DEPARTAMENTO DE MATEMÁTICA APLICADA

GOBIERNO DE ESPAÑA · MINISTERIO DE CIENCIA E INNOVACIÓN

momat

Instituto de Matemática Interdisciplinar

Seminario de Matemática Aplicada

Michael Winkler

Universität Duisburg-Essen (Alemania)

"Blow-up vs. boundedness in models of chemotaxis"

ABSTRACT :

Understanding communication between single cells appears to be an essential step towards deeper insight in how complex biological organisms work. One such communication process is based on a mechanism called chemotaxis, and mathematical models have been proposed and studied since the early 1970s. Especially since the middle of the 1990s, mathematical analysis provided substantial progress on various models, becoming more and more realistic by accounting for initially ignored effects.

The talk gives a rough overview on recent analytical results on simple and more complex PDE systems used in the modeling of chemotaxis. Here the main fucus is laid on the advantages and drawbacks of the respective models with a view to their particular ability to describe correctly some curious phenomena of spatial cell aggregation.

Organizado por el Departamento de Matemática Aplicada de la UCM, el Grupo MOMAT y el IMI

Fecha: 1 de diciembre de 2009, a las 12.00 horas

Seminario Alberto Dou (aula 209)

Facultad de CC. Matemáticas, UCM