

THE UNIVERSITY



OF HONG KONG

*Institute of Mathematical Research  
Department of Mathematics*

# COLLOQUIUM

## The Lifting Problem

**Professor Jie-Tai Yu**

The University of Hong Kong

Date: November 9, 2011 (Wednesday)

Time: 3:00 – 4:00pm

Venue: Room 210, Run Run Shaw Bldg., HKU

### Abstract

The abelianization from the free associative algebra  $F\langle X_1, \dots, X_n \rangle$  over an arbitrary field  $F$  to the polynomial algebra  $F[X_1, \dots, X_n]$  induces a group homomorphism from  $\text{Aut}(K\langle X_1, \dots, X_n \rangle)$  to  $\text{Aut}(K[X_1, \dots, X_n])$ .

Whether or not this group homomorphism is surjective, is an important open problem (the lifting problem).

The speaker will explore his recent work (joint with his collaborators) on this problem, and close connection with other important problems in Affine Algebraic Geometry and Noncommutative Algebra.

*All are welcome*