Mathematical Modeling and Computational Physics 2011
Stará Lesná, High Tatra Mountains, Slovakia
July 4–8, 2011

Preliminary Programme

Monday, July 4

8:00–8:50 Breakfast
8:30–9:30 Registration
9:30–9:40 Opening Session

Plenary Lectures

9:40–10:30 Juha Honkonen: *Functional Methods in Stochastic Systems*

10:30–11:00 Coffee Break

11:00–12:10 Volker Friese: *Computational Challenges for the CBM Experiment*

12:10–13:30 Lunch

Parallel Session A

14:00–14:20 Sevastianov Leonid: *Pseudo-Differential Operators in the Operational Model of a Quantum-Mechanical Measurement*

14:20–14:40 Suzko Alina: *Exactly Solvable Models for the Generalized Schrödinger Equations*

14:40–15:00 Zemlyanaya Elena: *Numerical Study of Stationary, Time-Periodic, and Quasi-periodic Two-Soliton Complexes in the Damped-Driven Nonlinear Schrödinger Equation*

15:00–15:20 Grebenikov Evgeni: *On Existence of New Homographic Solution in Space Dynamics*

15:20–15:40 Coffee Break

15:40–16:00 Ayryan Edik: *Mathematical Modeling of Irregular Integrated Optical Waveguides*

16:00–16:20 Daňo Ivan: *Two Notes on Time-Continuous Neurodynamical Systems*

16:20–16:40 Pis'mak Yury: *Piecewise Scaling in a Model of Neural Network Dynamics*

16:40–17:00 Pozdneev Serg: *Application of Faddeev Equation for Calculation of the Different Processes in Nuclear, Atomic and Chemical Physics*

Parallel Session B

14:00–14:20 Korenkov Vladimir: *Grid Activity in Russia and at JINR*

14:20–14:40 Yarevsky Evgeny: *Parallel Numerical Calculations of Quantum Trimer Systems*

14:40–15:00 Knyazkov Dmitri: *Simulation of Holography Using Multiprocessor Systems*

15:00–15:20 Vaľa Martin: *AAF — ALICE Analysis Facility*

15:20–15:40 Coffee Break

15:40–16:00 Zuev Maxim: *Solution to Two-Dimensional Poisson Equation on Multiprocessor Systems with MPI and CUDA Technologies*

16:00–16:20 Tsyganov Yury: *On-line Data Processing in Dubna Gas Filled Recoil Separator Experiments*

16:20–16:40 Lebedev Semen: *Algorithms and Software for Event Reconstruction in the RICH, TRD and MUCH Detectors of the CBM Experiment*

16:40–17:00 Akishina Tatiana: *Application of the $W(k, n)$ Criterion for Particle Identification in the CBM Experiment*

Poster Session

17:10–17:20 D. Grachev, L. Sevastianov, M. Chulkova: *Mathematical Model of Spin Waves due to Spontaneously Broken Symmetry in Graphene Film*

17:20–17:30 K. Lovetsky, L. Sevastianov, A. Hohlov: *Regularization Method of Calculating the Diffraction of Polarized Light on Thin-Film Gratings*

18:00–23:59 Gala Dinner

8:00–8:50 Breakfast

Plenary Lectures

8:50–9:40 Ulrich H.E. Hansmann: *Proteins Studied by Computer Simulations*

9:40–10:30 Viktor D. Lakhno: *Polaron Dynamics in Molecular Chains and DNA Conducting Properties*

10:30–10:50 Coffee Break

10:50–11:40 Chin-Kun Hu: *Toward a Unified Theory for Protein Aggregation Problem*

11:40–12:30 Mai Suan Li: *Steered Molecular Dynamics – a Promising Tool for Drug Design*

12:30–13:30 Lunch

Parallel Session A

14:00–14:20 Tarasevich Yuri: *Component Redistribution in Desiccated Sessile Drops of Biological Fluids*

14:20–14:40 Bencheva Gergana: *Computer Modeling of the Immune System Reconstruction after Peripheral Blood Stem Cell Transplantation*

14:40–15:00 Kožár Tibor: *GPU Computing in Biomolecular Modeling and Nanodesign*

15:00–15:20 Vaľová Lucia: *Modeling of Magnetic Drug Targeting*

15:20–15:40 Coffee Break

15:40–16:00 Tarasevich Yuri: *Jamming Phenomena of (Partially) Ordered Linear k-mers on Square Lattice*

16:00–16:20 Timko Milan: *Cooling Effect of Magnetic Fluid in Power Transformer*

16:20–16:40 Azreg Mustafa: *Benzene Solid-Liquid Interface at High Pressures*

16:40–17:00 Buša Ján: *A Graph Annihilation Problem*

Parallel Session B

14:00–14:20 Adam Sanda: *Floating Point Degree of Precision in Numerical Quadrature*

