Certification Course on

CFD Modelling for Natural Ventilated Buildings

INTRODUCTION

In consideration of the climatic context, shaping building passive design in its orientation, façades as well as interior layout can reduce the building's heat load and operating costs. Looking at performance perspectives, buildings are encouraged to be highly permeable in areas of natural ventilation but at the same time, able to complement with minimal wind driven rain effects. To evaluate the effectiveness of building designs, Computational Fluid Dynamics (CFD) modelling tool is able to provide detailed airflow analysis which allows designers to bring in sustainable and practical design concepts to the forefront.

LEARNING OUTCOMES

This course aims to equip industry practitioners with knowledge to conduct CFD modelling simulations as well as identify strategies to enhance the natural ventilation of buildings.

At the end of the course, participants will be able to:
- Apply BCA Green Mark 2021 (GM: 2021) requirements and prevailing Singapore Standards for outdoor and indoor thermal environment;
- Perform modelling setup and simulation (including geometry creation, CFD meshing etc.); and
- Analyse results and determine strategies to improve the overall natural ventilation performance.

KEY LECTURER

DR POH HEE JOO holds the position of Senior Research Scientist and Domain Specialist (Built Environment) in Institute of High Performance Computing, A*STAR. He has over 20 years of work experience in CFD research and consultancy jobs mainly focusing on Urban Physics; Environmental Health and Safety; and Building Performance and Sustainability. In Oct 2019, he won the President's Science and Technology Awards (PSTA), highest honours bestowed on exceptional research scientists and engineers in Singapore for the excellent achievements in science and technology, President Technology Awards 2019 for development of the Integrated Environmental Modeller (IEM), an advanced modelling tool that is capable of integrating combined wind-solar-noise environmental factors, their interrelationship, and their total impact on an urban setting.

ASSESSMENT AND AWARD

An e-Certificate of Successful Completion (e-CSC) will be issued to participants who:
- Achieve at least 75% class attendance; and
- Pass group project assignment.

For information on the Green Mark Professional Qualification Scheme administered by the Singapore Green Building Council, please visit https://gmap.sgbc.online/public/about

To register, please log into our Online StoreFront (OSF) at **https://eservices.bcaa.edu.sg/registration/#/login** or scan QRcode and search for course code **80039**

DETAILS
Date: 16, 17 & 20 Nov 2023
Frequency: Once a year
Time: 9.00am to 6.00pm
Venue: BCA Braddell Campus
Fee (incl of GST): S$1,700

TARGET AUDIENCE
Industry practitioners who are keen to embark on Green Mark journey or play the role of a Green Specialist; e.g. Developers, Building Owners, Architects, Engineers, Consultants, Project Managers, Facility Managers etc.

CPD POINTS
BOA-SIA: -
PEB: -
SCEM: -
SGBC-GMAP: -