GOBIERNO DE ESPAÑA
MINISTERIO DE CIENCIA E INNOVACIÓN

Σmomat

Instituto de Matemática Interdisciplinar

Seminario de Matemática Aplicada

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"Nonlinear dynamics of water-limited ecosystems"

ABSTRACT:

The impact of global climate change on ecosystem function and stability poses great challenges for current research in ecology. Of particular concern are processes involving desertification and biodiversity loss in drylands. Studies of these processes are hampered by the complexity of water-limited ecosystems, which generally involve several levels of organization and different spatial scales. In this talk I will present and discuss a platform of nonlinear mathematical models that capture these elements of water-limited ecosystems, and allow studying aspects of desertification and biodiversity-change phenomena. Specifically, I will discuss the emergence of vegetation patchiness as a symmetry-breaking pattern-formation phenomenon, and the implications of this phenomenon on state transitions and on landscape, resource and species diversity.

Fecha: 13 de julio de 2010, a las 11.00 horas
Seminario Alberto Dou (aula 209)
Facultad de Ciencias Matemáticas, UCM