



# IEM MECHANICAL & ELECTRICAL FORUM

**KL CONVENTION CENTER  
23 - 25 MAY 2016**

The mechanical and electrical (M&E) engineering fields are ever evolving. There are many changes in the legislation, practices and contracts that has change how the engineer approaches the design and specifications. And in today' s world of multi-tasking and being technology savvy, M&E engineers are expected to have broad knowledge in the area of safety and risk management. To be a leading-edge engineer, engineers would need to know how a sub-system builds into an infrastructure and be beneficial to the community.

**Day 1 – 23 May**

**Day 2 – 24 May**

**Day 3 – 25 May**

## STREAM 1

### Green Energy & Sustainable

- ❖ Conservation of Water - Apply Basic Engineering Principles Green Tech
- ❖ Why Green Energy & Sustainability
- ❖ Hydrocarbon as greener and more efficient refrigerants
- ❖ Renewable Energy in the Context of Sustainable Development
- ❖ Energy Efficiency : Catalyst for Green?

### Power

- ❖ Renewable Energy Policy & latest development of RE in Malaysia
- ❖ Overview of MS ISO 50001 Energy Management System
- ❖ Latest electrical installations requirement
- ❖ Electrical Safety Legislation Update
- ❖ Why Earn a Professional Certification in Project Management?

### REVAC

- ❖ Commissioning Process for Smoke Control System
- ❖ Healthcare Ventilation System Requirements and Challenges Emphasising
- ❖ Controls In Green Buildings (Air-conditioning Systems)
- ❖ IOT of REVAC Systems

## STREAM 2

### Development in Code and Standards

- ❖ OSC 3.0
- ❖ M&E concern with Strata or mixed development
- ❖ New UBBL
- ❖ IEM M&E form of contract
- ❖ Earthquake Restraints for Mechanical Systems

### M&E Infrastructure

- ❖ Railway control centre ergonomic M&E
- ❖ Greenfield Power Plant Project
- ❖ Regulatory Compliance to Water Services Industry Act 2006 (WSIA) for Water and Sewage Works
- ❖ Water Use Reduction in Green Buildings
- ❖ PM of Major Infra Works

### Safety and Risk Control

- ❖ Combustible Dust Explosion Risk Management
- ❖ Lift & Escalator Code in Malaysia
- ❖ Very Early Aspirating Smoke Detection Technology and Solutions & New approach to Gas Detection
- ❖ CLASS and GHS for M&E

