



Program

AMMODIT and final EUMLS
Workshop

Mathematics for Life Sciences

Hasenwinkel, March 07 – 11, 2016

Program

Monday, March 07

16.15 - 16.30 **Conference opening**

Chair: Jürgen Prestin

16.30 - 17.00 **Sergei Pereverzyev**

Multi-penalty regularization in reconstruction of causality network

17.00 - 17.20 **Pavlo Tkachenko**

Prediction of Nocturnal Hypoglycemia by an Aggregation of Previously Known Prediction Approaches

17.20 - 17.40 **Galyna Kriukova**

Nyström type subsampling analyzed as a regularized projection

17.40 - 18.00 **Viktoriia Bilet**

Boundedness of Lebesgue Constants and Porosity

Tuesday, March 08

Chair: Sergei Pereverzyev

- 09.00 - 09.30 **Frank Filbir**
Mathematics of photoacoustic tomography
- 09.30 - 09.50 **Michael Münter**
Resolution and contrast of an optical full-field holographic system for fast non-contact Photoacoustic Tomography
- 09.50 - 10.10 **Christian Buj**
Speckle-based off-axis holographic detection for non-contact Photoacoustic Tomography
- 10.10 - 10.30 **Yevgeniya Sulema**
Brain tissue image adjustment method
- 10.30 - 11.00 **Coffee break**
- Chair: Karsten Keller
- 11.00 - 11.30 **Wolfgang Erb**
Multivariate interpolation on Lissajous-Chebyshev nodes and applications in Magnetic Particle Imaging
- 11.30 - 11.50 **Ievgen Verbytskyi**
Approximations of the Langevin function for a compact computation of the spectrum in Magnetic Particle Imaging
- 11.50 - 12.10 **Tetiana Lomako**
On growth of Lebesgue constants for convex polyhedra
- 12.10 - 12.30 **Yurii Kolomoitsev**
New inequalities for moduli of smoothness in L_p , $0 < p < 1$
- 12.30 - 14.30 **Lunch**

Tuesday, March 08

Chair: Dirk Langemann

14.30 - 15.00 **Illia Karabash**
Concentration inequalities for random Fourier series and related questions

15.00 - 15.20 **Vasyl Semenov**
Method of Blind Source Separation for QPSK signals

15.20 - 15.40 **Nadiia Derevianko**
One orthogonal trigonometric Schauder basis and local Besov spaces

15.40 - 16.00 **Vitalii Myroniuk**
Orthogonal trigonometric Schauder basis in the space $C(\mathbb{T}^2)$

16.00 - 16.30

Coffee break

Chair: Nataliya Vasylyeva

16.30 - 17.00 **Andreas Rößler**
Strong SRK methods for SDAEs of index 1 with scalar noise

17.00 - 17.20 **Andrii Shydlich**
Nonlinear approximation of the classes $\mathcal{F}_{q,r}^\psi$ of functions of several variables in L_p

17.20 - 17.40 **Serhii Stasyuk**
Nonlinear trigonometric approximation for functions with generalized mixed smoothness

17.40 - 18.00 **Sergiy Yanchenko**
Approximation of functions from Nikol'skii–Besov type classes of generalized mixed smoothness

Wednesday, March 09

Chair: Igor Nesteruk

- 09.00 - 09.30 **Alberto Redaelli**
In vitro and in silico evaluation of the Mitraclip® system
- 09.30 - 09.50 **Simone Vesentini**
Collagen Ageing form a Molecular Perspective
- 09.50 - 10.10 **Matteo Selmi**
Aortic Root Biomechanics Following David and Sleeve Procedures: A Finite Element Analysis
- 10.10 - 10.30 **Alessandro Caimi**
Finite Element Simulation of a Transcatheter Aortic Valve Implantation

10.30 - 11.00 **Coffee break**

Chair: Alberto Redaelli

- 11.00 - 11.30 **Igor Nesteruk**
Cooperation between Politecnico di Milano and the Institute of Hydromechanics NASU in the EUMLS Project Framework
- 11.30 - 11.50 **Lidiia Tereshchenko**
Application of the hydrodynamics - based algorithm for segmentation of aorta, pulmonary artery, left and right ventricles with the use of 4D MRI data
- 11.50 - 12.10 **Igor Tereshchenko**
Construction of spatial model of cervical vessels based on MRI images
- 12.10 - 12.30 **Oleksandr Rudnytskyi**
3D segmentation and denoising of anatomical structures via fractal and morphological filtering

12.30 - 14.30 **Lunch**

14.30 **Excursion to Schwerin**

Thursday, March 10

Chair: Taras Mel'nyk

- 09.00 - 09.30 **Karsten Keller**
Dynamical Structure, Entropy and Data: Approaches and Perspectives
- 09.30 - 09.50 **Andrey Pilipenko**
On a selection problem for small noise perturbation of unstable dynamical systems
- 09.50 - 10.10 **Valeriya Naumova**
Conditions on optimal support recovery in unmixing problems by multi-penalty regularization
- 10.10 - 10.30 **Albert Piek**
A distance measure for ordinal patterns
- 10.30 - 11.00 **Coffee break**
- Chair: Alexandra Antoniouk
- 11.00 - 11.30 **Taras Mel'nyk**
Asymptotic approximations of solutions to boundary-value problems in thin aneurysm-type domains
- 11.30 - 11.50 **Nataliya Vasylyeva**
Analytical and numerical study of the moving boundary problem with a time-fractional derivative in drug release devices
- 11.50 - 12.10 **Evgeniya Semenova**
Informational efforts for solving severely ill-posed problems
- 12.10 - 12.30 **Evgeniy Petrov**
Rigidity of finite ultrametric spaces
- 12.30 - 14.30 **Lunch**

Thursday, March 10

Chair: Oleg Chertov

- 14.30 - 15.00 **Vladimir Voskoboinick**
Pressure fluctuations and vibrations beneath the bileaflet mitral valve for a diastolic cycle
- 15.00 - 15.20 **Vitalii Overko**
Features of the blood flow in the curved vessels and the arterial bifurcation
- 15.20 - 15.40 **Ihor Kudybyn**
The comparison of the efficiency of human motion (running, swimming, skiing, skating, cycling and rowing)
- 15.40 - 16.00 **Sergii Siryk**
Weight functions and computational schemes of the Petrov-Galerkin FEM for convection-diffusion problems

16.00 - 16.30 **Coffee break**

Chair: Valeriya Naumova

- 16.30 - 17.00 **Anna Kyselova**
Context-Aware Approach for Management System
- 17.00 - 17.20 **Tetiana Katrii**
Characterization of acetylation of coagulation Factor II through a chromogenic assay
- 17.20 - 17.40 **Gabriela Fernandez**
Modeling of material and energy flows in the Metropolitan City of Milan, Italy using urban metabolism approaches