

# Academic Report

**Speaker:** Dr. Guoping Lian,

Unilever Science Leader-Modelling of Materials and Processed;

Visiting Professor of China Agricultural University

**Title:** Mass transfer in biological material - Multi-scale modelling challenges for health and well being

**Time:** 2:00 (pm) August 19, 2011 (Friday)

**Place:** Room 223, IPE Mansion

## Introduction

The research interest of Dr. Lian addresses a range of designing and processing topics of foods and personal care products. Their aim is to understand the principles for delivering superior health, nutrition, sensorial and other functional benefits. Examples include flavour release from foods and beverages, intestinal absorption of nutrients, transdermal permeation, and molecular ingress into hair. He applies the fundamentals of biophysics and engineering science to understand how binding of molecules to proteins and confinement of complex fluids in the multi-scale structures (nano to cellular) affect the mobility and delivery of molecules through bio-substrates such as skin, hair, tongue and intestine. He also carries out research on modelling multi-phase complex fluids with applications to unit operations of foods and home personal care product processing, e.g. emulsification, crystallisation, granulation, encapsulation, extraction and drying.