



香港科技大學
THE HONG KONG UNIVERSITY OF
SCIENCE AND TECHNOLOGY



MSc Program in Intelligent Building Technology & Management

TECHNICAL WORKSHOP

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Room 6581-82 (via Lift 27/28),

The Hong Kong University of Science and Technology

Clear Water Bay, Hong Kong SAR

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Impacts of temperature and ventilation on people – beyond comfort and health

by

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Impacts of temperature and ventilation on people – beyond comfort and health

Air-conditioning is the major energy end-use in most office buildings. Building regulations and codes specify temperature and ventilation requirements, and these have guided the specifications, design and operation of air-conditioning systems in intelligent buildings. Apart from thermal comfort and health, what other important reasons are there for satisfying temperature and ventilation requirements and control?

This talk adopts a human-centric argument, exploring the effects that temperature and ventilation has on people. The premise is that the most important resource of any organization is its employees. Their well-being and productivity are key competitive factors. A significant proportion of today's workforce is asthmatic to varying degrees, and their needs cannot be ignored. The impacts of temperature and ventilation on perceptual and physiological responses, and mental performance of people, both healthy and asthmatic, are discussed. These are drawn from recent research conducted at the National University of Singapore in its Field Environmental Chambers (FEC). The FEC are large sized chambers (80 sq m) which accommodate 16 subjects, and has independent HVAC system for control of indoor environmental parameters.



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Dr. Tham is Head at the Department of Building and Deputy Director, Centre for Total Building Performance, National University of Singapore (NUS). He is an Academy Fellow of the International Academy for Indoor Air Sciences (IAIAS), and currently President of the International Society of Indoor Air Quality and Climate (ISIAQ). He has been involved in the development of guidelines and standards for indoor air quality in the Tropics, and various Technical Committees of SPRING Singapore's (Standards, Productivity and Innovation Board), and the Singapore Accreditation Council (SAC). He serves as a member of international advisory boards and scientific committees of major international conferences (including CLIMA, Indoor Air, Healthy Buildings, IAQVEC, Roomvent, IBPSA), has provided keynote and invited speeches in indoor air quality, and undertaken numerous indoor air quality consultancies. He is a member of the editorial board of *Indoor Air*, and a founding director of Enhanced Air Quality Pte Ltd, a NUS spin-off company based on the technologies associated with innovative air-conditioning. He directs the research program in Indoor Environment and Health at NUS, and has published more than 150 articles in this field. He obtained his B Eng (Mech) from NUS and MSc and PhD from Sydney University. He has held Visiting Professorships at universities in China and Hong Kong, and is currently a Visiting Professor at the Czech Technical University.