

**REGISTRATION FORM: ONE DAY COURSE ON INDOOR
ENVIRONMENT QUALITY – HUMAN FACTORS**

Name(s)	Membership No. / Grade	Fees (RM)
Sub Total:		
6% GST Added:		
Total Amount Payable:		

Company: _____

Address: _____

Mobile: _____ Tel(O): _____ Fax: _____

E-mail: _____

(Please write clearly as the "Information Update will be sent via email)

Contact Person: _____ Designation: _____

Signature: _____ Date: _____

PAYMENT DETAILS

Cash RM _____

Cheque no. _____ for the amount of RM _____
(non-refundable) and made payable to "THE INSTITUTION OF ENGINEERS, MALAYSIA"
and crossed 'A/C Payee Only'.

Terms & Conditions:

- For ONLINE REGISTRATIONS, only ONLINE PAYMENT is applicable [via RHB and Maybank2u –Personal Saving & Personal Current ; Credit Card - Visa/Master.
- Payment via CASH / CHEQUE / BANK-IN TRANSMISSION / BANK DRAFT / MONEY ORDER / POSTAL ORDER / LO / WALK -IN will be considered as NORMAL 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.
- The Organizing 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



**ONE DAY COURSE ON "INDOOR
ENVIRONMENT QUALITY – HUMAN
FACTORS"**

**Speaker:
Prof Bjarne W. Olesen**

Date	:	26th February 2016 (Friday)
Time	:	9.00a.m – 5.00p.m
Venue	:	C& S and TUS Lecture Room, 2nd Floor, Wisma IEM, Petaling Jaya, Selangor.

Organized by:

The Institution of Engineers, Malaysia
Building Services Technical Division

In Collaboration with



REGISTRATION FEES (GST NOT INCLUDED)

Grade	Online Fee	Normal Fee
Student Member	RM 100.00	RM 150.00
Graduate Member	RM 200.00	RM 250.00
Corporate Member /MASHRAE/ ACE/MACRA MGBC Members	RM 400.00	RM 450.00
Non IEM Member	RM 550.00	RM 600.00

***Closing Date: 24th February 2016**

BEM Approved CPD/PDP Hours: 6.5
Ref. No.: IEM16/HO/045/C

LEARNING KEY OUTCOME

A total of 5 sections would be covered in this presentation:

Section 1: Can We Meet The Ventilation Required In International Standards In An Energy Efficient Way?

The present paper provides an overview and discusses the criteria used for specifying required ventilation rates, and suggest ways of meeting the criteria in a more energy efficient way by means of improved ventilation effectiveness, use of air cleaning and by means of demand controlled ventilation

Section 2: Occupant Behavior & the Influence on Energy Use

Technologies alone do not necessarily guarantee low energy buildings. Occupant behaviour plays an essential role in the design and operation of buildings, but it is quite often oversimplified. Occupant behaviour refers to an occupant's movement and responses to discomfort, when his/her comfort needs are not met. Occupant behaviour varies with time, space, individual, and is influenced by social context. It is stochastic, complex, and multidisciplinary. Having a better understanding and modelling of occupant behaviour in buildings can improve the accuracy of building simulations and guide the design and operation of buildings. This talk highlights related behaviour research at various institutes.

Section 3: Indoor Environment – Health, Comfort & Productivity

The paper presents an update on today's requirement for a healthy and comfortable environment. The paper will mainly be dealing with the indoor thermal environment and air quality. Several standards and guidelines are specifying requirements related to comfort and to health; but the productivity of people is not taken into account. Recent studies showing that comfortable room temperatures, increased ventilation above normal recommendation, reduction of indoor pollution sources and more effective ventilation increases the performance of people. The results indicate increase of productivity of 5-10 %. Also based on the laboratory studies a 10 % increase in dissatisfaction decreases the productivity with around 1 %.

Section 4: Are Women Feeling Colder Than Men In A/C Buildings?

Recently the international media like in USA, Canada, UK, Denmark, Germany etc. has been discussing the issue of differences between men and women regarding thermal comfort and the preferred room temperature. Experiments show that men and women prefer almost the same thermal environments. Women's skin temperature and evaporative loss are slightly lower than those for men, and this balances the somewhat lower metabolism of women. The reason that women often prefer higher ambient temperatures than men may be partly explained by the lighter clothing normally worn by women.

Section 5: International Standards On IEQ – Do They Apply Worldwide?

On the international level ISO, CEN and ASHRAE are writing standards related to the indoor environment. This presentation will focus on the development of standards for the indoor thermal environment and indoor air quality. In the future, recommendations for acceptable indoor environments will be specified as classes. This allows for national differences in the requirements and also for designing buildings for different quality levels. This will require a better dialogue between the client (builder, owner) and the designer. It is also being discussed how people can adapt to accept higher indoor temperatures during summer in naturally ventilated (free running) buildings. Several of these standards have been developed mainly by experts from Europe, North America and Japan, thus guaranteeing a worldwide basis. Are there, however, special considerations related to other parts of the world (lifestyle, outdoor climate, and economy), which are not dealt with in these standards and which will require revision?

SPEAKER

PROFESSOR BJARNE W. OLESEN

Since 1993 until January 2004 Head of Research & Development at UPONOR-VELTA GmbH KG & Co., Norderstedt, Germany. Since January 2004 Head of Research & Development at UPONOR-VELTA GmbH KG & Co., Norderstedt, Germany. Since January 2004 full professor in Indoor Environment & Energy at the Technical University of Denmark and director of the International Centre for Indoor Environment and Energy, Technical University of Denmark. Awarded the Ralph Nevins Award (1982), Distinguished Service Award (1997), Fellow Award (2001) and Exceptional Service Award (2006) from ASHRAE. Awarded the Medal of Honour from the German Engineering Society (VDI-TGA, 2005) and International Honorary Member of SHASE. The Society of Heating, Air-Conditioning and Sanitary Engineers of Japan. Vice president of ASHRAE and Honorary member of AICARR (Italian Society for HVAC) Is active in several ASHRAE-CEN-ISO-DIN standard committees regarding indoor environment and energy performance of buildings and HVAC systems. Has published more than 350 papers including more than 60 in peer reviewed journals.

FOR FURTHER DETAILS, PLEASE CONTACT:

Building Services Technical Division

c/o The Institution of Engineers, Malaysia

Bangunan Ingenieur, Lots 60/62, Jalan 52/4, P.O. Box 223 (Jalan Sultan)
46720 Petaling Jaya

Tel: 603-7968 4014 Fax: 603-7957 7678

E-mail: shamalah@iem.org.my Website: www.myiem.org.my

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.