



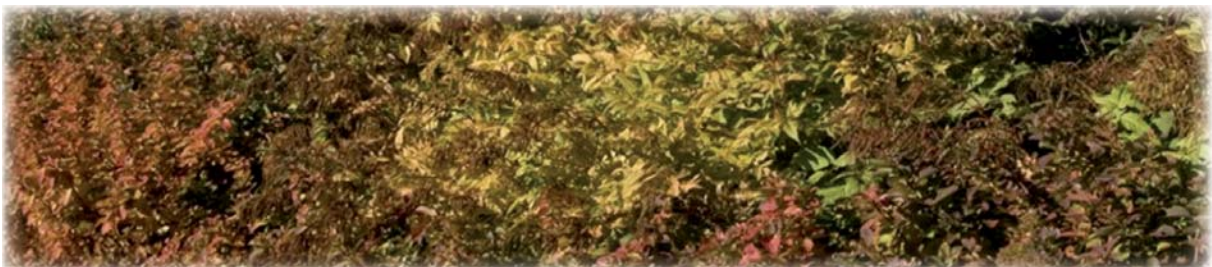
Programme

International Workshop

Mathematical and Numerical Modelling in Science and Technology

**November 18–20, 2010
University of Jyväskylä, Finland**

Workshop dedicated to the memory of Prof. V. Rivkind



Timetable

Thursday 18th November

Agora Aud 2

9:30 Registration and coffee

10:00 Pekka Neittaanmäki, Jyväskylä
Welcome Address

Session 1: 10:15–12:00 Chairman Pekka Neittaanmäki

10:15 Leonid Rukhovets, St.-Petersburg
Construction and Application the Mathematical Models for Great European
Lakes Ladoga and Onego

10:50 Vladislav Pukhnachev, Novosibirsk
Modeling of Three Dimensional Convective Motions in Long Tubes on the Base
of Two dimensional Initial Boundary Value Problems

11:25 Nikita Morozov, St.-Petersburg
The Surface Effects and Nanotechnology

12:00 Lunch break

Session 2: 13:30–15:15 Chairman Leonid Rukhovets

13:30 Roland Glowinski, Houston
A Least-Squares/Finite Element Method for the Numerical Solution of the
Navier-Stokes-Cahn-Hilliard System Modeling the Motion of the Contact Line

14:05 Sergey Repin, Jyväskylä / St.-Petersburg
Mathematical Problems with Linear Growth Energy Functionals: Numerical
Methods, A Priori and A Posteriori Estimates.

14:40 Jacques Periaux, Jyväskylä
Multi Objective Design of High Lift Systems Using Evolutionary Algorithms and
Games Coalition

15:15 Coffee break

Session 3: 15:45–17:30 Chairman Sergey Repin

15:45 E. L. Tarunin, Perm
The Model of Convective Vortex in Rotating Vessel

16:20 Olli Mali, Pekka Neittaanmäki, Sergey Repin, Jyväskylä
Indeterminant Data in Problems of Continuum Mechanics

16:55 Albert L. Stasenko, Moscow
Icing of a Body Moving in a Supercooled Cloud (World Experience in Physics and
Numerical Modeling and Some New Conceptions)

17:30 Cocktail

Timetable

Friday 19th November

Agora Beeta

Session 4: 9:00–10:45 *Chairman Roland Glowinski*

9:00 *Galina Levina, Perm*
How a Concept of Helicity can be Applied to Tropical Cyclone Investigations

9:35 *Olga Lavrenteva, Haifa*
Simulation of Motion and Deformation of Viscoplastic Drops and Shells in a Viscous Fluid

10:10 *Jari Hämäläinen, Lappeenranta*
Depth-averaged CFD Models in Industrial Optimization Tools

10:45 **Coffee break**

Session 5: 11:15–13:00 *Chairman Boris Chetverushkin*

11:15 *Dmitri Kuzmin, Erlangen*
High-resolution Finite Element Schemes for Convection-dominated Flows

11:50 *Alexei Heintz, Gothenburg*
On Generalised Curvature and Willmore Flows by a Convolution - Thresholding Method

12:25 *Boris Epstein, Tel Aviv-Yafo*
Multi-Accuracy Approach to Large-Scale Aerodynamic Simulations

13:00 **Lunch break**

Session 6: 14:30–17:20 *Chairman Jacques Periaux*

14:30 *Boris Chetverushkin, Moscow*
Hybrid Computing System and Its Applications

15:05 *Mikhail Anolik, St. Petersburg*
Calculation of Rarefied Gas Flow around Rough Bodies

15:40 **Coffee break**

16:10 *Heikki Haario, Lappeenranta*
Closure Parameters of Large Scale Models

16:45 *Pekka Neittaanmäki, Jyväskylä*
Impact of Valery Rivkind's Research in University of Jyväskylä

17:20 **End of the presentations**

19:00 **Dinner**

Minisymposium - Analytical-numerical Methods for Investigation of Oscillations

Timetable **Saturday 20th November** **Agora Beeta**

10:00 **Opening words**

Session 7: 10:10–12:30 *Chairmen Pekka Neittaanmäki, Gennady Leonov and Nikolay Kuznetsov*

10:10 *V.O. Bragin, Nikolay Kuznetsov, Jyväskylä, Gennady Leonov, St.-Petersburg, V.I. Vagaitsev*
**Analytical-numerical Methods for the Localization of Hidden Oscillations:
Aizerman and Kalman Problems, Hidden Attractor in Chua Circuits**

10:30 *Nikolay Kuznetsov, Gennady Leonov, Pekka Neittaanmäki, Svetlana Seledzhi, Marat
Yuldashev, Jyväskylä, Renat Yuldashev, Jyväskylä*
Nonlinear Analysis of Phase-locked Loop

10:50 *Olga Kuznetsova, Jyväskylä, Gennady Leonov, Pekka Neittaanmäki*
**Computational Methods of Limit Cycles Investigation of Two-dimensional
Dynamical Systems**

11:10 **Coffee break**

11:50 *Gennady Leonov, Elena Solov'eva, Jyväskylä, Alexandr Zarezky, Jyväskylä*
Estimation of a Limit Load for Synchronous Machines

12:10 *Maria Kiseleva, Jyväskylä, Gennady Leonov*
Mathematical Problem for Drilling System

12:30 End of the workshop

List of Lecturers and Participants

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Minisymposium

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