

## First Joint Meeting Brazil Italy in Mathematics

### Session 21-Analytical and Numerical Aspects in Modeling Biological Systems

#### **Schedule:**

#### **Part 1 (September 1 h. 9-12)**

- 1) D. A. Tarzia,  
Cumulative Uptake Formulas in Plant Nutrient and the Temporal Weight Averaged Influx
- 2) C. Kunz et al.,  
Study on the data clustering impact on the diffusion coefficient estimation for ecological problems.
- 3) G. L. Diniz et al.,  
Dispersion of carbonic dioxide in flooded areas: modelling and simulations.
- 4) S. McGinty et al.,  
A mathematical model of cellular drug binding within in-vitro cell culture systems.
- 5) G. Pontrelli,  
A multi-layer model for transdermal drug delivery: analysis and simulation.

#### **Part 2 (September 1 h. 17.30-20)**

- 1) H.M. Yang,  
Vaccination of rubella infection using a series of pulses - Periodic orbits and chaos.
- 2) B. Thome' et al. ,  
Mathematical Modeling of the Control of *Aedes aegypti* with the Introduction of Wolbachia Contaminated Male Mosquitoes.
- 3) T.Y. Miyaoka et al.,  
Zika epidemic: how to avoid an endemic situation.
- 4) F. Lopes,  
A space-dependent bistable model to understand the gene reading mechanism.
- 5) A. Bersani et al.,

## On the Mathematical Justification of the total Quasi-Steady State Approximation in Enzyme Kinetics

### **Part 3 (September 2, h 9-12)**

- 1) J. Fontanari et al.,  
Synergistic effects in the evolution of cooperative behavior.
- 2) A. Colosimo,  
Modeling complex biological events by MAS
- 3) G. Romanazzi et al.,  
Multiscale and Homogenization Models for the Aberrant Crypt Foci
- 4) I. Silva et al.,  
The Use of a kNN classifier to Modelling Fire Risk.
- 5) D. Andreucci et al.,  
Nonlinear modeling of electrical conduction in biological tissues.
- 6) M. Amar et al.,  
Alternating Robin-Neumann boundary value problem as a model for transport through biological membranes.