14:20–14:40 Acatrinei Ciprian Sorin: *A New Discretization Scheme in Field Theory*

14:40–15:00 Dimova Milena: *Comparison of Some Finite Difference Schemes for Boussinesq Paradigm Equation*

15:00–15:20 Ismagilov Timur: *Second Order Finite Volume Scheme for Maxwell's Equations with Discontinuous Media Properties*

15:20–15:40 Coffee Break

15:40–16:00 Ayriyan Alexander: *Numerical Modeling of Heat Conduction in Composite Object with Cylindrical Symmetry*

16:00–16:20 Pavluš Miron: *Numerical Simulation of Heat and Moisture Transfer with account of the Phase Transition*

16:20–16:40 Litavcová Eva: *Exact Solution of a Moisture Drying System with Phase Transition*

16:40–17:00 Bucki Robert: *Modelling of the Parallel Logistic System with Buffer Stores*

18:00–19:00 Dinner

Wednesday, July 6

8:00–8:50 Breakfast

Plenary Lectures

8:50–9:40 Serguey V. Zemskov: *Mathematical Models to Predict the Critical Conditions for Bacterial Self-Healing of Concrete*

9:40–10:30 Adam Gheorghe: *Bayesian Automatic Adaptive Quadrature: an Overview*

10:35 Group Photo

11:00–11:45 Lunch

12:00–17:30 Trip

18:00–19:00 Dinner

Thursday, July 7

8:00–8:50 Breakfast

Plenary Lectures

8:50–9:40 Vladimir V. Kornyak: *Mathematical Modeling of Finite Quantum Systems*

9:40–10:30 Alexander N. Prokopenya: *The Circuit Model of Quantum Computation and its Simulation with Mathematica*

10:30–10:50 Coffee Break

10:50–11:40 Vladimir P. Gerdt: *Consistency of Finite-Difference Approximations to Systems of PDEs and Related Symbolic Computation*

11:40–12:30 Vladimir S. Melezhik: *Multi-Channel Computations in Low-Dimensional Few-Body Physics*

12:30–13:30 Lunch

Parallel Session A

14:00–14:20 Polanski Aleksander: *Study of Proton-Induced Spallation Reactions by the Improved Cascade-Evaporation Model, Quantum Molecular Dynamics Model and Quark-Gluon String Model.*

14:20–14:40 Zlokazov Victor: *Automatic Calibration of Multi-Detector Systems*

14:40–15:00 Rouabah Zahir: *Backscattering Coefficients of Electron Beam at Low Energy Impinging on Al and Cu*

15:00–15:20 Bouzid Abderrazak: *Range-Energy Relationships for Calculating Backscattering Coefficients on Elemental and Binary Semiconductors*

15:20–15:40 Coffee Break

15:40–16:00 Zhabitsky Mikhail: *Parallel Agent-Based Differential Evolution*

16:00–16:20 Zhabitskaya Evgeniya: *Constraints on Control Parameters of Parallel Agent-Based Differential Evolution*

16:20–16:40 Tokár Tomáš: *Agent Based Analyses of Financial Data*

16:40–17:00 Buša Jr. Ján: *Prediction of Financial Markets using Agent-Based Modeling with Optimization driven by Statistical Evaluation of Historical Data*

Parallel Session B

14:00–14:20 Atanasova Pavlina: *Numerical Study of Fluxon Solutions of Sine-Gordon Equation under the Influence of the Boundary Conditions*

14:20–14:40 Shukrinov Yury: *Simulation of Current Voltage Characteristics of Intrinsic Josephson Junctions in HTSC.*

14:40–15:00 Gaafar Mahmoud: *Simulation of Shapiro Steps in Current-Voltage Characteristics of Intrinsic Josephson Junctions in High Temperature Superconductors HTSC*

15:00–15:20 Rahmonov Ilhom: *Mathematical Modeling of Intrinsic Josephson Junctions with Capacitive and Inductive Couplings*

15:20–15:40 Coffee Break

18:00–23:59 Banquet

Friday

8:00–9:00 Breakfast

Session A

9:00–9:20 Gulitskiy Nikolay: *Two-Loop Calculation of the Anomalous Exponents in the Kazantsev-Kraichnan Model of Magnetic Hydrodynamics*

9:20–9:40 Lučivjanský Tomáš: *On the Mathematical Modeling of the Annihilation Process*

9:40–10:20 Coffee Break

10:20–10:40 Ostertagová Eva: *Note on Central Exponents*

10:40–11:00 Schrötter Štefan: *On the Crossing Numbers of Join Products*

11:00–11:20 Closing Session

11:30–13:00 Lunch