

ASHRAE DL Seminar on

“Airflow Management for Data Centers and Healthcare Facilities”

Date & Time: 27 February 2017 (Monday) 2:00pm – 5:15pm

Venue: Singapore Polytechnic Graduates' Guild (SPGG), Ballroom, Level 2

► **Airflow Management for Data Centers**

Airflow management within data centers is crucial for proper cooling and energy efficiency of data centers. Proper selection as well as proper placement of various data center equipment such as CRACs, perforated tiles, and racks play an important role in airflow distribution and cooling performance of data centers. This presentation will focus on basics of data center cooling and principles of air movement in data centers with a wide variety of examples involving raised floor and flat floor data rooms, air leakages through server cabinets and containment systems, role of rack thermal mass during power shutdown, and external airflow and plume dispersion around data center buildings.

► **Airflow Management for Healthcare Facilities**

Air is the primary carrier of heat, moisture, and contaminants in health care facilities such as patient rooms, isolation rooms, and operating rooms. The flow path of supply air plays an important role in determining the air velocities, air temperatures, concentration of contaminants, and path of airborne pathogens in these spaces. These factors in turn determine thermal comfort of occupants, indoor air quality, and potential for transmission of airborne pathogens.

This presentation will focus on the importance of HVAC configuration on airflow distribution and flow path of airborne contaminants in patient rooms and operating rooms. In addition, this presentation will cover the applications of active chilled beams, radiant heating and cooling, and displacement ventilation in patient rooms.

Speaker Profile



KISHOR KHANKARI, Ph.D.

**Fellow ASHRAE
President, AnSight LLC
Ann Arbor, MI**

Dr. Kishor Khankari, Ph.D. provides engineering solutions and insights through Physics based simulations and analyses. Kishor has several years of experience in providing optimized HVAC solutions to a wide variety of applications involving external wind engineering, plume dispersion, displacement ventilation, natural ventilation, radiant heating and cooling, and indoor air quality and thermal comfort optimization for office spaces, patient rooms, operating rooms, cleanrooms, justice facilities, data centers, and warehouses. Dr. Khankari has developed a patented technology of a wind band design of exhaust fan assembly systems. He has developed several easy-to-use analytical software tools which are regularly used by design engineers in a variety of companies including those in HVAC industry, critical facilities, and automotive industries.

A noted expert in his field, he has a Ph.D. from the University of Minnesota and has been regularly published in several technical journals and trade magazines. Dr. Khankari is an eloquent speaker and has made several presentations worldwide on topics related to design and optimization of HVAC systems at various technical conferences and professional meetings.

Dr. Kishor Khankari is a Fellow member of ASHRAE. He is a past President of Detroit ASHRAE Chapter. He is a past Chair of ASHRAE Technical Committee TC9.11 Clean Spaces and a Vice Chair of Research Administration Committee (RAC) at national level. He is a recipient of ASHRAE Distinguished Service Award.



Registration Form – **ASHRAE DL Seminar on “ Airflow Management for Data Centers and Healthcare Facilities”**

Date: 27 Feb 2017 (Mon)
Time: 2.00pm – 5.15pm
(Registration starts 1.30pm)

Fee for early registration by 13 Feb 2017:
S\$50 for ASHRAE Singapore Chapter (ASC) members
S\$30 for ASC Student members
S\$60 for ASHRAE/IFMA/IES members
S\$80 for non-members

Fee for registration after 13 Feb 2017
S\$60 for ASC members
S\$80 for ASHRAE/IFMA/IES members
S\$100 for non-members
(1 Tea Break will be provided)

Venue:
Singapore Polytechnic Graduates' Guild
Ballroom, Level 2, 1010 Dover Road
Singapore 139658 (Singapore Poly Gate No. 4)

Register by email to elta.ascsecretariat@gmail.com before **20 Feb 2017**, with the required Registration Details below.

Please make the payment by issuing a cheque to **ASHRAE Singapore Chapter, c/o 159 Sin Ming Road, AMTECH Building, Lobby 2 #07-02, Singapore 575625**

Professional Engineers Board (PDU) Points: Qualified for 3 PDUs by PEB
SCEM-PDU Points: 3 PDUs

For enquires on program and registration matters please contact:
Dr. Peter Cheng [Email: peter.cheng@armacell.com], ASC

Registration Details

Name of Participant	ASHRAE Membership No.:	ASC Reg No.:	PE Reg No.:
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Organization:	<input type="text"/>	Designation:	<input type="text"/>
Mailing Address:	<input type="text"/>		
	<input type="text"/>	Postal Code	<input type="text"/>
Telephone / Mobile No.:	<input type="text"/>	Fax no.:	<input type="text"/>
Email:	<input type="text"/>		

Signature

Date

Location



- Located at 1010 Dover Road (SP Gate 4)
- 10 mins walk from Dover MRT
- Bus Services to SPGG:
 - Bus Stop A: SBS 33 & SBS 196
 - Bus Stop B: SBS 96, 151, 183