# IEM MECHANICAL & ELECTRICAL FORUM

DATE	TIME	THEME	STREAM 1	THEME	STREAM 2
23 May 2016 (Monday)	10:30 am – 11:30 am	<b>GREEN ENERGY &amp; SUSTAINABLE</b> BEM Approved CPD/PDP Hours: 4 Ref No: IEM16/HQ/184/F	Conservation of Water - Apply Basic Engineering Principles <i>(Ir. Gary Lim)</i>	<b>DEVELOPMENT IN CODE &amp; STANDARDS</b> BEM Approved CPD/PDP Hours: 5 Ref No: IEM16/HQ/185/F	M&E Concern with Strata or Mixed Development <i>(Ir. Lum Youk Lee)</i>
	11:30 am – 12:30 am		Why Green Energy & Sustainability <i>(Mr. James Chua)</i>		OSC 3.0 of Building Permits <i>(Ir. Yim Hon Wa)</i>
	12:30 pm – 2.00 pm		<b>BREAK</b>		<b>BREAK</b>
	2:00 pm – 3:00 pm		Hydrocarbom as Greener and More Efficient Refrigerants <i>(Mr. Ferdinand Ng)</i>		New UBBL <i>(Ir. Thin Choon Chai)</i>
	3:00 pm – 4:00 pm		Green Technology & Sustainable Development <i>(Ir. Dr. Aidil Chee Tahir)</i>		Earthquake restrains for Mechanical Systems <i>(Ir. Tan Yiing Yee)</i>
	4:00 pm – 5:00 pm		Energy Efficiency : Catalyst for Green? <i>(Ir. Kok Yen Kwan)</i>		IEM Form of Contracts for Civil and Mechanical & Electrical Engineering Works <i>(Ir. Oon Chee Kheng)</i>
24 May 2016 (Tuesday)	10:30 am – 11:30 am	<b>POWER</b> BEM Approved CPD/PDP Hours: 5 Ref No: IEM16/HQ/186/F	Renewable Energy Policy & Latest Development of RE in M'sia <i>(Dato' Dr. Ali Askar)</i>	<b>M&amp;E INFRASTRUCTURE</b> BEM Approved CPD/PDP Hours: 5 Ref No: IEM16/HQ/187/F	Railway Control Centre Ergonomic M&E <i>(Ir. Syed Nequib)</i>
	11:30 am – 12:30 pm		Overview of MS ISO 50001 Energy Management System - Requirements with Guidance for Use <i>(Ir. Francis)</i>		Greenfield Power Plant Project <i>(Ir. Fam Yew Hin)</i>
	12:30 am – 2.00 pm		<b>BREAK</b>		<b>BREAK</b>
	2:00 pm – 3:00 pm		Latest Updates on MS1979:2016- Electrical Installations of Buildings – Code of Practice <i>(Ir. Yau Chau Fong)</i>		Regulatory Compliance to Water Services Industry Act 2006 (WSIA) for Water and Sewage Works <i>(Mr. Chow Kin Liung)</i>
	3:00 pm – 4:00 pm		Electrical Safety Legislation Update- Amendment of Electricity Supply Act 1990 with Respect to Improving Safety Practices <i>(Ir. Hj. Nur Ali Bin Omar)</i>		Water Use Reduction in Green Buildings <i>(Mr. Gregers Reimann)</i>
	4:00 pm – 5:00 pm		“Why Earn a Professional Certification in Project Management?” <i>(Ir. Frankie Chong)</i>		PM of Major Infra Works <i>(Ir. Dr. Cheong Thiam Fook)</i>
25 May 2016 Wednesday	10:30 am – 11:30 am	<b>REVAC</b> BEM Approved CPD/PDP Hours: 4 Ref No: IEM16/HQ/188/F	Commissioning Process for Smoke <i>(Ir. Soong Peng Soon)</i>	<b>SAFETY &amp; RISK CONTROL</b> BEM Approved CPD/PDP Hours: 3 Ref No: IEM16/HQ/189/F	Combustible Dust Explosion Risk Management <i>(Mr. Felipe Ong)</i>
	11:30 am – 12:30 am		IOT of REVAC Systems <i>(Ir. Dr. Tan Chee Fai)</i>		Lift & Escalator Code in M'sia <i>(Mr. Raghib, Grad IEM)</i>
	12:30 pm – 1:30 pm		<b>BREAK</b>		<b>BREAK</b>
	1:30 pm – 2:30 pm		Healthcare Ventilation System Requirements & Challenges <i>(Ir. Al-Khairi)</i>		Very Early Aspirating Smoke Detection Technology and Solutions& New approach to Gas Detection <i>(Mr. Derrick Wong)</i>
	2:30 pm – 3:30 pm		Emphasising Controls In Green Buildings (Air-conditioning Systems) <i>(Ir. Daniel Lim Kim Chuan)</i>		CLASS & GHS for M&E Engineers <i>(Ir. Kim Kek Seong)</i>

DATE	TIME	STREAM 2
23 May 2016 (Monday)	12:30 p.m - 1:30 p.m	COPE in Code Assessment and Risk Management <i>(Ir. Loo Chee Kin)</i> BEM Approved CPD/PDP Hours: 2 Ref No: IEM16/HQ/190/T
24 May 2016 (Tuesday)	12:30 p.m - 1:30 p.m	Flood Pumping Stations <i>(Ir. Puvanesan)</i> BEM Approved CPD/PDP Hours: 2 Ref No: IEM16/HQ/191/T

