SEVENTH WORKSHOP

"DYNAMICAL SYSTEMS APPLIED TO BIOLOGY AND NATURAL SCIENCES"

2-5 FEBRUARY 2016

CIMA | ÉVORA UNIVERSITY

PROGRAM

DSABNS2016

CMAF-CIO|LISBON UNIVERSITY
CIMA|ÉVORA UNIVERSITY
CMA|NOVA UNIVERSITY

FEBRUARY 2nd 2016						
09:00 - 09:30	**Registration**					
	Amphitheater 1		**Room 131**		**Room 133**	
09:30 – 09:50	**Opening**					
	Chair: Maíra Aguiar		**--**		**--**	
09:50 – 10:40	**Carlos-Castillo-Chavez**	**Ebola, Influenza, SARS and TB: Lessons learned for mitigating the impact to future outbreaks and pandemics**	**--**	**--**	**--**	**--**
10:40 – 11:00	**Coffee Break**					
	Chair: Carlos Braumann		**Chair: Ezio Venturino**		**Chair: Fabio Chalub**	
11:00 – 11:50	**Odo Diekmann**	**Dangerous connections : On binding site models of infectious disease dynamics**	**--**		**--**	**--**
11:50 – 12:20	**Russell Alpizar-Jara**	**An overview on integrated population dynamics models**	**Natalia Petrovskaya**	**Patchy invasion of alien species in the presence of long-distance dispersal**	**Paula Rodrigues**	**Modelling tuberculosis transmission: the role of heterogeneity in susceptibility to infection**
12:20 – 12:50	**David Greenhalgh**	**Backward bifurcation, equilibrium and stability phenomena in a three stage extended brsv epidemic model**	**Sara Bernardi**	**A mathematical model for viral infections in *Apis Mellifera* beehives transmitted by the *Varroa Destructor* mite**	**Cristiana Silva**	**The effect of migration on tuberculosis epidemic**
12:50 – 13:20	**Pablo Sommer**	**Hopf and torus bifurcations in stochastic systems in mathematical population biology**	**Anuj Kumar**	**Role of optimal screening and treatment on infectious diseases**	**Schehrazad Selmane**	**Dynamic Transmission of Cutaneous Leishmaniasis**
13:20 – 15:00	**Lunch**					
	Chair: Nico Stollenwerk		**--**		**--**	
15:00 – 15:50	**Teresa Faria**	**Persistence and stability for some cooperative population models with delays**	**--**		**--**	
15:50 – 16:40	**Thomas Gotz**	**Optimal control and applications in Biomath**			**--**	
16:40 – 17:10	**Coffee Break**					
	Chair: Luís Mateus		**--**		**--**	
17:10 – 18:00	**Bob W. Kooi**	**Sensitivity analysis and bifurcation analysis**	**--**			
18:00 – 20:00	**Poster Session & Happy Hour**					

DSABNS2016

FEBRUARY 3rd 2016						
	Amphitheater 1		Room 131		Room 133	
	Chair: Russell Alpizar-Jara		--		--	
09:00 –9:50	Manoel Molina	Two-sex branching populations	--		--	
09:50 – 10:40	Carlos Braumann	Population growth in a random environment: How wrong are approximate models?	--		--	
10:40 – 11:20	Coffee Break					
	Chair: Luís Mateus		Chair: Paula Rodrigues		--	
11:20 – 11:50	Carlos Ramos	Ontogenesis and phylogenesis of discrete dynamical systems: developments in cellular automata	Raquel Barreira	Cross-diffusion-induced patterns for reaction diffusion systems	--	--
11:50 – 12:20	Telmo Peixe	Polymatrix Games and Replicators	Jean-Baptiste Burie	Asymptotic behaviour of an age and infection age structured model	--	--
12:20 – 12:50	Filipe Martins	A Bifurcation Theorem for Evolutionary Matrix Models	Alessandra Ragusa	An index monitoring the sensitivity to Desertification: ESPI	--	--
12:50	LUNCH					
14:50	SOCIAL PROGRAM: GUIDED VISIT TO ÉVORA (meeting point: Tourist Office)					

