



**ASHRAE** *ASHRAE SINGAPORE CHAPTER*  
 American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc. SINGAPORE CHAPTER



Mailing Address: Bukit Merah Central, P.O. Box 0626, Singapore 911535

**ASHRAE Distinguished Lecturer Talk**  
 Co-sponsored by  
 Department of Building, National University of Singapore

Presented by  
**STANLEY A. MUMMA, Ph.D., P.E.**  
 ASHRAE Fellow, ASHRAE Distinguished Lecturer  
 Professor Emeritus of Architectural Engineering  
 Pennsylvania State University  
 University Park, PA

**Topic** : **Chilled Ceilings in parallel with Dedicated Outdoor Air Systems**

**Date** : 15 November 2007 (Thursday)

**Time** : 7.00 pm to 10.00 pm

**Venue** : LR426, Level 4, SDE3

**Address** : School of Design and Environment, National University of Singapore,  
 4 Architecture Drive, Singapore 117566, Tel: 65165150

**Contact** : **Ms Chelvi**, email: [bdgtp@nus.edu.sg](mailto:bdgtp@nus.edu.sg)

**Fees :**

1) Registered ASHRAE Singapore Chapter members	Free of charge
2) Staff members of SDE, NUS	
Other Staff members/students of NUS	\$10.00
Other Guests	\$20.00

PROGRAMME	
Registration	6.45 – 7.15 pm (Venue : Registration area outside LR426)
Buffet dinner	7.15 – 8.00 pm
Technical Talk	8.00 – 10.00 pm (Presentation : 1 hr 30 mins; Q&A : 30 mins)

*Application has been made to the Professional Engineers Board for PDU points*

## ABSTRACT

### Chilled Ceilings in parallel with Dedicated Outdoor Air Systems

Chilled Ceilings, Floors, and Beams have been met with skepticism by many US engineers due to problems encountered with systems installed in the 1960's, as well as an on-going perception that condensation, capacity and cost are insurmountable problems. Dr. Mumma will forthrightly address these three issues. And he will elaborate on the performance of integrated DOAS Chilled Ceiling, Floor or Beam systems in the areas of human comfort, safety—including terrorist resistance, and LEED/sustainable design. Both design and operating experiences from buildings employing these technologies will be discussed. Finally, the chilled ceiling, floor or beam engineering design process will be laid out, including emphasis on the need for DOAS when chilled ceiling/floor/beam projects are undertaken.

## SPEAKER'S PROFILE

**STANLEY A. MUMMA, Ph.D., P.E.**  
**Professor Emeritus of Architectural Engineering**  
**Pennsylvania State University**  
**University Park, PA**

Dr. Stanley Mumma is currently Professor Emeritus of Architectural Engineering at Pennsylvania State University. Prior to joining Penn State in 1984, he was a General Motors Corporation project engineer for three years between his undergraduate studies in Mechanical Engineering at the University of Cincinnati, and his graduate work at the University of Illinois at Urbana-Champaign. Since earning his Ph.D. in Mechanical Engineering in 1974, under the mentorship of Dr. Will Stoecker, he has also held faculty positions at Ohio State University and Arizona State University. In the first third of his academic career, his research focused principally on solar and alternate energy. Then his interests changed to innovative ways of meeting ASHRAE Standard 62 in an energy efficient fashion. That work has led to his current intense interest in dedicated outdoor air systems (DOAS). He writes extensively on the subject (see <http://doas-radiant.psu.edu/papers.html>). Two of his publications were recipients of ASHRAE best paper awards. He has also received ASHRAE's Distinguished Service Award, the E.K. Campbell Award of Merit, and the grade of Fellow. Currently, Dr. Mumma is a member of several Technical Committees and the Society Publishing Committee.

## Registration Form

- Registration is confirmed and a seat will be reserved for you upon receipt of your cheque and registration form.
- The fee per participant is inclusive of prevailing GST. No refunds will be provided, but substitutions are allowed if the seminar organiser is informed by 12 November 2007.
- For further enquiries, please contact Ms Chelvi at Tel: 6516 5150, Fax: 6775 5502, email: bdgtp@nus.edu.sg
- As there are limited seats available, please register early for the seminar by completing the form below and send the completed registration form together with your cheque before the closing date, **12 November 2007** to:

Ms Chelvi  
Department of Building  
School of Design and Environment  
National University of Singapore  
4 Architecture Drive  
Singapore 117563

All cheques should be made payable to: **National University of Singapore**

The organiser reserves the right to cancel or postpone the event due to unforeseen circumstances.

