Modelling Cellular Systems with Applications to Tumour Growth

5-7 September 2006
workshop organized with the support of
Marie Curie Actions - 6th Framework Programme
" Modelling, Mathematical Methods and Computer
Simulation of Tumor Growth and Therapy"

TUESDAY

Kinetic equations

15:00 - 15:20 **V. I. Gerasimenko**
*Mathematical problems of the derivation of nonlinear
kinetic equations*

15:25 - 15:45 **T. Ryabukha**
*Method of regularization of cumulant reprezentation
of solution for BBGKY hierarchy*

15:45 -16:00 Coffee break

Tumor growth

16:00 -16:20 **A. Marciniak-Czochra** (joint work with M. Kimmel)
*Dynamics of growth and signaling along linear and
surface structures in very early tumours*

16:25 -16:45 **M. Aubert** (joint work with M. Badoual, S. Féreol,
C. Christov, B. Grammaticos)
*Modelling the migration of glioma cells with a cellular
automaton*

16:50 -17:10 **M. Bodnar** (joint work with U. Foryś)
*Three models of tumour growth with time delay with
comparison to experimental data*

17:10 -17:25 Coffee break

Kinetic equations

17:25 -17:45 **Z. Artemychenko**
On the kinetic equations of inelastically interacting particles

17:50 -18:10 **V. Shtyk**
*On the solution representations of the initial value problem
to the quantum BBGKY hierarchy*

THURSDAY

Mathematical modelling

15:00 - 15:20   **T. Lorenz**
*Evolution equations for arbitrary shapes – a new tool
of multicellular modelling!?*

15:25 - 15:45   **S.V. Azarina**
On stochastic differential inclusions in mean derivatives

15:50 - 16:10   **M. Ptashnyk**
Modeling of hairy root growth

16:10 -16:25   Coffee break

Phases of tumor biology

16:25 -16:45   **R. Kowalczyk**
*On some Keller-Segel's type models arising from
vasculogenesis model*

16:50 -17:10   **C. Morales-Rodrigo**
On a model related to tissue invasion

17:10 -17:25   Coffee break

Tumor therapy

17:25 -17:45   **M. Albano** (joint work with V. Giorno, C. Saturnino)
Tumor growth: immune response and drug resistance

17:50 -18:10   **N. Kalev-Kronik, U. Foryś** (joint work with Y. Kogan,
V. Vainstein, Z. Agur)
*Mathematical model predicts an effective immunotherapy
for glioblastoma multiforme*