



THE INSTITUTION OF ENGINEERS, MALAYSIA

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HALF DAY SEMINAR on COMPUTATIONAL FLUID DYNAMICS IN BUILDING SERVICES APPLICATIONS

(Organised by Mechanical Engineering Technical Division, IEM)

BEM APPROVED
CPD/PDP HOURS:3.5 hours
Ref. No.: IEM15/HQ/033/S

Date : 25 March 2015 (Wednesday)

Venue : Auditorium Tan Sri Prof. Chin Fung Kee, 3rd Floor, Wisma IEM, Petaling Jaya

Time : 9.00 a.m. – 1.00 p.m.

Speaker : Ir. Dr Kannan M. Munisamy

SYNOPSIS

“Computational Fluid Dynamics (CFD) has evolved tremendously in almost all areas where fluid and heat transfer is a concern. CFD is a computational art of solving control volumes of any fluid flow domain defined. In order to do that the governing equations ought to be derived which describes a fluid flow.

It can be said that physical property of any fluid motion are governed by three basic principles: Conservation of mass, Newton’s second law (F=ma), Conservation of energy. These three principles can be expressed in the form of basic equations, which are either integral equations or partial differential equations. Then, the CFD would be the technique of replacing the integral and differential equations with discretized algebraic forms, which then was solved to obtain answers in the form of numbers of the flow at discrete points in time or space or both. The problem further complicated with addition of turbulent state prediction, multi-phase fluid flow, combustion, heat transfer and so on.

CFD tool has already been accepted in Building services industry as a tool of solving future problems. It solves anticipated problems during design stage and solves existing problem in operational stage. This talk will cover a design stage experience sharing of utilizing CFD as tool for natural ventilation simulation with Building Energy simulation, Fire simulation for performance based design, and the heat distribution at outdoor air-conditioning units and cooling towers.

The validity of CFD results in real world problems and the flexibility of the model development on the building and air conditioning components, will definitely benefit the Building services community in making sure successful and green virtual designs.

SPEAKER’S PROFILE



Ir. Dr. Kannan M. Munisamy graduated from UNITEN in 2000 with Bachelor of Mechanical Engineering (Hons). Then joined UNITEN as tutor. Upon completion of training with TNB as trainee engineer he pursued his Master Degree in Cranfield University, Milton Keynes, UK. He was conferred with Master of Science in (Aerodynamics) specializing in Computational Fluid Dynamics and currently serving as senior lecturer in UNITEN. He has completed PhD in Mechanical Engineering specializing in CFD and experimental on rotating flow application from Universiti Tenaga Nasional in year 2012. With fundamental knowledge of CFD, various industrial consultancy projects were lead and contributed as team member. The consultancy projects including hydro power plant water flow problems, thermal power plant heat transfer related solutions, and air conditioning industry flow cases, high efficiency axial fan development, fire simulations and green building related simulations. Besides that, his expertise is in the area of automotive brake disk design and flow analysis for commercial and race car applications. He has lead couple of Ministry of Science and Innovation (MOSTI) funded projects on the development of brake disk experimental rig in lab located at UNITEN. He is also a member of Center of Fluid Dynamics (CFD) at UNITEN, Fire Advisory board member (IEM), SIRIM work group member for a few sub-standard in MS standard, IEM, IMechE, and Engineers Australia member. He has published in international and local journals and conferences. He is also reviewer for IMechE journals. He has vast experience operating CFD ACE+, GRIDGEN, FLUENT, commercial CFD software and Building Information Modelling software Design Builder. His industrial CFD and thermo-fluid engineering experiences are accredited by Board of Engineers Malaysia and Engineering Council, United Kingdom and Engineers Australia by granting him Professional and Chartered Engineer status.

TENTATIVE PROGRAMME:

8.30 am	Registration
9.00 am – 10.30 am	Introduction to CFD
10.30 am – 11.00 am	Tea Break
11.00 am – 1.00 pm	Selected Industrial Applications: Building Services
1.00 pm	Question and Answer / Lunch

REGISTRATION FEES

Grade	Normal Fee	Online Fee
IEM Student Member	RM100	RM80
IEM Graduate Member	RM180	RM150
IEM Corporate Member	RM300	RM250
Non IEM Member	RM500	RM400

IR. FAM YEW HIN

CHAIRMAN, MECHANICAL ENGINEERING TECHNICAL DIVISION



IMPORTANT NOTES

- 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 or WALK-IN** will be considered as **NORMAL REGISTRATION**.
- For **online registrations**, please note that **payment MUST be made before the closing date** at the latest. If payment is not received and verified within the stipulated time, the registration fee will be reverted to the normal registration fee.
- FULL PAYMENT** must be settled before commencement of the event, otherwise participants will not be allowed to enter the hall. If a place is reserved and the intended participant fails 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, refreshments 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.

FURTHER ENQUIRIES

If you require further details or clarifications kindly contract the IEM Secretariat at:-
Mechanical Engineering Technical Division
The Institution of Engineers, Malaysia
Bangunan Ingenieur, Lot 60/62, Jalan 52/4
P.O. Box 223 (Jalan Sultan), 46720 Petaling Jaya, Selangor
Tel : 03-79684001/02 Fax : 03-79577678 Email : ruhaida@iem.org.my

REPLY SLIP (F: 03-7957 7678 E: ruhaida@iem.org.my)

Half Day Seminar on Computational Fluid Dynamics in Building Services Applications Tuesday, 25 March 2015

I/We wish to enroll the following person(s) to the Seminar

NAME(S)	MEMBERSHIP NO.	GRADE	REGISTRATION FEES
TOTAL RM			

Enclosed herewith a cash/crossed cheque/bank draft/money order No. for the amount of RM issued in favour of "The Institution of Engineers, Malaysia" account and crossed "A/C Payee only". I/We understand that the fee is not refundable if I/we withdraw after my/our application is/are accepted by the Organising Committee but substitution of participants will be allowed. **If I/we fail to attend the Course, I/we will still settle the registration fee in full. The registration closing date is on 22 March 2015.**

Contact Person : _____
 Organisation : _____
 Address : _____

 Signature : _____

Designation : _____
 Tel no. : _____
 Fax no. : _____
 Mobile : _____
 Email : _____
 Date : _____