Yes, I will be attending this **ASHRAE DL Talk** on:

**“Chilled Ceilings in parallel with Dedicated Outdoor Air Systems”**

**Venue** : LR426, Level 4, SDE3

**Address** : School of Design and Environment, National University of Singapore,  
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<b>1) Registered ASHRAE Singapore Chapter members 2) Staff members of SDE, NUS</b>	<b>Free of charge</b>
<b>Other Staff members/students of NUS</b>	<b>\$10.00</b>
<b>Other Guests</b>	<b>\$20.00</b>

Title: Prof / Dr / Mr / Mdm / Ms

Name: \_\_\_\_\_ Designation: \_\_\_\_\_

Company: \_\_\_\_\_

ASHRAE Singapore Chapter member : Yes/No (Membership No: \_\_\_\_\_)

ASHRAE Member : Yes/No (Membership No: \_\_\_\_\_)

Professional Engineers Board : Yes/No (Membership No: \_\_\_\_\_)

Address: \_\_\_\_\_

Tel: \_\_\_\_\_ Fax: \_\_\_\_\_ E-mail: \_\_\_\_\_

**I will be accompanied by the following guests:**

1. Name: \_\_\_\_\_ Designation: \_\_\_\_\_

Company/Institution: \_\_\_\_\_ Tel: \_\_\_\_\_ Member: Yes/No

ASHRAE Singapore Chapter member: Yes/No (Membership No: \_\_\_\_\_)

ASHRAE Member : Yes/No (Membership No: \_\_\_\_\_)

Professional Engineers Board : Yes/No (Membership No: \_\_\_\_\_)

2. Name: \_\_\_\_\_ Designation: \_\_\_\_\_

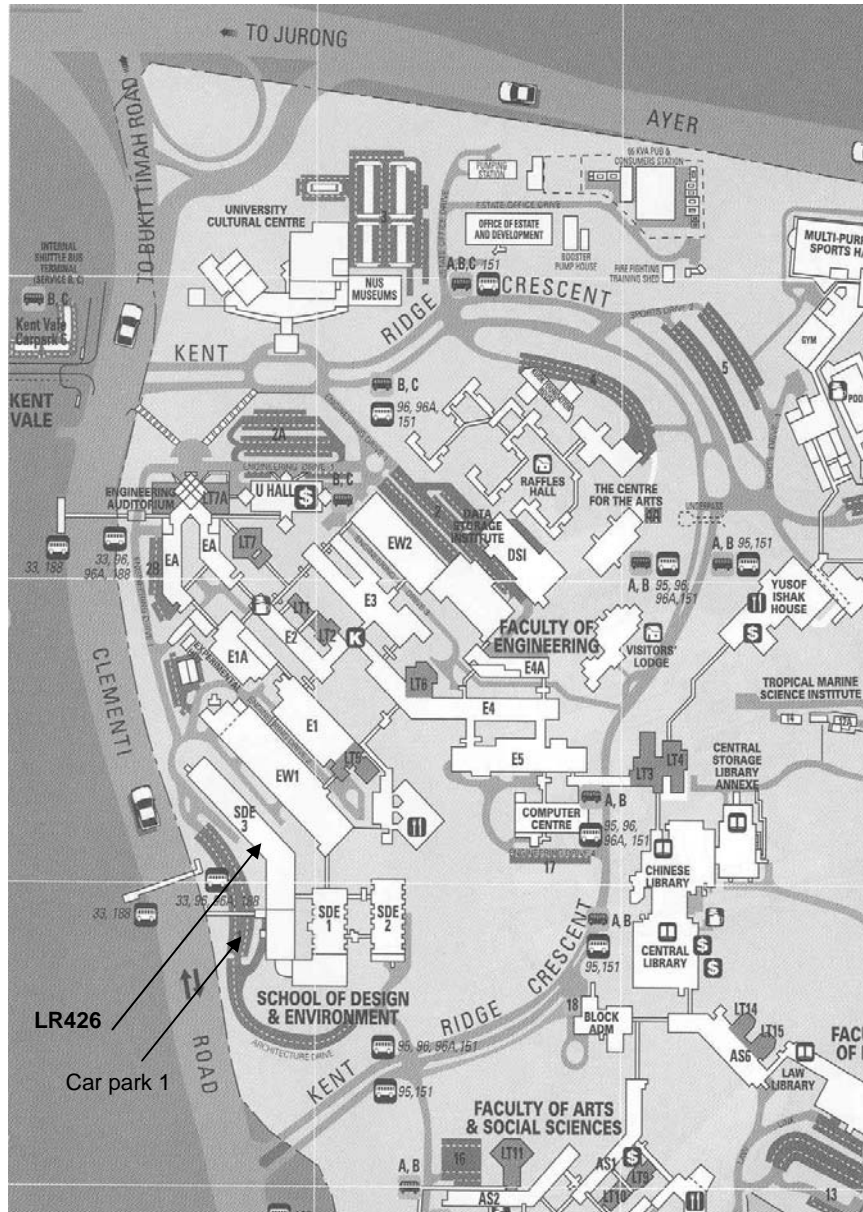
Company/Institution: \_\_\_\_\_ Tel: \_\_\_\_\_ Member: Yes/No

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ASHRAE Member : Yes/No (Membership No: \_\_\_\_\_)

Professional Engineers Board : Yes/No (Membership No: \_\_\_\_\_)

## LOCATION MAP



Along Clementi Road: Bus nos. 33, 96\*, 188

Along Kent Ridge Crescent: Bus nos. 95, 96\*, 151

(\*96 may be boarded at Clementi Interchange, next to Clementi MRT station)

Campus map: <http://www.nus.edu.sg/campusmap/>