DEPARTAMENTO DE
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Seminario de Matemática Aplicada

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"Single phytoplankton species growth with light and advection in a water column"

ABSTRACT:

In this talk we shall consider a nonlocal diffusion-advection equation which models the growth of a single phytoplankton species in a water column where the species depends solely on light for its metabolism. We study the combined effect of death rate, sinking or buoyant coefficient, water column depth and vertical turbulent diffusion rate on the persistence of a single phytoplankton species. We first establish the existence of critical death rate beyond which the species cannot survive.

In contrast to critical death rate, the critical water column depth, critical sinking or buoyant velocity, critical turbulent diffusion rate may or may not exist. In strong contrast, we show that there may exist two critical two critical turbulent rates for sinking species.

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Martes 1 de junio, a las 12.00 horas
Seminario Alberto Dou (aula 209)
Facultad de CC Matemáticas, UCM.