



**The Hong Kong Polytechnic University  
Department of Applied Mathematics**

# **Colloquium**

**On**

**From Radix Expansion to Fractal Tiling**

**by**

**Professor Lau Ka Sing  
Department of Mathematics  
The Chinese University of Hong Kong**

## **Abstract**

Tiling is one of the oldest topic in mathematics which has generated a lot of interest and curiosity. Traditionally it is in the area of discrete geometry and combinatorics and has applications in crystallography. In the recent development, it was found that certain class of tiles, we call "self-similar" tiles, arises naturally in the study of fractal geometry and wavelet theory, it can also be viewed as a generalization of the radix expansion of number system to higher dimension. In this talk we will give a brief introduction of the self-similar tiles and discuss their algebraic, geometric and analytic properties. Some of the open questions and future development will also be considered.

**Date : 6 March, 2009 (Friday)**  
**Time : 3:00 – 4:00 p.m.**  
**Venue : Departmental Conference Room HJ610  
The Hong Kong Polytechnic University**

**\*\*\* ALL ARE WELCOME \*\*\***