ASHRAE Hong Kong Chapter
P.O. Box 35612, King's Road Post Office, North Point, Hong Kong
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美國供暖製冷及空調工程師學會 香港分會
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Technical Workshop

Title: **Humidity Control and Mold Growth in Buildings**

Organizers: Jointly organized by the Technical Working Group (TWG) on Control of Humidity and Molds Growth Indoors of ASHRAE Hong Kong Chapter and the Research Centre for Building Environmental Engineering, Department of Building Services Engineering, The Hong Kong Polytechnic University

Date & Time: (Room No.)

Session 1 - 26 June 2006 (Mon)	6:30 – 9:30 pm	(Room CD304)
Session 2 - 28 June 2006 (Wed)	6:30 – 9:30 pm	(Room Y303)
Session 3 - 5 July 2006 (Wed)	6:30 – 9:30 pm	(Room M108)
Session 4 - 7 July 2006 (Fri)	6:30 – 9:30 pm	(Room DE306)

Venue: Class rooms in The Hong Kong Polytechnic University, Hung Hom, Kowloon (see above)

Synopsis: Humidity control and mold growth are important issues for many buildings. It will affect building materials, air quality, comfort, corrosion, hygiene, and even virus/bacteria infections. This workshop explains the concepts of humidity control, discusses the applications of moisture/environmental control systems, examines the application of heat pump in humidity control and discusses the principles of mold growth in Hong Kong. Main topics include:

1. **Principles, Loads and Equipment.** This session describes the key considerations for humidity control, moisture load estimation, building envelope construction and the equipment basics.
2. **Applications, Control Levels and Mold Avoidance.** This session explains an appropriate humidity control level, how to arrange the air system to avoid mold growth and how humidity control is integrated into different building types.

3a. **Airborne Bacteria Level in Air-conditioned Offices.** This session discusses the environmental risks in an air-conditioned office with a re-adjusted thermal environment and the relationship between temperature, relative humidity and bacteria count.

3b. **Application of Heat Pump in Humidity Control.** This session examines the use of heat pump in humidity control and discusses practical considerations of the system design and operation.

4. **Mold Growth in Hong Kong.** This session presents the microbial principles of mold growth, explains the health risks, and discusses the assessment methods for the Hong Kong situation.

A humidity control design guide from ASHRAE will be given to the participants (included in the course fee). Certificate of attendance will be issued to each participant at the end of the workshop.

Speakers: Dr. Sam C. M. Hui, Dept. of Mechanical Engineering, The University of Hong Kong

Dr. Horace Mui, Dept. of Building Services Engineering, The Hong Kong Polytechnic University

Mr. Anthony S. K. Yip, CLP Power

Prof. Lilian L.P. Vrijmoed, Dept. of Biology and Chemistry, City University of Hong Kong

Language: English (supplemented with Cantonese)

Application: Open to all interested persons, but priority will be given to ASHRAE members. Please complete and return the application form by e-mail/post and send the crossed cheque via post before **12 June 2006**. Number of participants is limited to 40. Quota will be allocated on first-come-first-served basis. Successful applicants will be informed individually by e-mail / phone.

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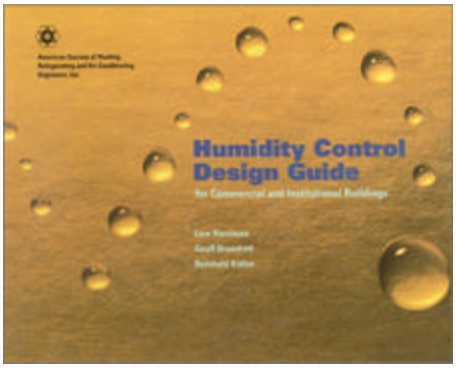

Humidity Control Design Guide for Commercial and Institutional Buildings

This full-color, user-friendly book helps technical professionals design humidity control systems for commercial buildings. The over 500-page Guide is divided into five major sections: "Basics," "Humidity Effects," "System Design," "Equipment & Controls," and "Applications." The book provides the HVAC designer with complete coverage of humidity control from basic principles to real-world design advice, and is organized in a logical, easy-to-follow layout.

