

X International Petrozavodsk conference
“Probabilistic methods in discrete mathematics”

May 22 – 26, 2019

PROGRAMME

Petrozavodsk

May 22, 2019

14:00 – 18:00

Registration

*Karelian Research Centre (Pushkinskaya st., 11),
hall of IAMR* (room 311) – right wing of KRC RAS
building*

Регистрация участников конференции

*Карельский научный центр (ул. Пушкинская, 11),
зал ИПМИ (комн. 311) – правое крыло здания КарНЦ
(корпус ИЯЛИ)*

Conference venue: right wing of KRC RAS building.

Заседания конференции будут проходить в правом крыле здания КарНЦ (корпус ИЯЛИ).

Plenary sessions will be held in the hall of the Institute of Linguistics, Literature and History (hall of ILLH).**

Пленарные заседания будут проходить в зале Института Языка, Литературы и Истории (зал ИЯЛИ).

Contributed sessions will be held in halls of ILLH and IAMR.

Секционные заседания будут проходить в залах ИПМИ и ИЯЛИ.

* IAMR – Institute of Applied Mathematical Research

** ILLH – Institute of Linguistics, Literature and History

May 23, 2019

8:30 – 12:40 **Registration**
hall of IAMR (room 311)

Plenary session P1: *hall of ILLH (room 213)*

Chair: *Vladimir V. Mazalov*

9:30 – 9:50 **Opening ceremony**

9:50 – 10:30 **Gyula O.H. Katona**
The domination number of the graph defined by two levels of the n -cube

10:30 – 11:10 **Andrei M. Zubkov**
Limit theorems connected with algorithms of random elements of groups construction

Coffee-break: 11:10 – 11:40

Plenary session P2: *hall of ILLH (room 213)*

Chair: *Andrei M. Zubkov*

11:40 – 12:10 **Vladimir V. Mazalov**
Game-theoretic analysis of communication networks

12:10 – 12:40 **Yuri L. Pavlov**
On clustering coefficient of configuration graphs

Lunch time: 12:40 – 14:40

Contributed session C1: *hall of IAMR (room 311)*

Chair: *Gyula O.H. Katona*

- 14:40 – 15:00 **Attila Sali**, P. Boyvalenkov
New bounds on Armstrong codes
- 15:00 – 15:20 **Krisztián Tichler**
Search with big lies depending on the target
- 15:20 – 15:40 **Ruslana S. Nekrasova**
Multi-class model with general retrials: stability analysis
by simulation
- 15:40 – 16:00 **Alexander S. Rumyantsev**, Garimella Rama Murthy
Steady-state analysis of cognitive radio model by state
space expansion
- 16:00 – 16:20 **Marina M. Leri**
Some structure characteristics of power-law
configuration graphs

Contributed session C2: *hall of ILLH (room 213)*

Chair: *Miklós Simonovits*

- 14:40 – 15:00 **Aleksey K. Alekseev**
Aposterior estimate of the discretization error on the
solution ensemble and the effect of concentration
measure
- 15:00 – 15:20 **Svetlana N. Popova**
Spectra for bounded quantifier depth first-order
formulae for random hypergraphs
- 15:20 – 15:40 **Yury A. Demidovich**
Property B_k -problem for uniform simple hypergraphs
- 15:40 – 16:00 **Danila D. Cherkashin**
Inducibility of paths in hypergraph colorings
- 16:00 – 16:20 **Dmitry B. Efimov**
Probabilistic method for estimating hafnian by the
example of one class of Toeplitz matrices

Coffee-break: 16:20 – 16:40

Contributed session C3: *hall of IAMR (room 311)*

Chair: *Alexander V. Kolnogorov*

- 16:40 – 17:00 **Nikita V. Alexeev**
Number of trees in a random graph and Fuss-Catalan numbers
- 17:00 – 17:20 **Alexandra V. Borodina**, K.E. Avrachenkov, N.A. Necheporenko
Splitting method for simulation in large graphs
- 17:20 – 17:40 **Alexander S. Semenov**, D.A. Shabanov
On the weak chromatic number of random hypergraphs
- 17:40 – 18:00 **Aliaksei S. Semchankau**
Multiplicative graphs and their application to the equation $n - \varphi(n) = c$

Contributed session C4: *hall of ILLH (room 213)*

Chair: *Aleksey K. Alekseev*

- 16:40 – 17:00 **Ilya A. Chernov**, E.E. Ivashko
Optimal search with recognition error probability
- 17:00 – 17:20 **Aleksandr A. Serov**, A.M. Zubkov
The power of a subset image in composition of random mappings of a finite set
- 17:20 – 17:40 **Andrei V. Kolchin**
Some aspects of the development of a generalized allocation scheme
- 17:40 – 18:00 **Taisia E. Morozova**, E.V. Morozov, Dimitriou Ioannis
A multiclass retrial system with coupled orbits and mixed service interruptions
- 18:00** **Welcome reception**
ground floor of ILLH

