



# ASHRAE

American Society of Heating, Refrigerating & Air conditioning Engineers, Inc.

TECHNOLOGY FOR A BETTER ENVIRONMENT

## ASHRAE Sri Lankan Chapter-171

No.60/2, Park Street, Colombo 02.

Website: [www.srilanka.ashraechapters.org](http://www.srilanka.ashraechapters.org)

### Invitation to

### ASHRAE DISTINGUISHED LECTURER PROGRAMME

## 'ROOM AIR DISTRIBUTION : STRATIFIED AIR DISTRIBUTION SYSTEMS AND REDUCED COOLING LOAD CALCULATION METHODS'

### Presented by



**Professor Jianlei Niu**

**The Hong Kong Polytechnic University - Dept of Building Services Engineering**

Jianlei Niu, Professor and Associate Head of Department of Building Services Engineering, and Director of Research Centre for Building Environmental Engineering, The Hong Kong Polytechnic University. He received his BSc in HVAC Engineering and MSc in Thermal Engineering from Tsinghua University respectively in 1983 and 1986, and received his PhD in Mechanical Engineering from Delft University of Technology in 1994. He started his academic career as an Assistant Professor in 1986, teaching and research in the field of Combustion Engineering at Tsinghua University. Over the years, his teaching has covered Thermo fluids, HVAC System Design and Analysis, and Indoor Air Quality Engineering, and supervision of Master and PhD students.

In this lecture, the fundamental temperature stratification caused by buoyancy effects will be presented, using both on-site monitored data and CFD simulation results. In particular, the energy saving potentials of vertically separating exhaust and return grilles, which have not been explicitly recognized in current design practices, will be highlighted. Finally, a new method developed by the speaker over the years to numerically calculate the reduced space cooling load will be presented, and the application of the methods coupled with the ASHRAE RTS space cooling load calculation methods to size the AHUs will be demonstrated. The lecture is intended for HVAC Engineers, Building Services Engineers, Architects and Property Developers so that the advantage of vertical stratification combined with reduced cooling load features can be fully taken up in the design stage to achieve maximum saving of energy and cost of equipment.

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| <b>Date</b>               | <b>: Friday 26<sup>th</sup> March 2010</b>  |
| <b>Venue</b>              | <b>: Wimalasurendra Auditorium, IESL (Institute of Engineers Sri Lanka), Wijerama Mawatha, Colombo 07</b> |
| <b>Time</b>               | <b>: 4.00 - 6.30 P.M. [Refreshments will be served 15 mins. prior to commencement of session]</b>         |
| <b>Admission</b>          | <b>: Members Rs.400/-, Non-members Rs.600/-</b>   |
| <b>Enquiries/Tickets:</b> | <b>Wimala Goonaratne 071 7674224<br/>Nalin Perera 077 7756680</b>   |

**An event organized by the Chapter Technology Transfer Committee**