Y.C. Wong Visiting Lectureship

Public Lecture

Finding Mathematics in Genes and Diseases

Date June 11 (Friday), 2004

Time 5:30 p.m. - 7:00 p.m. (reception at 5:00 p.m.)

Venue Hui Pun Hing Lecture Hall (LE1, Library Extension), HKU

Speaker

Professor LEUNG Ming-Ying

Department of Mathematical Sciences

University of Texas at El Paso, USA

Synopsis

Beyond numbers and computations, beyond theories and proofs, mathematics offers a way to appreciate the beauty of Nature and a means to study the complexity of life. Ribonucleic acids (RNA) and deoxyribonucleic acids (DNA) are used as genetic materials in living organisms. Nucleotide bases, the building blocks of RNA and DNA molecules, are arranged in special sequences, called genes, to code for genetic information. The entire set of genes in an organism is a genome, which can be replicated and passed from one generation to the next. Despite the simplicity of viral genomes, some viruses can cause serious diseases. In this public lecture the speaker will share with the audience some of the mathematics found while trying to analyze viral genome sequences.

About the speaker

Professor LEUNG Ming-Ying obtained her BSc and MPhil in mathematics from Hong Kong University. After obtaining her PhD in mathematics from Stanford University under the supervision of Samuel Karlin, she taught and did research at University of Texas at San Antonio from 1989 to 2003, taking up visiting positions at University of California at Berkeley in 1993 and Rice University in 2001. In 2003 she moved to the Department of Mathematical Sciences at University of Texas at El Paso, at the same time becoming the Director of the Bioinformatics Programme there. The research interest of Professor Leung centers around probabilistic modelling in bioinformatics, focusing on the applications of Markov chains, Poisson approximations and the scan statistics to DNA sequence analysis.

Organizers

Faculty of Science, The University of Hong Kong

Department of Mathematics, The University of Hong Kong

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