

Technical Seminar on Application of Computational Fluid Dynamics (CFD) for the betterment of Built Environment (83103)

Computational Fluid Dynamics (CFD) has been widely used as a tool in a variety of industrial sectors for design analysis and optimization. It can be employed as a design and analysis tool of ventilation systems for built environment, for predicting airflow patterns, temperature and relative humidity distribution, thermal comfort parameters, and effectiveness of ventilation for indoor and outdoor spaces. In particular, CFD can also be applied for optimizing the natural ventilation and mixed mode ventilation systems. This 3-hour-long seminar provides an introduction to the practical engineering applications of CFD stimulations, discuss how it can be employed in the analysis and optimization of HVAC designs starting at the conceptual stage and demonstrate how internal thermal loads and design of natural ventilation systems be optimized for certain climate conditions to maximize adaptive thermal comfort of occupants.

Topics To Be Covered

- **Session 1 : Application of Computational Fluid Dynamics (CFD) for Built Environment**
 - Fundamentals of fluid dynamic and CFD
 - Applications of CFD in built environment
 - e.g. predicts airflow patterns, temperature and relative humidity distribution, thermal comfort parameters, and effectiveness of ventilation for indoor and outdoor spaces
 - Optimisation of HVAC designs by applying CFD
- **Session 2: CFD Case Study – Design and Analysis of Natural Ventilation**
 - Factors controlling the performance of natural ventilation systems
 - e.g. local weather conditions, building orientation, building massing, effective opening areas and their locations, relative height differences, internal heat loads, furniture and seating arrangement within the occupied spaces
 - Optimisation of the internal thermal loads and design of natural ventilations systems by applying CFD

Learning Outcomes

- Understand the fundamental concepts and applications of CFD in built environment; and
- Acquire the essential knowledge on the applications of CFD in design and analysis of HVAC and natural ventilation system.

Who Should Attend

- This seminar is designed for those seeking to learn about and work on CFD simulations in building projects, particularly those engineers, project managers and any individuals who wish to have a better understanding of CFD stimulations in general.

Speaker

- **Dr Kishor Khankari, Ph.D. President and owner of AnSight LLC**

Dr Khankari is an experienced CFD specialist in solving a wide variety of engineering problems involving fluid flow, heat transfer, mass transfer, and other similar engineering processes. He has developed several easy-to-use analytical software tools and a patented technology of a wind band design of exhaust fan assembly systems. He has a Ph.D. in CFD from the University of Minnesota and has been regularly publishing in several technical journals and trade magazines and delivering lectures at various technical conferences and professional meetings. He is the past President of Detroit ASHRAE Chapter. He is serving as a Chair of ASHRAE Technical Committee TC9.11 Clean Spaces and a Member of Research Administration Committee (RAC) at national level.



Date, Time & Venue

- 3 hours – 8 April 2015 (Wednesday) 14:30 – 17:30.
- Venue – BEC Auditorium, 77 Tat Chee Avenue, Kowloon Tong, Hong Kong (close to Kowloon Tong MTR Station Exit C1).

Seminar Fee

- HK\$500 (Subject to a maximum discount of 40%)*
 - * BEC or ASHRAE Membership Discount – 40% (i.e. \$300 for members of BEC or ASHRAE HK Chapter).
 - Supporting Organisation Membership Discount – 20% (i.e. \$400 for members of supporting organizations).

Medium of Instruction

- English.

Certification

- A Certificate of Attendance is awarded to each attendee.

Application Deadline

- Enrolment deadline is 5 working days before the seminar commencement date. Late enrolment will be accommodated subject to seat availability.

Application Form

- Click [here](#) to download the Application Form.

Terms & Conditions

- Duly completed application form accompanied by payment will be considered for admission;
- Seminar fee is non-refundable, non-transferable and should be received by BEC IEE no later than 5 working days before the commencement of the seminar;
- Admission is made on a first-come-first-served basis;
- Successful applicants will be notified no later than 3 working days before the commencement of the seminar;
- Unsuccessful applicants will be given refund of seminar fees if they have already paid;
- The seminar will be cancelled with full refund when the typhoon signal no.8 or above, or black storm warning is hoisted 3 hours before the seminar commences;
- An official e-receipt will be distributed through email to the participant upon the completion of the seminar;
- BEC reserves the right not to conduct the seminar if the applications are below the required minimum number of participants, and seminar fees received will be refunded. All decisions made by BEC on matters related to the seminars are final;
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- Information provided will be kept strictly confidential and will not be sold, reused, rented, loaned, or otherwise disclosed to third party.

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About BEC Institute of Environmental Education (“BEC IEE”)

BEC IEE, a division of BEC, provides a platform for business managers and decision makers, to advance their knowledge and develop the expertise necessary for environmental decision-making. BEC IEE also facilitates professional development by promoting quality environmental education through various environmental education programmes.

Supporting Organisations



For further enquiries or assistance, please contact BEC IEE at beciee@bec.org.hk.

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