

THIRD WORKSHOP

**"DYNAMICAL SYSTEMS APPLIED TO
BIOLOGY AND NATURAL SCIENCES"**

8-10 FEBRUARY 2012

CMAF | LISBON UNIVERSITY

PROGRAM

DSABNS 2012
Lisbon

	Amphitheater		Room B1-01		Room B3-01	
09:15 - 09:30	Nico Stollenwerk	Opening	-	-	-	-
Chair: Nico Stollenwerk						
09:30 - 10:30	Konstantin Blyuss	Symmetry and synchronization in models of antigenic variation	-	-	-	-
10:30 - 11:30	Ben Adams	Simple models for antigenic evolution, with an application to influenza A	-	-	-	-
11:30 - 11:50	Coffee Break					
	Session: Chair: Bob Kooi		Session: Chair: Ezio Venturino		Session: Chair: José Lourenço	
11:50 - 12:20	Paula Rodrigues	Impact of reduction of tuberculosis treatment duration - back to basic questions	Jean Clairambault	Modelling cell and tissue proliferation with applications to therapeutic optimisation in oncology	Luis Mateus	Stochastic Models for Population Biology: From Dynamic Noise to Bayesian Description
12:20 - 12:50	Cristiana J. Silva	Optimal control strategies for tuberculosis	Daniel Sánchez-Taltavull	Stability of Stochastic Models of hierarchical cell populations	Peyman Gaffari	Evolution towards critical fluctuations in a system of accidental pathogens
12:50 - 13:20	Gabriela Gomes	How host heterogeneity governs tuberculosis reinfection	David Diego Castro	Modeling the connection between primary and metastatic tumors	Debasis Mukherjee	Qualitative analysis of an eco-epidemiological model incorporating a prey refuge
13:20 - 14:30	Lunch					

Plenary Talk
Invited talk
Contributed talk

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8 of February 2012

	Amphitheater		Room B1-01		Room B3-01	
Chair: Nico Stollenwerk						
14:30 - 15:30	Fabio Chalub	Discrete and continuous models in evolutionary dynamics	-	-	-	-
15:30 - 16:30	Daniel Bontje	Optimal culling and vaccination strategies given limited culling and vaccination capacities during FMD epidemics	-	-	-	-
16:30 - 17:00	Carlos Braumman	Population growth in random environments and consequences of an incorrect model specification	-	-	-	-
17:00 - 19:00	Snacks & Poster Session					

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9 of February 2012

	Amphitheater		Room B1-01		Room B3-01
Chair: Ezio Venturino					
09:30 - 10:30	Jorge Pacheco	If cells play dice, can we gamble our way of out of cancer ?	-	-	-
10:30 - 11:00	Jose Fontanari	Analytical solution of the n-site approximation of the dynamics of the majority model for the spread of rumors in a chain	-	-	-
11:00 - 11:20	Coffee Break				
Chair: Bob Kooi					
11:20 - 12:20	Francisco Santos	An evolutionary dynamics approach to global warming	-	-	-
12:20 - 13:20	Hauke Reuter	Level crossing interactions in ecological frameworks - The potential of agent-based models	-	-	-
13:20 - 14:30	Lunch				

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9 of February 2012

	Amphitheater		Room B1-01		Room B3-01	
	Session: Chair: Nico Stollenwerk		Session: Chair: Francisco Santos		Session: Chair: José Lourenço	
14:30 - 15:30	Bob Kooi	Analysis of Arnold tongues in non-autonomous epidemiological models	-	-	-	-
15:30 - 16:00	Torsten Lindström	Detecting chaos requires careful analysis of nearly periodic data	Jeromos Vukov	Cognition Solves the Spatial Reciprocity Conundrum of Cooperation	Andrea Parisi	Age-dependent immune response and its consequences on antigenic drift
16:00 - 16:30	Eugene Postnikov	Synchronization of reaction rate and epidemic oscillations and 1:1 resonance within SIRS model	Vítor V. Vasconcelos	Co-evolution of sanctioning and cooperation under collective Dilemmas	Sandra Lagarto	Modelling death rates with stochastic differential equations
16:30 - 17:00	Antonio Gomez-Corral	Maximum population sizes in host-parasitoid models	Flávio L. Pinheiro	From Local to Global Dilemmas in Social Networks	Stefan Wieland	Disease Awareness in Adaptive Networks
17:00 - 17:30	Coffee Break & Group Photo					
Chair: Ezio Venturino						
17:30 - 18:30	Jean-Christophe Poggiale	Mathematical formulation of ecological processes : a problem of scale Mathematical approach and ecological consequences	-	-	-	-
18:30 - 19:30	Sergei Petrovskii	Computational Ecology as an Emerging Science	-	-	-	-
20:00	Dinner at Dom Feijão Restaurant: Meeting at the Lobby in CMAF					

Plenary Talk
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10 of February 2012

	Amphitheater		Room B1-01		Room B3-01
Chair: Ezio Venturino					
09:45 - 10:45	Greg King	Testing turbulence theory using satellite measured ocean winds	-	-	-
10:45 - 11:15	Miguel Nogueira	Stochastic downscaling of numerically simulated spatial rain and cloud fields using a transient multifractal approach	-	-	-
11:15 - 11:45	Coffee Break				
Chair: Bob Kooi					
11:45 - 12:45	Nico Stollenwerk	Dynamic noise, chaos and parameter estimation in population biology	-	-	-
12:45 - 13:15	Max Souza	Modelling urban arboviruses epidemics	-	-	-
13:15 - 14:30	Lunch				

Plenary Talk
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 Contributed talk

10 of February 2012

	Amphitheater		Room B1-01		Room B3-01	
	Session: Chair: Bob Kooi		Session: Chair: Sergei Petrovskii			
14:30 - 15:00	Nicolas Bacaer	The basic reproduction number for epidemics with seasonality	Filipe Rocha	Developing Ecological Models: Modelling population dynamics of Spruce Budworm (<i>Choristoneura</i> sp.) and its effect on the North American Spruce forests	-	-
15:00 - 15:30	Maira Aguiar	How much complexity is needed to describe dengue hemorrhagic fever incidence data	Martín López García	An approximating model for a two-species competition process	-	-
15:30 - 16:00	José Lourenço	Host-population structure and dengue fever	Martin Biák	Spiders on the vineyard - population model with a human intervention	-	-
16:00 - 16:30	HM Yang	Incidence of dengue and temperature - Case study in Campinas City	Nadia Raissi	Modelling sardine fishery along the Atlantic coast of Morocco	-	-
16:30 - 17:00	Coffee Break					
	Chair: Maíra Aguiar					
17:00 - 18:00	Ezio Venturino	The action of diffusivity on some recent ecoepidemic models	-	-	-	-
18:00 - 18:10	Closing					

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