

The International Conference ***Polynomial Computer Algebra***

May 6-10, Saint-Petersburg, Russia

Euler International Mathematical Institute

May 6

10.00—11.00 *Registration, coffee*

11.00—11.10 *Opening the conference*

11.10—12.00 *Kornyak Vladimir* Computing Invariant Bilinear Forms of Permutation Representations

12.00—12.30 *Khvedelidze Arsen, Rogojin Iliia* On the geometric probability of mixed entangled states

12.30—13.00 *Tcykina Svetlana* Polynomial quantization on pseudo-orthogonal Grassmann manifolds

13.00—15.00 *Lunch*

15.00—15.40 *Panina Gaiane* Moduli space of planar polygonal linkage: a combinatorial description

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15.40—16.10 *Galkin Vasily* Signature-based Gröbner basis computations for approximate input.

16.10—16.40 Coffee break

16.40—17.10 *Pogudin Gleb*. Some properties of the differential ideal $[x^m]$

17.10—17.40 *Oxana Pereslavytseva* Parallel algorithm for computing the characteristic polynomials and experiments

17.40—18.10 *Rybakov Mikhail* Parallel computation of the general solution of the inhomogeneous system of ordinary differential equations with constant coefficients

18.30 ***WELCOME PARTY***

May 7

10.00—10.50 *Vladimir P. Gerdt and Yuri A. Blinkov* Computer algebra aided numerical

solving KdV-like PDEs

11.55—11.20 *Coffee break*

11.20—12.10 *Orevkov Stepan*. Markov trace of cubic Hecke algebras.

12.10—13.00 *Chistov Alexandr*. Recent progress in complexity for solving system of polynomial equations

13.00—15.00 *Lunch*

15.00—15.30 *Yanovich Denis* Parallel modular computation of Gröbner and involutive bases using MPI.

15.30—16.00 *Timur R. Seifullin* Translation invariant linear maps of tensor degrees of Grassmann algebras.

16.00—16.30 *Coffee break*

**Совместное заседание Санкт-Петербургского математического общества и
лаборатории им.П.Л.Чебышева**

Мат-мех, 14 Линия ВО, д.29, ауд.14, 17:30

Дмитрий Григорьев
(MPIM Bonn и CNRS Lille)

Проблема P-NP и сложность задач компьютерной алгебры

20.00 Concert of violin music.

Euler Institute

May 8

10.00—10.40 *Gerdt Vladimir, Khvedelidze Arsen and Palii Yuri* On the inequalities dening the entanglement space of 2-qubits

10.40—11.00 *Coffee break*

11.00—11.30 *Babich Mikhail* On rational Darboux parametrization of symplectic quotient of product of (co)adjoint orbits of $GL(N, \mathbb{C})$.

11.30—12.20 *Seiler Werner M* Computational Commutative Algebra with Pommaret Bases.

12.20—13.00 *Gennadi Malaschonok* Exact triangula decomposition in domain

Lunch

Bus Excursion around St.Petersburg and visit to Russian Museum

The bus will start from the Euler Institute at 14:00

May 9

10.00—10.40 ***Grigoriev Dima***. Universal Stratifications

10.40—11.10 ***Duarte Andres Daniel***. Higher Nash blowups on normal toric varieties

11.10—11.30 ***Coffee break***

11.30—12.00 ***Romanovski Valery***. Integrability and linearizability of some three-dimensional polynomial systems of ODE's

12.00—12.30 ***Edneral Victor*** On necessary conditions integrability planar ODE in the parameter space.

12.30—13.00 ***Faizullin Rashid***. Hybrid probabilistic method for 3-SAT associated with factorization problem.

13.00—15.00 ***Lunch***

15.00—15.30 ***Rybalkin Mikhail***. Permutation Fewnomials, Tables, and Permutation Statistics

15.30—16.00 ***Malaschonok Gennadi and Borisov Ivan***. Development of a web project of computer algebra Mathpar

16.00—16.30 ***Krivulin Nilkolaj*** Direct Solution to tropical optimization problems: An overview of recent results.

16.30—17.00 ***Coffee break***

17.00—17.30 ***Fokin P.V., Blinkov Yu.A.*** ZDD diagrams and compressed recursive polynomial form.

17.30—18.00 ***Seliverstov Alexandr*** Integral vectors orthogonal to a large set of bounded weight (0, 1)-vectors

19.00— Conference dinner

May 10

10.00—11.00 *Shnirelman Alexandr* On the long-term behaviour of fluid flows

11.00—11.20 *Kirsanov Nikolay, Vasilyev Nikolay* Constructing some classes of specialized numerical O.D.E. integrators by means of Computer Algebra Systems

11.20—11.50 Coffee break

11.50—12.30 *Vavilov Nikolay* Short factorisations of matrices over rings

12.30—13.00 *Natasha Malashonok* The Laplace transform method for solving differential equations with delayed argument

13.00—13.20 *Baranov Sergey, Soloviev Sergey* Verification Aspects in a Unified Framework for Developing Software Products

Closing the Conference, coffee