For each participant:

500 pages, full colour hardcover design guide, worth more than HK$1000

Content

Basics:
1. Purpose & Assumptions
2. Humidity Control Basics
3. Psychrometrics of Humidity Control

Humidity Effects:
4. Human Comfort
5. Corrosion
6. Static Discharge
7. Mold & Mildew
8. Dust Mites & Insects
9. Bacteria & Viruses

System Design:
10. Design Procedure
11. Dehumidification Loads
12. Humidification Loads

Equipment & Controls:
13. Dehumidifiers
14. Humidifiers
15. Load Reduction Equipment
16. Building Pressure Management
17. Humidity Sensors & Controls

Applications:
18. Schools
19. Office Buildings
20. Retail Buildings
21. Hotels
22. Restaurants
23. Museums, Libraries & Archives
24. Hospitals
25. Eldercare Buildings
26. Dormitories
27. Swimming Pools
28. Ice Rinks
29. Dry Air Storage
30. Laboratories

Design References:
31. Weather Data for Design
32. Reference Materials

Application Form: Technical Workshop on Humidity Control and Mold Growth in Buildings

Name (Dr/Mr/Ms/Ir) : _____

Membership Class : _____ No.: _____ (ASHRAE)

Company/School Name : _____

Contact Address : _____

E-mail Address : (Required)_____

Contact Numbers : (Tel) _____ (Fax) _____

Course Fee (Member of ASHRAE) - $1500 (includes the Humidity Control Design Guide) _____

Course Fee (Student Member) - $1000 (includes the Humidity Control Design Guide) _____

Course Fee (Non-Member) - $2000 (includes the Humidity Control Design Guide) _____

Enquiries: For inquiries, please contact us at email **info@ashrae.org.hk**

Registration: The application form and crossed cheque with appropriate payment in Hong Kong dollars payable to "**ASHRAE Hong Kong Chapter**' shall be sent to **P.O. Box 35612, King's Road Post Office, North Point, Hong Kong**, by 12 June 2006. The applicant may e-mail the above information to **apply@ashrae.org.hk** for place reservation and then followed by cheque payment via mail.

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Technical Workshop on Humidity Control and Mold Growth in Buildings

26, 28 June and 5, 7 July 2006

About the Speakers

Dr. Sam C. M. Hui

PhD, BEng(Hons), CEng, CEM, MCIBSE, MHKIE, MASHRAE, MIESNA, LifeMAEE, Assoc AIA

Dr. Hui is a Teaching Consultant and an Honorary Assistant Professor of the Department of Mechanical Engineering, The University of Hong Kong. He has a strong technical background in the study of energy efficiency in buildings and has carried out teaching, research and consultancy studies in Hong Kong, Mainland China, Germany, Japan, USA and Thailand. He has published more than 50 technical articles in academic/professional journals and conferences and is active in promoting interdisciplinary building energy and environmental research studies that integrate architectural design and sustainable building technology. He is currently the President-Elect of the ASHRAE Hong Kong Chapter.

Ir. Dr. Horace K W Mui

PhD, BEng(Hons), CEng, RPE, MCIBSE, MHKIE

Ir. Dr. Mui is the Assistant Professor in the Department of Building Services Engineering of The Hong Kong Polytechnic University. Before he joined the academic institution, he was a building services and tunnel ventilation consultant. He is heavily involved in the research and development on building environmental performance, indoor air quality, thermal comfort and plumbing and drainage system. He has published more than 50 technical papers including internationally refereed journal papers, invited technical presentations and reports in newspapers. On 11th March 2003, the case of SARS in Hong Kong was confirmed. Dr. Mui was one of the first to comment in the news media, technical workshops and seminars on the defects of the drainage system and the ignorance of the users in treating the drains.

Mr. Anthony S. K. Yip

Mr. Anthony Yip graduated from the University of Hong Kong in 1974 with a B.Sc. (Eng) degree in Mechanical Engineering and is currently an Account Manager with CLP Power Hong Kong Ltd. – Marketing & Customer Services Business Group. Mr. Yip worked in both Hong Kong and Canada and has extensive experiences on energy related projects in both countries. He designed the first large scale school energy retrofit project in Toronto: the SEF Schools Environmental Project in 1995/6. Coming back from Canada in 1997, he developed the first comprehensive heat pump water heating system for Kwong Wah Hospital in 1999 and many other energy saving projects thereafter. Mr. Yip is a RPE in Hong Kong, a Chartered Engineer in UK, and a licensed Professional Engineer in Canada.

Professor Lilian L. P. Vrijmoed

PhD (HK), MIBiol, CBiol

Prof Lilian Vrijmoed is currently Professor in the Department of Biology and Chemistry, City University of Hong Kong. She received her PhD from the University of Hong Kong working on the eco-physiology of marine fungi. Her current research interests has expanded to exploring the bioremediation and biotechnological potential of mangrove fungi and the eco-physiology of fungi of the indoor environment and their control. She has been engaged in over 30 consultancy studies on microbial survey of the indoor environment, including the Hong Kong Government commissioned study on “Indoor air pollution in offices and public places in Hong Kong”. Professor Vrijmoed is a member of the Task Force on Indoor Air Quality Inspection under the Accreditation Advisory Board Working Party on Construction Product Inspection of the Innovation and Technology Commission of the Hong Kong Government.