May 24, 2019

9:00 – 12:50 **Registration**
hall of IAMR (room 311)

Plenary session P3: *hall of ILLH (room 213)*

Chair: *Alexandre N. Tikhomirov*

10:00 – 10:40 **Miklós Simonovits**
Stability methods in extremal graph theory

10:40 – 11:20 **Andrei M. Raigorodskii**
Colorings of random subgraphs

Coffee-break: 11:20 – 11:50

Plenary session P4: *hall of ILLH (room 213)*

Chair: *Yuri L. Pavlov*

11:50 – 12:20 **Dmitry A. Shabanov**
Probability thresholds for coloring properties of random graphs and hypergraphs

12:20 – 12:50 **Grigory A. Kabatyansky, E.E. Egorova**
Colored cover-free set systems and their generalization

Lunch time: 12:50 – 14:50

Contributed session C5: *hall of IAMR (room 311)*

Chair: *Dmitry A. Shabanov*

- 14:50 – 15:10 **Arkadiy B. Skopenkov**
Invariants of graph drawings in the plane
- 15:10 – 15:30 **Aleksey N. Chuprunov**, D.E. Chickrin, P.A. Kokunin
Limit theorems in non-homogenous generalized
allocation scheme
- 15:30 – 15:50 **Alexander V. Kolnogorov**
Universal strategies in one-armed bandit problem and
optimization of big data processing
- 15:50 – 16:10 **Stanislav A. Kruglik**
On secret sharing schemes in distributed storage systems
- 16:10 – 16:30 **Irina A. Cheplyukova**
On maximum vertex degree in the configuration model

Contributed session C6: *hall of ILLH (room 213)*

Chair: *Morozov Evsey V.*

- 14:50 – 15:10 **Alexander V. Ivanov**
On approximation of probability measures by measures
with finite support
- 15:10 – 15:30 **Alexey D. Yashunsky**
On necessary conditions for the algebraic approximation
of random variables on finite sets
- 15:30 – 15:50 **Andrey V. Sokolov**, E.A. Aksenova
On optimal control of a parallel priority queue
- 15:50 – 16:10 **Andrey V. Sokolov**, A.A. Lazutina
On optimal control of dequeues in two-level memory
- 16:10 – 16:30 **Anna A. Ivashko**
Best-Choice game with incomplete information and two
stops

May 25, 2019

Plenary session P5: *hall of IAMR (room 311)*

Chair: *Andrei M. Raigorodskii*

- 10:00 – 10:40 **Alexandre N. Tikhomirov**
Local limit theorems for sample covariance matrices
- 10:40 – 11:20 **Dmitry N. Zaporozhets, Z. Kabluchko**
Angles of random polyhedra

Coffee-break: 11:20 – 11:50

Plenary session P6: *hall of IAMR (room 311)*

Chair: *Dmitry N. Zaporozhets*

- 11:50 – 12:20 **Alexandr A. Polyanskii, F.K. Nilov**
Sylvester-Gallai-type theorems for vectors
- 12:20 – 12:50 **Anna N. Rettieva**
Dynamic multicriteria games

Lunch time: 12:50 – 14:50

Contributed session C7: *hall of IAMR (room 311)*

Chair: *Aleksey N. Chuprunov*

- 14:40 – 15:00 **Maksim P. Savelov**
The law of large numbers for the number of non-appeared non-intersecting chains in Bernoulli scheme
- 15:00 – 15:20 **Nikolay D. Moskin**, A.A. Rogov
Attributes of distribution of vertex degrees of graph-theoretic models of texts
- 15:20 – 15:40 **Sergey V. Stafeev**
Parametric identifiability of structural equation models with latent variables
- 15:40 – 16:00 **Elena V. Khvorostyanskaya**
On second degrees of configuration graph vertices

Contributed session C8: *hall of ILLH (room 213)*

Chair: *Alexandr A. Polyanskii*

- 14:40 – 15:00 **Natalia N. Nikitina**, V.V. Mazalov, A.A. Pechnikov
On communities in communication graphs
- 15:00 – 15:20 **Natalia N. Nikitina**
A potential in the congestion game for virtual drug screening based on Desktop Grid
- 15:20 – 15:40 **Ksenia A. Zhukova**
Large deviations in single-server retrieval queues
- 15:40 – 16:00 **Vasily V. Gusev**
Two-step pricing game on a graph
- 16:05 – 16:15** **Conference closing** (*hall of ILLH – room 213*)
- 19:00** **Conference dinner in a restaurant “Fregat”**
address: Karl Marks st., 1

May 26, 2019

Excursions' day