\*Attending on the lunch time forum is complimentary to participants who have signed up for any day or stream

# IEM MECHANICAL & ELECTRICAL FORUM

23 MAY 2016 (MONDAY)  
STREAM 1  
**GREEN ENERGY & SUSTAINABLE**  
BEM Approved CPD/PDP Hours: 4  
Ref No: IEM16/HQ/184/F

10.00 am – 10.30 am	Registration
10.30 am – 11.30 am	<p><b>Topic : Conservation of Water - Apply Basic Engineering Principles</b></p> <p>Malaysia average water usage is 232 litres per capita per day and there is a plan to reduce the usage to 180 litres per capita per day by 2020.</p> <p>Water is a necessity and the high level of usage comes from many areas, some of which are beyond the control of the Engineering professionals. However Engineers should ensure that in their design works, the concept of water conservation should be given priority.</p> <p>Malaysians are used to cheap water rate and the water bill DOES NOT stands out among the many monthly bills. It would take a long while before their water wasteful habits can be changed, be observant on such bad habits like letting the tap running when carrying simple activities.</p> <p>Non-Revenue Water (NRW) is an EXISTING occurrence is an issue to be handled by the authority and to a certain aspect it is beyond the control of Engineers. Engineers can play an important role in the conservation of TREATED water by apply effective measures in their design works from the source till consumed/used.</p> <p>Malaysia experience an annual rainfall between 2,300mm to 3,000mm and Rainwater Harvesting (RWH) has been promoted extensively and the Uniform Building By-Law 1984 was amended hence the implementation of Rainwater Harvesting and Utilization System (SPAH) at buildings.</p> <p>RWH system can be a very simplified system merely by applying basic Engineering principles and the rainwater collected should only be used for WC Flushing and Landscaping. Complicated studies need not be carried out, take a simple logic that if you could harvest 1,000 litres of rainwater and use it for WC Flushing and landscaping, you conserve 1,000 litres of treated water. The ability to duplicate it at multiple locations, say 1,000, then 1,000,000 litres of treated has been conserved. In this respect, Engineers have this role to play.</p>
11.30 am – 12.30 pm	<p><b>Topic : Why Green Energy and Sustainability?</b></p>
12.30 pm – 2.00 pm	Break
2.00 pm – 3.00 pm	<p><b>Topic : Hydrocarbon as Greener and More Efficient Refrigerants</b></p>



**Ir. Gary Lim Eng Hwa**



**Mr. James Chua**



**Mr. Ferdinand Ng Siek  
Khai**

# IEM MECHANICAL & ELECTRICAL FORUM

23 MAY 2016 (MONDAY)  
STREAM 1  
GREEN ENERGY & SUSTAINABLE

3.00 pm – 4.00 pm



Ir. Dr. Aidil Chee Tahir

## Topic : Renewable Energy in the Context of Sustainable Development

The volatile and cyclical nature of business is a common phenomenon that plagues the oil and gas industry. The recent drastic economic downturn where at the middle of 2014 saw oil prices falling more than 70 percent has caused many oil and gas companies which in recent years had made record profits, to see their earnings plummeted leading them to decommission many of their oil rigs and gas plants while sharply cutting investments in both exploration and production. Several of these companies have now consequently become insolvent resulting in a global wide retrenchment of oil and gas workers. This crisis has prompted policy makers, governmental organizations and investors to rethink and reconsider investing in renewable energy as investment in fossil fuels such as oil and gas are now being viewed as an increasingly risky proposition. As such, renewable energy is seen as the energy solution for the future and also as a strategy to solve the issues of global warming and climate change. However is renewable energy really in line with the concept of sustainable development? Does renewable energy help to achieve sustainable development in a coherent and holistic manner? This presentation discusses the relationship between renewable energy and sustainable development, and explores to what extent renewable energy is sustainable.

