



# Department of Mechanical and Biomedical Engineering

## **Nuclear Safety and Risk Seminar**

on

# Predicting the consequences of the dispersion of chemical, biological, radiological, or nuclear agents in the urban environment

presented by

Prof. Fue-Sang Lien (連復桑)

Department of Mechanical & Mechatronics Engineering University of Waterloo, Canada

Date: Friday 13 Nov 2015 Time: 6:30pm – 8:00pm

Venue: LT 15, Academic 1 Building, City University of Hong Kong

## **Registration:**

On-line free registration, on a first-come-first-served basis, for members of organizers and supporting organizations is via:

http://www.hkarms.org/Registration/EventRegister.php?Event=64 (If you do not have a membership number, please input "0")

For enquiries, please contact Dr Louis Liu info@hkns.hk

### **ABSTRACT**

The release of chemical, biological, radiological, or nuclear (CBRN) agents by terrorists or rogue states in a North American city (densely populated urban centre) and the subsequent exposure, deposition and contamination are emerging threats in an uncertain world. The modeling of the transport, dispersion, deposition and fate of a CBRN agent released in an urban environment is an extremely complex problem that encompasses potentially multiple space and time scales. The availability of high-fidelity, time-dependent models for the prediction of a CBRN agent's movement and fate in a complex urban environment can provide the strongest technical and scientific foundation for support of Canada's more broadly based effort at advancing counter-terrorism planning and operational capabilities. The objective of this seminar is to report the progress of developing and validating an integrated, state-of-the-art, high-fidelity multi-scale, multi-physics modeling system for the accurate and efficient prediction of urban flow and dispersion of CBRN (and other toxic) materials discharged into these flows. Development of this proposed multi-scale modeling system will provide the real-time modeling and simulation tool required to predict injuries, casualties and contamination and to make relevant decisions (based on the strongest technical and scientific foundations) in order to minimize the consequences of a CBRN incident in a populated centre.

Attendance/CPD Certificate will be provided

**Supporting Organisations** 





