


Event:  
Date:  
Place:

## ENERGY in BUILDINGS 2017

Saturday October 21, 2017

Athens, Hellas



#	<b>Chandra Sekhar, Ph.D.</b> ASHRAE Fellow	
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Presentation title:	<b>Decoupled ventilation strategies for enhanced IAQ – “Demand cooling” and “Demand ventilation”</b>	
<p>The concept of decoupling “ventilation air” from “supply air” is fast emerging as an ideal solution to combat the problems associated with poor indoor air quality (IAQ). This talk will present the Personalised Ventilation (PV) system and the Single Coil Twin Fan (SCTF) system, which show considerable promise in their abilities to provide both good IAQ and energy efficiency. The PV system is fundamentally aimed at improving ventilation in the immediate breathing zones of occupants in the built environment. The SCTF system is a new air-conditioning and air distribution system that improves occupants’ thermal comfort and indoor air quality whilst significantly saving energy. It provides “demand ventilation” and “demand cooling” by dynamically responding to the varying requirements in the individual occupied zones of a building.</p>		

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CV:

Dr Chandra Sekhar is currently a Professor and Programme Director (M.Sc. – Building Performance and Sustainability) and Co-Director (Centre for Integrated Building Energy and Sustainability in the Tropics) in the Department of Building at the National University of Singapore (NUS). He is also a Founding Director of Enhanced Air Quality Pte Ltd., a NUS Spin-off Company incorporated in June 2004, arising out of his research in the fields of indoor air quality (IAQ) and Energy. He has been an IAQ consultant in Singapore since 1993. He received his PhD in Mechanical Engineering from the University of Adelaide, Australia, in the area of energy efficient cooling and dehumidification systems. In 1992, he joined NUS as a Faculty and has since been teaching and conducting research in the areas of thermal comfort, ventilation and indoor air quality, energy efficient air-conditioning and mechanical ventilation systems, building energy analysis and has published about 225 papers in these areas in several international journals and conferences.

Prof Sekhar is an Associate Editor of ASHRAE HVAC&R Research journal, Regional Editor (South East Asia) Indoor and Built Environment and an editorial board member of Energy and Buildings journal (Elsevier), International Journal of Ventilation and International Journal of Sustainable Built Environment. He is a regular reviewer of articles for several international journals, such as, ASHRAE Science and Technology for the Built Environment (formerly HVAC&R Research) Journal and Transactions; Indoor Air; Energy and Buildings; Building and Environment; Energy; Indoor and Built Environment. He is a co-inventor and holds 3 US and other patents in the area of energy efficient air-conditioning system with zonal ventilation control for enhanced indoor air quality. He is actively involved in the development of local IAQ, ventilation and energy standards in Singapore and received the SPRING Singapore Merit Award 2012 in recognition for his contributions towards Quality and Standards in Singapore. He is a member of the International Scientific Committee of the Healthy Buildings, Indoor Air, ROOMVENT, CLIMA and IAQVEC series of conferences and was the Technical Co-Chair and member of the organising committee of the Healthy Buildings 2003, the Seventh International Conference in Singapore in 2003. He was the Chair of the Steering Committee for ASHRAE IAQ2010 conference in Kuala Lumpur in 2010 and continues to be on the steering committee of subsequent ASHRAE IAQ conferences (Vancouver, 2013 and Washington DC, 2016).

Prof Sekhar is a Fellow of ASHRAE and a Fellow of ISIAQ. He has been an ASHRAE Distinguished Lecturer since 2006 and is regularly invited as a speaker around the world. He is a recipient of the Environmental Health Award (2014), Exceptional Service Award (2013) and the Distinguished Service Award (2010) from ASHRAE. He is a co-recipient of The Enterprise Challenge award of the Prime Minister's Office, Singapore in 2004 and ASEAN Energy Award in 2011. He is also a member of the Institution of Engineers, Australia (CPEng, IEAust). Within ASHRAE, he is a past Chair of the Environmental Health Committee (EHC), was a member of the IEQ-Global Alliance Ad Hoc Committee (2013-2016) and is currently a member of SSPC 62.1, TC 2.1, EHC and TC 4.3. He has also served the ASHRAE Singapore Chapter in various capacities, including as its President during 2010-2011 and as a BOG member.