Workshop on Population Dynamics and Mathematical Biology

CIRM Luminy, France

June 16-20 2008

Workshop on Population Dynamics and Mathematical Biology

Program

Monday June 16

9H00-9H15 Opening

9H15-10H00 **Glenn Webb**, *Modeling nosocomial epidemics*

10H00-10H30 **Coffee Break**

10H30-11H15 **Odo Diekmann**, *Inference concerning the spread of antibiotic resistant bacteria in ICU (Intensive Care Units)*

11H15-12H00 **Mary Ann Horn**, *Emergence of Antibiotic Resistance: How Models Can Provide Insight*

12H00-14H00 **Lunch**

14H00-14H45 **Christoph Walker**, *An age and spatially structured population model for Proteus mirabilis swarm-colony development*

14H45-15H30 **Raluca Eftimie**, *Pattern formation in a nonlocal hyperbolic model for animal group movement*

15H30-16H00 **Coffee Break**

16H00-16H45 **Peter Bates**, *Vortex and aster patterns mediated through molecular motors in families of microtubules*

Tuesday June 17

9H15-10H00 **Julien Arino**, *Transmission of the resistance to the pathogen in the vectors of a vector-host disease*

10H00-10H30 **Coffee Break**

10H30-11H15 **Huaiping Zhu**, *Transmission Dynamics of West Nile Virus Disease*

11H15-12H00 **Jean-Christophe Poggiale**, *A geometrical approach for the study of a virus - bacteria system in a chemostat*

12H00-14H00 **Lunch**

14H00-14H45 **Andrea Pugliese**, *A simple model of pathogen-immune dynamics including specific and non-specific immunity*

14H45-15H30 **Suzanne Lenhart**, *Rabies in raccoons discrete time model with grid spatial component*

15H30-16H00 **Coffee Break**

16H00-16H45 **Yasuhiro Takeuchi**, *Avian flu pandemic: Can we prevent it?*

16H45-17H30 **Mats Gyllenberg**, *Evolution of condition-dependent dispersal under kin competition*

Wednesday June 18

8H30-9H15 **Fabien Crauste**, *Modelling stress erythropoiesis*

9H15-10H00 **Thomas Hillen**, *Mathematical modelling of cell movement in fibre tissues*

10H00-10H30 **Coffee Break**

10H30-11H15 **Stéphanie Portet**, *Dynamics of the intermediate filament network assembly*

11H15-12H00 **Vitaly Volpert**, *Cellular modelling of morphogenesis*

12H00-14H00 **Lunch**

14H00-14H45 **Benoît Perthame**, *Adaptive evolution; concentrations in parabolic PDEs and constrained Hamilton-Jacobi equations*

14H45-15H30 **Tomáš Gedeon**, *Models of gene regulation*

15H30-16H00 **Coffee Break**

16H00-16H45 **Jim Cushing**, *A model for the evolution of competitive coexistence*

Thursday June 19

9H15-10H00 **Karl Hadeler**, *The random walk of Azospirillum*

10H00-10H30 **Coffee Break**

10H30-11H15 **Michel Langlais**, *A phenomenological model for predator-prey system posed on non coincident spatial domains*

11H15-12H00 **Robert Stephen Cantrell**, *The effects of human movement on the persistence of vector borne diseases*

12H00-14H00 **Lunch**

14H00-14H45 **Peter Hinow**, *A model for transfer phenomena in structured populations*

14H45-15H30 **Laurent Pujo-Menjouet**, *Cell competition in the bone marrow:a multi-agent approach*

15H30-16H00 **Coffee Break**

16H00-16H45 **Frank Hilker**, *Non-equilibrium coexistence and bistability in an eco-epidemiological model*

17H00-18H00 **Poster Session**

Friday June 20

9H15-10H00 **Arnaud Ducrot**, *Travelling wave solutions for some models in phytopathology*

10H00-10H30 **Coffee Break**

10H30-11H15 **Hans-Otto Walther**, *Algebraic-delay differential systems, state-dependent delay, and temporal order of reactions*

11H15-12H00 **Horst Thieme**, *Spectral bound and reproduction number for infinite population structure*

12H00-14H00 **Lunch**

List of posters

Ivan Demin, *A multi-scale model of erythropoiesis*

Jozsef Farkas, *Structured populations: Stability, immigration and the net growth rate*

Shingo Iwami, *A mathematical design of vector vaccine against autoimmune disease*

Shigehide Iwata, *Does discontinuous reproduction function promote species coexistence?*

Shinji Nakaoka, *Effect of trade-offs between benefit and cost from aggregative behaviour*

Ivo Siekmann, *On competition of predators and infection*