

# The International Conference *Polynomial Computer Algebra*

April 14-18, Russia, Saint-Petersburg, Euler International Mathematical Institute

## April 14

10.00—11.00 **Registration, coffee**

11.00—11.10 **Opening the conference**

11.10—12.00 **Korniyak Vladimir** “Gauge evolution and measurements in the permutational quantum mechanics”

12.00—12.30 **Khvedelidze Arsen, Rogozhin Ilya** “On the absolute separability of mixed qubit states”

12.30—13.00 **TBA**

13.00—15.00 **Lunch**

15.00—15.40 **Usevich Konstantin** “Structured matrix computations for Waring type decompositions of multivariate polynomials”<sup>α</sup>

15.40—16.10 **Fokin Pavel, Blinkov Yury** “On parallelization of a symbolic method to solve SAT”

16.10—16.40 **Coffee break**

16.40—17.10 **Vasilyev Nikolay, Terentiev Alexey** “Computer investigation of some problems of asymptotic combinatorics and representation theory”

17.10—17.40 **Petrov Fedor** “Old, new and conjectural polynomial identities of Dyson type”

17.40—18.10 **Rybalkin Mikhail** “Permutation Polynomials Classification”

**18.30 WELCOME PARTY**

## April 15

10.00—10.50 **Gerdt V.P., Blinkov Yu.A.** “Computer algebra-based generation of difference schemes for boundary value problems for ODEs”

11.50—11.20 **Coffee break**

11.20—12.10 **Spivakovsky Mark** “Generalized Puiseux series and local uniformization in arbitrary characteristic”

12.10—13.00 **Chistov Alexander** “Efficient absolute factoring polynomials with parametric coefficients over a zero-characteristic ground field”

13.00—15.00 **Lunch**

15.00—15.30 **Panina Gaiane** “Cyclopermutohedron”

15.30—16.00 **Babich Mikhail** “On geometry of of space of square matrices”

16.00—16.30 **Coffee break**

16.30—17.00 **Duzhin Sergei** “Introduction to sandpile groups of finite graphs”

17.00—17.30 **Krepkiy Ilya** “Sandpile groups of some infinite series of graphs”

17.30—18.00 **Meshveliani Sergei** “Experience in an Adequate Programming of Algebra in a Language with Dependent Types”

18.00—18.30 **Vladimir Kassandrov** "Modelling of "polynomial" dynamics of an ensemble of identical particles on a unique worldline"

19.00 **Chamber music Concert. Euler Institute**

## **April 16**

10.00—10.40 **Gerdt Vladimir, A Khvedelidze Arsen, Palii Yuri** "On the semi-algebraic structure of the orbit space of local unitary group for qubits pairs"

10.40—11.00 **Coffee break**

11.00—11.30 **Pavlov Dmitry** "Applications of universal Groebner bases and their generalizations in algebraic statistics"

11.30—12.00 **Adlaj Semjon** from CCRAS with talk: "Modular polynomial symmetries"

12.00—12.30 **Kireev Sergey, Malashonok Gennady** "Tropical mathematics and computer algebra"

12.30—13.00 **Borisov Ivan** "About MathPartner web service"

13.00—15.00 **Lunch**

15.00—15.45 **Grigoriev Dima** "Cluster algebras and complexity of subtraction-free computations"

15.45—16.10 **Uteshev Alexei** "Analytical approach to the optimal placement and the point charges problem"

16.10—16.30 **Proskurin Nikolay** "On distribution of zeros of L-functions"

16.30—17.00 **Coffee break**

17.00—17.30 **Slavyanov Sergey, Kazakov Alexander** "Algebraic Computing Systems and Heun equations"

17.30—18.00 **Seifullin Timur** "Construction deformation retraction in semigraded complexes by perturbation"

## **April 17**

10.00—10.40 **Tiskin Alexander** "Fast Bruhat comparison of permutations"

10.40—11.10 **Yilmaz Erol** "Gröbner-Shirshov Bases for Affine Weyl Groups"

11.10—11.20 **Coffee break**

11.20—11.50 **Davydow Alex, Grigoriev Dima** "Bounds on the number of connected components for tropical prevarieties"

11.50—12.20 **Karev Maksim** "Tropical intersection of degree 1 cycles in matroidal fans"

12.20—14.00 **Lunch**

**Bus Excursion around St.Petersburg and visit to St. Issac Cathedral**  
**The bus will start from the Euler Institute at 14:00**

**19.00 — Banquet**

## **April 18**

10.00—10.40 **Vavilov Nikolai** Computations in exceptional groups, revisited.

10.40—11.10 **Zobnin Alexey, Sokolov Vladimir** “GLm -adjoint invariant Poisson brackets on matrix variables”

11.10—11.40 **Coffee break**

11.40—12.10 **Pogudin Gleb** “On the primitive element theorem for differential fields extensions with zero derivation on the base field”

12.10—12.40 **Limonov Maxim** “Generalized separants”

12.40—13.10 **Rybalkin Mikhail** “Permutation Polynomials Classification”

13.00—15.00 **Lunch**

15.00—15.30 **Posov Ilya** “Difficulties in automatic generation of mathematical tasks”

15.30—16.00 **Malykh Mikhail** “On Integration of the Differential Equations in Abelian and other Transcendental Functions”

16.00—16.30 **Seliverstov Alexandr** “On systems of two polynomial equations”

16.30—17.00 **Coffee break**

17.00—17.30 **Edneral Victor** “Searching for Solutions of Algaba's Equation”

17.30—17.50 **Pozdniakov Sergei** “Computer support of search strategies for mathematical problems”

***Closing of the Conference, coffee***