Nico Stollenwerk
Centro de Matemática e Aplicações Fundamentais da Universidade de Lisboa,
Avenida Prof. Gama Pinto 2,1649-003 Lisboa, Portugal
e-mail: nico@ptmat.fc.ul.pt

Chaos and noise in population biology

In several epidemiological and ecological case studies, the often subtle interplay between typical non-linear structures like co-existing attractors or dynamical saddles attracting in some state space directions and repelling in others and the effect of noise in these case will be investigated. Examples are dengue fever, seasonal influenza and retrospective measles studies as well as from classical predator-prey models. The findings in part come from empirical data analysis, here mainly from epidemiology due to the better data situation than in ecology, and also have impact on parameter estimation in such epidemiological systems.

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