

FIRST WORKSHOP

"DYNAMICAL SYSTEMS APPLIED TO
BIOLOGY AND NATURAL SCIENCES "

1-3 FEBRUARY 2010
CMAF, LISBON UNIVERSITY

ABSTRACT | Nico Stollenwerk

Title

Rich dynamics in multi-strain epidemiological models

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Abstract

As compared to classical epidemiological models multi-strain models show a rich dynamic behaviour, reaching from new thresholds, namely the reinfection threshold in models of partial immunity, for example in influenza, to new deterministically chaotic dynamics, in dengue fever models, and can show evolution to critical thresholds including its large fluctuations for accidental pathogens, e.g. in *Neisseria meningitidis* epidemiology.