

TALK BY PROF. LEE SENG LUAN NATIONAL UNIVERSITY OF SINGAPORE

Prof. Lee Seng Luan is a Professor of Mathematics in the Department of Mathematics, National University of Singapore. He obtained his first degree from University of Malaya and later PhD from University of Alberta, Canada. He was the Director of Center for Wavelet, Approximation and Information Processing; Deputy Chairman of the Institute of Engineering Sciences, Singapore; Editor for Mathematical Medley, a publication of the Singapore Mathematical Society and International Journal of Wavelets, Multiresolution and Information Processing; Managing Editor for COSMOS, the Journal of Singapore National Academy of Science; and Member of Steering Committee of the Wavelet Digest. His research interests include spline functions, wavelets, approximations, geometric modeling and information processing.



Geometric Modelling by Uniform B-splines

Date: 26 JULY 2010 (MONDAY)

Time: 2.00pm – 3.00pm

**Venue: DK1, Faculty of Engineering and Science
Universiti Tunku Abdul Rahman**

Jalan Genting Kelang, 53300 Kuala Lumpur

ABSTRACT:

Non-Uniform Rational B-splines (NURBS) is the defacto industrial standard for Computer Aided Design (CAD), Computer Graphics (CG) and Computer Animation (CA) systems. The talk introduces a special class of mathematical functions as a prelude to NURBS: the uniform B-splines, which have many other useful applications in science and technology. It also illustrates how a simple geometric procedure for constructing smooth curve lines, known as Chaikin's algorithm, can be modeled mathematically and performed by the computer and how the simple mathematical model can be extended to a more general one using mathematical knowledge. The talk concludes with a brief historical development and perspective and major research trends in the mathematical foundation of CAD and CG to illustrate how mathematics and technology develops hand in hand.

The talk assumes little knowledge of mathematics and is accessible to students and staff in mathematics, science, computer science and engineering.