4.00 pm – 5.00 pm



Ir. Kok Yen Kwan

## Topic : Energy Efficiency : Catalyst for Green?



# IEM MECHANICAL & ELECTRICAL FORUM

23 MAY 2016 (MONDAY)  
STREAM 2  
DEVELOPMENT IN CODE & STANDARDS

BEM Approved CPD/PDP Hours: 5  
Ref No: IEM16/HQ/185/F

10.00 am – 10.30 am

Registration

10.30 am – 11.30 am



Ir. Lum Youk Lee

### Topic : M&E Concern with Strata or Mixed development

M&E consideration has become very complexed and demanding for modern developments, mainly due to the high expectations from stakeholders and property owners, especially developments that involves large number of public users, such as convention centres or shopping malls. Mixed developments has become a norm in many city mega projects, where it involves very complexed mix of building types catering to different stakeholder's need. to further complicate the M&E design and operation of mixed development, would be to take into considerations developments that involves multiple stratified units where engineers has to factor in land and strata management as major part of the design elements. this paper will address some of the concerns and case studies of M&E systems in mixed strata developments.

11.30 am – 12.30 pm



Ir. Yim Hon Wa

### Topic : OSC 3.0 of Building Permits

The Seminar on OSC 3.0 dealing with improvement of the building permits application process over OSC 2.0 and the speaker will elaborate these process improvements and the engineer's role; its duties and responsibilities in the issuance of Certificate of Compliance and Completion (CCC). The speaker will also cover the relevant Acts governing the CCC which replaces Certificate of Fitness Occupation CFO). He will explain how and when CCC can be issued. There are twenty one forms to be filled (G1 to G21). Practical examples of common errors in the form filling will be demonstrated and explained. Active interaction from the floor during question time will be expected.

12.30 pm – 2.00 pm

Break

2.00 pm – 3.00 pm



Ir. Thin Choon Chai

### Topic : New UBBL

The new Uniform Building By-Laws (UBBL) was passed and approved by the Cabinet in 2012. The Ministry of Housing and Local government also distributed the amended UBBL 1984 to all the states and local authorities for adoption into their respective state uniform building by-laws. Currently only the states of Selangor and Terengganu have incorporated this amended UBBL 1984 into their state Uniform Building By-Laws 2012.

This presentation looks into the new UBBL 1984 and the various amendments made compared to the previous version.

3.00 pm – 4.00 pm

Ir. Tan Yiing Yee

### Topic : Earthquake Restraints for Mechanical Systems

4.00 pm – 5.00 pm



Ir. Oon Chee Kheng

### Topic : IEM Form of Contracts for Civil and Mechanical & Electrical Engineering Works

IEM Conditions of Contract for Works Mainly of Civil Engineering Construction was first published in May 1989. It was modelled very much on PWD 203 Form of Contract and was much used in private sector-financed civil engineering construction works. It has been a little more than two decades since it was published. The Institution felt that it was time that the Contract be given a complete overhaul. This task has been entrusted to the Sub-Committee on Engineering Contracts.

IEM Form of Contract for Civil Engineering Works (as it has now been renamed), or IEM.CE 2011 in short, is a complete departure from its predecessor. An opportunity has been taken to take into consideration new developments. The drafting has also taken a new approach. The launching of IEM.CE 2011 has also given an opportunity for the Institution to brief the potential users on this new form. Other IEM Forms of Contract will be launched at a later stage.

# IEM MECHANICAL & ELECTRICAL FORUM

**FORUM SPECIAL FEATURE BY IEM**

**23 MAY 2016 (MONDAY)  
STREAM 2**

BEM Approved CPD/PDP Hours: 2  
Ref No: IEM16/HO/190/T

**12.30 - 1.30 pm**



**Ir. Loo Chee Kin**

## **Topic : COPE in Code Assessment and Risk Management**

COPE is an acronym that stands for the four characteristics an insurance underwriter reviews when evaluating the risk presented by a building; Construction, Occupancy, Protection and Exposure. Although the COPE approach has traditionally been used to evaluate the risk presented by existing buildings, this approach can also be used to manage the risk presented by a project.

