The Hong Kong Polytechnic University
Department of Applied Mathematics

Colloquium

Mathematical modelling of biofilms: analysis and simulation

by

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Abstract

In this talk, I will present a new class of reaction-diffusion-transport equations which describe spatial spreading mechanisms of biomass. The feature of these equations is that they are comprising two kinds of degeneracy: porous medium and fast diffusion. These classes of doubly-degenerate parabolic systems arise in the modelling of antibiotic disinfections of biofilms as well as biofilm growth in a porous media. Well-posedness, long-time dynamics of solutions in terms of global attractors and their Kolmogorov's entropy as well as open questions will be discussed.

Date :   23 November, 2016 (Wednesday)
Time :   11:00a.m. – 12:00noon
Venue : TU801, The Hong Kong Polytechnic University

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