

The International Conference *Polynomial Computer Algebra*

April 18-22, Russia, Saint-Petersburg, Euler International Mathematical Institute

April 18

10.00—11.00 **Registration, coffee**

11.00—11.10 **Opening the conference**

11.10—12.00 **Vladimir V. Kornyak** Emergence of quantum structures in permutation dynamics

12.00—12.40 **Nikolai V. Proskurin** Short history of the field of characteristic 1

12.40—13.30 **Gaiane Panina** Oriented area is a perfect Morse function

13.30—15.00 **Lunch**

15.00—15.40 **Alexander Tiskin** Efficient parallel string comparison

15.40—16.10 **Sergei D. Meshveliani** Provable programming of algebra: particular points, examples

16.10—16.40 **Coffee break**

16.40—17.25 **Maxim Karev** Universal finite-type invariant of plane curves

17.25—18.00 **Alexander Batkhin** Parametric Representation of the Resonance Set of Polynomial

18.30 WELCOME PARTY

April 19

10.00—10.50 **Mark Spivakovsky** John Nash's contributions to algebraic geometry

11.00—11.30 **Coffee break**

11.30—12.25 **V.Gerdt, A.Khvedelidze and Yu. Pali** On the ring of local unitary invariants for mixed X-states of two qubits

12.30—13.00 **A. Khvedelidze and A.Torosyan** On the separability of 2-qubit X-states

13.00—15.00 **Lunch**

15.00—15.30 **Alexandr V. Seliverstov** On Cubic Hypersurfaces with Involutions

15.30—16.00 **Alexei Yu. Uteshev and Ivan Baravy** Hankel polynomials in the interpolation problems

16.00—16.30 **Coffee break**

16.30—17.00 **Sergey Baranov** Software Simulation as a Means to Estimate Feasibility of Real-Time Software Applications

17.00—17.30 **Andrei Malyutin** Coloring triangulated surfaces

17.30—18.00 **Fedor Petrov** Divided Symmetrization of Polynomials

April 20

10.00—10.50 **Dima Grigoriev** Tropical Differential Equations

10.50—11.20 **Coffee break**

11.20—12.00 **Nikita Gogin and Mika Hirvensalo** On the Generating Function of Discrete Chebyshev Polynomials

12.00—12.45 **Stesik O.L. and Slavyanov S.Yu.** Maple package generating Painleve equations

12.45—13.15 **Ilya Krepkiy** Construction of automorphisms of 3-ary necklaces

13.00—15.00 **Lunch**

15.00—15.45 **Semjon Adlaj** Dzhanibekov's flipping nut and Feynman's wobbling plate

15.45—16.15 **Mikhail D. Malykh** On M.N. Lagutinski method for integration of ordinary differential equations

16.10—16.40 **Slavyanov S.Yu., Satco D.A.** *Generation and annihilation of apparent singularities*

16.40—17.10 **Coffee break**

17.10—17.40 **Yu. A. Blinkov, V.P. Gerdt and A. V. Mesyanzhin** Generation of finite-difference approximations to differential systems by using the package SymPy

17.40—18.10 **P. V. Fokin and Yu. A. Blinkov** SymPy-ready algorithm for solving SAT problems using algebraic approach and ZDDs

18.30

Chamber music Concert. Euler Institute

April 21

10.00—10.40 **Alexander L. Chistov** Extension of the Newton--Puiseux algorithm to the case of a nonzero characteristic ground field

10.40—11.30 **Nikolai Vavilov** Bhargava higher composition laws, exceptional groups, and computer algebra

11.30—11.50 **Coffee break**

11.50—12.30 **Dmitry Pavlov and Nikolay Vassilyev** On the computational complexity of the three-body initial value problem

12.30—13.00 **Yu. A. Blinkov, V.P. Gerdt and K. B. Marinov** Computer algebra aided generation of difference approximations to quasilinear evolution equations

13.00—14.30 **Lunch**

**Bus Excursion around St.Petersburg and visit to Peter and Paul Fortress.
The bus will start from the Andersen hotel at 14:30**

19.00 — Banquet

April 22

10.00—10.40 **David Jeffrey** Integration of rational polynomial expressions in Rubi

10.40—11.10 **Vasilii Duzhin and Nikolay Vassilyev** Growth and oscillations of normalized dimensions of standard and strict Young diagrams.

11.10—11.40 **Coffee break**

11.40—12.20 **Mikhail V. Babich** Birational coordinates on nilpotent coadjoint orbits of $SO(N,C)$

12.10—12.40 **Ilya Posov** Mathematical tasks with verifiable parametrized answers

12.40—13.00 **Sergei Pozdniakov and Vasilii Akimushkin** Tools for supporting of competitions and Olympiads

13.00—15.00 **Lunch**

15.30—17.00 **Victor Edneral** On the Application of Modular Arithmetic for Cumbersome Computational Tasks

15.30—17.00 **Round table Discussion**

Closing of the Conference, coffee

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