This session will illustrate some of the COPE ideas. The speaker will provide pointers on available resources to engineers, as some of the resources are readily available online.

As engineers, it is necessary to be concern about any possible risks before and during the project period as well as the facility's concerns while in operational stage and till the facility is finally decommissioned. In that before stage, it should include code assessment and risk management in the project conceptual and site selection too.

**\*Attending on the lunch time forum is complimentary to participants who have signed up for any day or stream**

# IEM MECHANICAL & ELECTRICAL FORUM

	<b>Category 1</b> IEM Member	<b>Category 2</b> For Non-Member
Per Session	RM400.00	RM600.00
Per Stream	RM800.00	RM1200.00
Full Flex	RM900.00	RM1350.00

\*GST not included

## **SPECIAL!!**

1. Student will be entitled to 30% discount (upon authentication of student status)
2. Group discount will be entitled for groups of 3 or more delegates from same company – 10%
3. Early bird registration before 23 April 2016 will be entitled to 10% discount

### **Terms & Conditions:**

- Meals are not provided
- For ONLINE REGISTRATIONS, only ONLINE PAYMENT is applicable [via Credit Card]
- Payment via CASH / CHEQUE / BANK-IN TRANSMISSION / BANK DRAFT / MONEY ORDER / POSTAL ORDER / LO / WALK -IN will be considered as NORMAL REGISTRATION
- For online registrations, please note that **payment MUST be made on registration.**
- **FULL PAYMENT** must be settled before commencement of the course, otherwise participants will not be allowed to enter the hall. If a place is reserved and the intended participants fail to attend the course, the fee is to be settled in full. If the participant failed to attend the course, the fee paid is non refundable. Registration fee includes lecture notes, refreshment and lunches.
- The Organising Committee reserves the right to cancel, alter, or change the program due to unforeseen circumstances. Every effort will be made to inform the registered participants of any changes. In view of the limited places available, intending participants are advised to send their registrations as early as possible so as to avoid disappointment.

## **REGISTRATION**

No	Name	IEM M'ship No	Stream 1*			Stream 2*			Fees (RM)
			23 May	24 May	25 May	23 May	24 May	25 May	
<b>Subtotal</b>									
<b>GST 6%</b>									
<b>Total Payable</b>									

\*Please tick to the appropriate day

Organisation/ Company:		
Address:		
		Postal Code:
Email:		
Tel:	Mobile No:	Fax:
<b>For Further details, please contact and/or fax this REGISTRATION FORM to:</b> The Institution of Engineers, Malaysia Bangunan Ingenieur, Lots 60/62, Jalan 52/4, 46200 Petaling Jaya, Selangor  <b>Tel:</b> 03-7968 4001/2 <b>Fax:</b> 03-79577678 <b>Email:</b> sec@.org.my/ norfarehan@iem.org.my <b>Website:</b> www.myiem.org.my		<b>Who should attend:</b> <ul style="list-style-type: none"> <li>• Mechanical and electrical (M&amp;E) engineers.</li> <li>• Building services engineers and those involved in green technology and renewable energy; power and electrical industries; or refrigeration, ventilation and air-conditioning.</li> <li>• Facility management, engineers, consultants, designers, contract administrators and project managers interested in recent developments in Code and Standards.</li> <li>• Planners, engineers, designers and project consultants involved in planning M&amp;E infrastructure.</li> <li>• Safety engineers and those responsible to implement safety and risk control measures.</li> </ul>

### **PERSONAL DATA PROTECTION ACT**

I have read and understood the IEM's Personal Data Protection Notice published on IEM's website at <http://www.myiem.org.my> and I agree to IEM's use and processing of my personal data as set out in the said notice.

### **CANCELLATION POLICY**

IEM reserves the right to postpone, reschedule, allocate or cancel the course. Full refund less 30% if cancellation is received in writing more than **7 days** before start date of the event. No cancellation will be accepted prior to the date of the event. However, replacement or substitute may be made at any time with prior notification and substitute will be charged according to membership status.

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