

Polish-Ukrainian Workshop
‘ Mathematical Models of Transport Processes
in Health and Disease’

Maksymovych Scientific Library of the Taras Shevchenko Kyiv
National University, Room 16, Volodymyrska Street, Kyiv

June 13, 2019

Morning Session 10:00–13:00.

Session Chair Prof. Jacek Waniewski.

10:00–10:05 Welcome: *Roman Cherniha*, Head of IAMMP

10:05–10:40 *Joanna Stachowska-Pietka* (Nalecz Institute of Biocybernetics and Biomedical Engineering, PAS, Warsaw): Mathematical modelling of fluid and solute transport through the muscle tissue – a spatially distributed approach

10:40–11:15 *Taras Mel’nyk* (Taras Shevchenko National University of Kyiv): Asymptotic analysis of a mathematical model of the atherosclerosis development

11:15–11:45 **Coffee Break**

11:45–12:20 *Jan Poleszczuk* (Nalecz Institute of Biocybernetics and Biomedical Engineering, PAS, Warsaw): Pulse wave propagation modeling: how characteristics of blood flow can be used to assess the state of cardiovascular system

12:20–12: 55 *Ulyana Lushchyk* (Centre for Technology Transfer "Veritas", Kyiv) Some aspects of clinical and instrumental objectivization dates modelling processes of tissue hydrophilicity with hemodynamic disorders

13:00–14:15 **Lunch.**

Afternoon Session 14:15–17:00.

Session Chair *Prof. Taras Mel'nyk.*

14:15–14:50 *Jacek Waniewski* (Nalecz Institute of Biocybernetics and Biomedical Engineering, PAS, Warsaw): New investigations in the theory of hemodialyzer.

14:50–15:15 *Oksana Satur* (Institute of Mathematics, NASU, Kyiv) Dynamical picture of biological populations with attractive and repulsive interaction

15:15–15:40 **Coffee Break**

15:40–16:15 *Zuzanna Szymańska* (University of Warsaw and Polish Academy of Sciences): Mathematical modelling of intracellular protein dynamics: the importance of the spatial organisation of an eukaryotic cell

16:15–16:50 *Roman Cherniha* (Institute of Mathematics, NASU, Kyiv) Exact and numerical solutions of a generalized mathematical model for fluid and solute transport in peritoneal dialysis

16:50 Final remarks. Farewell coffee.

Organized by:

Scientific Society 'Institute of Applied Mathematics and Mathematical Physics', Kyiv, Ukraine

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