CASTS TALKS

Special Program in Applied Mathematics

and Applied Mechanics

Mathematical Modelling of Biological System : Model Development and Mathematical Analysis

2014 - 05 - 21 (Wed.)

15:00 - 17:00

308, Mathematics Research Center Building (ori. New Math. Bldg.)

Mathematical techniques are widely applied on various fields, such as physics, engineering and biology. The mathematical biology, which applies mathematical techniques to investigate and understand the biological phenomena, has a long history. Although the first paper can be traced back to early 1200\'s, until early twenty century researchers start interesting in the field. The majority of research activated in the past twenty to thirty years ago. These researches include drug dynamics, ion channel, tumour growth, nounal dynamics of brain and plant growth and invasion...etc. In this lecture I will give a brief introduction to the mathematical biology, what the main researches of the field are in the UK and how a mathematical model develop. I will present a mathematical modelling of biofilm growth as an example of the model development progression. Also, I will give an introduction to asymptotic method, the method broadly used to analysis biological problems, using a famous example, enzyme kinetics.

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