



HKUST

Division of Environment (ENVR)

S E M I N A R

**Mesoscale and Urban Atmospheric Flows,
Dispersion and Local Climate Change**

Prof. Lord Julian HUNT

Emeritus Professor of Climate Modelling and Honorary Professor of Mathematics
University College London and University of Cambridge, UK

Visiting Professor in Hong Kong University

Abstract

Atmospheric flows over mountains, coasts and urban areas need to be understood and modelled on scales ranging from 1000km down to a few meters. The resolution also depends on applications. Analytical perturbation methods, with the use of small computers, continue to be very effective for predicting and rapid modelling of flows and flow processes such as dispersion and local climate. These are reviewed in this lecture, with some new results on studies of winds around HKIA, and on the qualitatively different urban flows found in HK where the gap widths between buildings are significantly less than their heights. As cities in China grow at a faster rate than the time scale of national/global climate change, changes in their local climates are largely locally produced. Also the levels of artificial and natural pollution aerosols and particulates are so high that the vertical temperature gradients of the urban atmosphere and therefore the local climate are also significantly altered. So the issues of urbanization, pollution and local climate have to be considered holistically.

Date: 3 November 2011 (Thursday)

Time: 11:00 a.m.

Venue: Room 2404, (Lift 17/18), HKUST

~~~ All are welcome ~~