

Problems in Theoretical Computer Science 2019

HSE, Pokrovsky Boulevard, 11

Friday, November 29, 2019

11:30-12:00 Welcome coffee (room **G408**)

12:00 -12:40 Dmitry M. Itsykson, PDMI RAS (room **G410**)
Bounded-depth Frege complexity of Tseitin formulas for all graphs

12:50-13:30 Edward A. Hirsch, PDMI RAS (room **G410**)
Semialgebraic vs algebraic proofs: upper bounds

13:30-14:10 Yaroslav Alexeev, SPbU (room **G410**)
Semialgebraic vs algebraic proofs: lower bounds

14:10-15:30 Lunch

15:30-16:10 Oleg Merkurev, UrFU (room G410)
Searching Runs in Streams

16:10-16:50 Artur Ryazanov, PDMI RAS (room **G410**)
Almost tight lower bounds on regular resolution refutations of Tseitin Formulas for constant-degree graphs.

16:50-17:20 Coffee break(room **G408**)

17:20-18:00 Svyatoslav Gryaznov, PDMI RAS (room **G410**)
Resolution over linear equations: lower bounds on Ordering and Dense Linear Ordering principles

Saturday, November 30, 2019

11:00-11:40 Dmitriy Zhuk, MSU (room **R506**)
On the Complexity of the Quantified Constraint Satisfaction Problem

11:40-12:10 Coffee break (room **S831**)

12:10-12:50 Alexey Milovanov, HSE(room **R506**)
Polynomial Identity Testing and Sylvester-Gallai theorem

12:50-13:30 Alexander Rubtsov, HSE (room **R506**)
A Computational Model for Parsing Expression Grammars

13:30-15:00 Lunch

15:00 -15:40 Alexander Shen, LIRMM, CNRS (room **R506**)
Randomness tests and generators

15:40-16:20 Alexander S. Kulikov PDMI RAS (room **R506**)
Collapsing Superstring Conjecture

16:20-16:50 Coffee break (room **S831**)

16:50-17:30 Arseny Shur, UrFU (room **R506**)
Factor complexity vs power avoidance in infinite words

Sunday, December 1, 2019

11:00-11:40 Ivan Petrenko, MSU (room **R504**)
An improvement of the upper bound for Gilmer-Koucký-Saks communication game

11:40-12:10 Coffee break (R506)

12:10-12:50 Dmitry Kosolobov, UrFU (room **R504**)
Lower bounds for succinct data structures

12:50-13:30 Dmitry Sokolov, KTH Royal Institute of Technology (room **R504**)
(Semi)Algebraic Proofs over $\{-1, +1\}$ Variables

13:30-15:00 Lunch

15:00-15:40 Mikhail Volkov, UrFU (room **R504**)
Computational Complexity of Synchronization under Regular Constraints

15:40-16:20 Alexander V. Smal, PDMI RAS (room **R504**)
Universal trees for communication protocols and De Morgan formulas

16:20-16:50 Coffee break (room **R506**)

16:50-17:30 Alexander Kozachinskiy, HSE (room **R504**)
An application of communication complexity, Kolmogorov complexity and extremal combinatorics to parity games.