



School - Conference, Approximation and Data Analysis

September 30 – October 04, 2019

National Research University Higher School of Economics,
Nizhny Novgorod

Organizers

Laboratory of High-Dimensional Approximation and Applications of the Lomonosov Moscow State University (MSU)

Laboratory of Algorithms and Technologies for Network Analysis of National Research University Higher School of Economics (LATNA)

Keldysh Institute of Applied Mathematics of Russian Academy of Science (IPM)

Sponsors: EPAM Systems

Partners: INTEL, Huawei



Wi-fi connection: hse

Login: hseguest

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Co-Chairs of the school-conference:

Vladimir Temlyakov, University of South Carolina, USA and MSU

<http://imi.cas.sc.edu/people/vladimir-temlyakov/>

Panos Pardalos, University of Florida, USA and HSE

<http://www.ise.ufl.edu/pardalos/>

Alexander Aptekarev, Keldysh Institute of Applied Mathematics of RAS

<http://www.keldysh.ru/>

Organizing Committee:

Chair of the organizing committee:

Boris Kashin, Russian Academy of Science, Steklov Mathematical Institute and MSU

Members:

Sergey Konyagin, MSU

Valery Kalyagin, HSE Nizhny Novgorod

Yury Orlov, Keldysh Institute,

Timur Medvedev, HSE Nizhny Novgorod

Konstantin Rjutin, MSU

Alexander Kuleshov, MSU

Sunday, September 29

Arrival of participants

Monday, September 30

HSE, 25 Bolshaya Pecherskaya street, Room 125.

09:30 - 10:00 Registration of participants

10:00 - 10:45 Evgeny Burnaev (Skoltech)

Latent Convolutional Models for Image Restoration

10:45 -11:00 Coffee break

11:00 - 11:45 Evgeny Burnaev (Skoltech)

Latent Convolutional Models for Image Restoration

11:50 - 12:35 Alexey Aleshin (EPAM)

Deep Learning appliance for sensitive data

12:40 - 13:25 Denis Grachev (EPAM)

Predictive maintenance

13:25 -14:30 Lunch at the HSE cafeteria

14:30 - 15:00 Peter Oswald

Convergence of stochastic subspace correction methods and fault tolerance

15:00 – 15:30 Tino Ullrich *Uniform recovery guarantees for least squares approximation*

15:30 – 16:00 Coffee break

16:00 – 16:30 Sergey Astashkin *Representing Systems of Dilations and Translations of a Function in Symmetric Spaces*

16:30 -17:00 Petr Borodin

Greedy Algorithm with Respect to Asymmetric Dictionary may Diverge

17:00 – 17:30 Viktor Buslaev *About multipoint Schur criteria*

18:00 - 19:00 Reception at the University cafeteria (for the conference participants only)

Tuesday, October 01

HSE, 25 Bolshaya Pecherskaya street, Room 125.

10:00 -10:50 Peter Richtarik (KAUST and University of Edinburg)

Stochastic Gradient Descent

10:50 -11:10 Coffee break

11:10 -12:00 Peter Richtarik (KAUST and University of Edinburg)

Stochastic Gradient Descent

12:10 -13:00 Daniil Osokin (INTEL)

Human pose estimation

13:00 -14:30 Lunch at the HSE cafeteria

14:30 - 15:00 Peter Richtarik

Stochastic Gradient Descent

15:00 – 15:30 Andre Uschmajew

Chebyshev polynomials and best rank-one approximation ratio

15:30-16:00 Coffee break

16:00 – 16:30 Yury Malykhin

Low-rank approximation of some matrices

16:30 -17:00 Georgy Magaril-Ilyaev

Some Problems of Optimal Recovery of Linear Operators

Wednesday, October 02

No lectures and conference talks

Cultural program for the conference participants (08:30 – 13:00)

13:00 -14:00 Lunch at the HSE cafeteria (for the conference participants only)

HSE, 25 Bolshaya Pecherskaya street, Room 125.

Thursday, October 03

HSE, 25 Bolshaya Pecherskaya street, Room 125.

10:20 - 11:10 Andrew Barron

Approximation and cover properties of learning networks

11:10 - 11:30 Coffee break

11:30 - 12:00 Maria Skopina

Approximation by Quasi-Projection Operators and Fourier Multipliers

12:00 – 12:30 Dmitry Gorbachev

Logan Type Uncertainty Principle for Bandlimited Functions

12:30 -13:00 Irina Limonova

Some Estimates of Submatrix Norms

13:00 -14:30 Lunch at the HSE cafeteria

14:30 – 15:00 Konstantin Ryutin

Measurement matrices of integers with small elements

15:00 – 15:30 Dinh Zhung

Sparse-grid Polynomial Interpolation Approximation and Integration for Parametric and Stochastic Elliptic PDEs with Lognormal Inputs

15:30 - 16:00 Coffee break

16:00 – 16:30 Alexander Kuleshov

Finite sums of ridge functions on convex sets

Friday, October 04

HSE, 25 Bolshaya Pecherskaya street, Room 125.

10:00 -10:50 Andrew Barron (Yale University)

Complexity and risk properties of deep nets

10:50 -11:10 Coffee break

11:10 -12:00 Andrew Barron (Yale University)

The role of information theory in deep net analysis

12:10 – 13:00 Alexey Sidnev (Huawei and Lobachevsky State University),

Fashion AI: One-Shot Clothing Detection

13:00 -14:00 Lunch at the HSE cafeteria

14:00 -14:50 Sergey Nikolenko (St Petersburg branch of Steklov Institute)

Synthetic data in deep learning

14:50 -15:10 Coffee break

15:10 -16:00 Sergey Nikolenko (St Petersburg branch of Steklov Institute)

Synthetic data in deep learning

16:10 -17:00

Nikolai Zolotykh (Lobachevsky State University)

Machine Learning in Electrocardiogram Diagnosis

Saturday, October 05

Departure of participants