen holds a 1st Class Hons Mechanical Engineering degree from the University of Leeds and has been involved in Energy Efficiency designs since the early 80s. He regularly lectures in the international circuit on the subjects of Sustainability and Energy Efficiency under the ASHRAE Distinguished Lecturer program and is Malaysia's first ASHRAE DL.

Chen also specialises in Energy and Fire & Life Safety audits. He is involved in the development of numerous Malaysian Standards including MS1525 on EE and has authored/co-authored technical articles/papers which are regularly featured in technical publications. In recognition of his contribution to the engineering fraternity, he was honoured with the ACEM Gold Medal Award in 2010.

TOPIC 6 # The Perils of High Humidity

The perils of high humidity within the local context extend beyond the nasty problem of mould growth, which by itself has caused enough untold damages. Addressing issues relating to high humidity will require a holistic approach that involves the full understanding of its causes and implications by designers, installers, suppliers, operators and end users. This presentation will attempt to unravel the lackadaisical attitude of some of these principal players in the local scene.

REGISTRATION FORM

ASHRAE-ASEAN SUPER 8 TECHNICAL SEMINAR

20 MARCH 2018 (WED) 8:30AM – 5:30PM

REGISTRATION FEE	RM400 (MASHRAE); RM450 (ASHRAE); RM 550 (PUBLIC)		
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