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MATEMÁTICA APLICADA

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SEMINARIO DE MATEMÁTICAS

“Blow-up vs. boundedness in models of chemotaxis”

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Aula 2101 EUI Informática (Bloque II) 1ª Planta

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 focus 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.

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