FEBRUARY 4TH 2016						
	Amphitheater 1		Room 131		Room 133	
	Chair: Bob W. Kooi		--		--	
09:00 –09:50	Bobby Reiner	Estimating serotype-specific dengue virus force of infection and temporary cross immunity using longitudinal serological data	--		--	
09:50 – 10:40	Nico Stollenwerk	Power law jumps and power law waiting times, fractional calculus and human mobility in epidemiological systems	--		--	
10:40 – 11:10	Coffee Break					
	Chair: Maíra Aguiar		Chair: Paula Rodrigues		Chair: Ezio Venturino	
11:10 – 11:40	Sofia Rodrigues	Optimal control for a dengue scenario with two serotypes:	Erida Gjini	How classical and adaptive regimes interact with host immunity in antibiotic treatment of resistant infections	Yadigar Sekerci Firat	Mathematical Modelling of Spatiotemporal Plankton-Oxygen Dynamics under the Climate Change
11:40 – 12:10	Luís Mateus	Estimating the efficacy of a candidate dengue vaccine	Alberto Pinto	A dynamical model of immune response by t cells	Urszula Skwara	Modelling epidemiological spreading via spatio-temporal fractional systems
12:10 – 12:40	Hyun Mo Yang	Quiescence eggs and vertical transmission – are they important in dengue transmission?	Thomas Wester	Mathematical Modeling: Immune System Dynamics in the Presence of Cancer and Immunodeficiency in vivo	Ishtiaq Ali	An efficient numerical scheme for carcinogenesis mutations models based on reaction-diffusion equations with time delay
12:40 – 13:10	José Martins	The existence of multiple decisions for vaccination in the reinfection siri model	Yuliya Kyrychko	Dynamics of neural networks with discrete and distributed time delays	Elena Almaraz	On the time to reach a critical number of infections in recurrent epidemic models
13:10 – 14:40	Lunch					
	Chair: Fabio Chalub		--		--	
14:40 – 15:30	Konstantin Blyuss	Mathematical insights into RNA interference	--		--	
15:30 – 16:20	Ezio Venturino	A mathematical model for goat farms affected by two strains of caprine arthritis encephalitis	--		--	
16:20 – 17:00	Coffee Break					
20:00	Workshop Dinner: (meeting point: ex-Celeiros da EPAC, Rua de Eborim)					

FEBRUARY 5TH 2016						
	Amphitheater 1		Room 131		Room 133	
	Chair: Bob W. Kooi		--		--	
09:00 –09:50	Gustavo Olivera	The role of indirect protection in the assessment of dengue vaccination impact	--		--	
09:50 – 10:40	Maíra Aguiar	Feels right, but it's so wrong: The impact of empirical data analysis on public health practical intervention	--		--	
10:40 – 11:10	Coffee Break					
	Chair: Russell Alpizar-Jara		--		--	
11:10 – 12:00	Fábio Chalub	Optimal Vaccination Strategies and Rational Behavior in Seasonal Epidemics	--		--	
12:00 – 12:50	Fernando Fontanari	When more of the same is better	--		--	
12:50 – 14:30	Lunch					
	Chair: Nico Stollenwerk					
14:30 – 15:20	Malay Banerjee	Spatio-temporal pattern formation: effect of nonlocal interactions	--	--	--	--
	Chair: Nico Stollenwerk		Chair: Carlos Braumann		--	
15:20 – 15:50	Max Souza	Evolution of insecticide resistance	Fernando Carapau	A one-dimensional model for blood flow based on cosserat theory	--	--
15:50 – 16:20	Karola Shaefer	Insect-Proofing of Textiles to Prevent Vector-borne Diseases	Joaquim Correia	Modelling, Analysis and Simulations of Coagulant Fluids	--	--
16:20 – 16:50	Peyman Ghaffari	Avant-garde mosquito repellent Technologies based on nano-technology and micro capsules in combating vector-borne diseases	Marília Pires	A variante of the Oldroyd-B viscoelastic model applied to blood flow	--	--
16:50 – 17:20	Coffee Break					
	Chair: Maíra Aguiar		--		--	
17:20 – 18:10	Sergei Petrovskii	Statistical mechanics of individual animal movement	--			
18:10 – 18:20	Closing					

DSABNS2016