

Sunday 20th July

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Tutorial 1. (Room B)	
9.30-10.45 10.45-11.00 (break) 11.00-12.00	<i>Komei Fukuda (ETH Zurich)</i> Exact algorithms and software in optimization and polyhedral computation
Tutorial 2. (Room B)	
13.30-14.45 14.45-15.00 (break) 15.00-16.00	<i>Gregor Kemper (Technische Universitaet Muenchen)</i> Algorithmic Invariant Theory.
Tutorial 3. (Room B)	
16.30-17.30 17.30-17.45 (break) 17.45-18.45	<i>Madhu Sudan (MIT)</i> Algebraic Algorithms and Coding Theory
Welcome Reception 19.00	

Monday 21st July

9:00-9:30 Opening Ceremony (Room A)

9:30-10:30 Plenary lecture (Room A)

Elizabeth L. Mansfield (University of Kent, UK)

Digital Atlases and Difference Forms

10:30-11:00 Coffee Break

Session A (Room A)		Session B (Room B)	
11:00 11:25	Manuel Kauers. Integration of Algebraic Functions: A Simple Heuristic for Finding the Logarithmic Part	11:00 11:25	Erich Kaltofen, Bin Li, Zhengfeng Yang and Lihong Zhi. Exact certification of global optimality of approximate factorizations via rationalizing sums-of-squares with floating point scalars
11:25 11:50	Ruben Debeerst, Mark van Hoeij and Wolfram Koepf. Solving Differential Equations in Terms of Bessel Functions	11:25 11:50	Hiroshi Sekigawa. The Nearest Polynomial with a Zero in a Given Domain from a Geometrical Viewpoint
11:50 12:15	Adrien Poteaux and Marc Rybowicz. On the Good Reduction of Puiseux Series and On the Good Reduction of Puiseux Series and the Complexity of Newton-Puiseux Algorithm over Finite Fields	11:50 12:15	Anton Leykin. Numerical primary decomposition

Session A (Room A)		Session B (Room B)	
14:00 14:25	Martin Peternell and Boris Odehnal. On a remarkable class of rational surfaces in 4-space generalizing surfaces with linear normal vector fields.	14:00 14:25	Alin Bostan, Bruno Salvy and Eric Schost. Power Series Composition and Change of Basis
14:25 14:50	Xuhui Wang, Falai Chen and Jiansong Deng. Implicitization and Parametrization of Quadratic Surfaces with One Base Point Using Moving Planes	14:25 14:50	Moulay Barkatou, Gary Broughton and Eckhard Pfluegel. Regular Systems of Linear Functional Equations and Applications
14:50 15:15	Hongbo Li and Lei Huang. Complex Brackets, Balanced Complex Differences, and Applications in Symbolic Geometric Computing	14:50 15:15	Guenael Renault and Kazuhiro Yokoyama. Multi-modular Algorithm for Computing the Splitting Field of a Polynomial

15.15-15:45 Coffee Break

**Software Presentation A (Room A):
Software Systems.**

**Software Presentation B (Room B):
Software Packages and Libraries.**

15:45 16:05	G.M. Greuel, G. Pfister, and Hans Schönemann SINGULAR - a Computer Algebra System for Polynomial Computations.	15:45 16:05	Zhonggang Zeng ApaTools: A Software Toolbox for Approximate Polynomial Algebra.
16:10 16:30	Tatsuyoshi Hamada KNOPPIX/Math: a live system for enjoying mathematics with computer.	16:10 16:30	Xin Li, Marc Moreno Maza, Raqueeb Rasheed and Eric Schost. The modpn library: Bringing Fast Polynomial Arithmetic into MAPLE.
16:35 16:55	Fritz Schwarz ALLTYPES in the WEB.	16:35 16:55	Changbo Chen, Francois Lemaire, Liyun Li, Marc Moreno Maza, Wei Pan, and Yuzhen Xie. The ConstructibleSetTools and ParametricSystemTools modules of the RegularChains library in Maple.

17:00-18:00 ISSAC Business Meeting (Room A)

18:00-19:00 SIGSAM Business Meeting (Room A)

Tuesday 22nd July

Session A (Room A)		Session B (Room B)	
9:00 9:25	Michael Burr, Sungwoo Choi, Benjamin Galehouse and Chee Yap. Complete Subdivision Algorithms, II: Isotopic Meshing of Algebraic Curves	9:00 9:25	François Lemaire, Marc Moreno Maza, Wei Pan and Yuzhen Xie. When does $(T) = \text{Sat}(T)$?
9:25 9:50	Diatta Daouda, Bernard Mourrain and Olivier Ruatta. On the Computation of the Topology of a Non-Reduced Implicit Space Curve.	9:25 9:50	Vladimir Gerdt and Mikhail Zinin. A Pommaret Division Algorithm for Computing Groebner Bases in Boolean Rings
9:50 10:15	Didier Henrion and Michael Sebek. Plane geometry and convexity of polynomial stability regions	9:50 10:15	Xiaoli Wu and Lihong Zhi. Computing the Multiplicity Structure from Geometric Involutive Form

10:15-10:45 Coffee Break

10:45-11:45 Plenary lecture (Room A)

Sergei Abramov (*Russian Academy of Sciences, Russia*)
Power Series and Linear Difference Equations

11:45-12:45 Poster session (Room C)

Session A (Room A)		Session B (Room B)	
14:00 14:25	Adam Strzebonski. Real Root Isolation for Exp-Log Functions	14:00 14:25	Viktor Levandovskyy and Jorge Martin Morales. Advances in Computational D-module Theory with Singular
14:25 14:50	Scott McCallum, Volker Weispfenning and Melanie Achatz. Deciding Polynomial-Exponential Problems	14:25 14:50	Ekaterina Shemyakova and Elizabeth Mansfield. Moving Frames for Laplace Invariants
14:50 15:15	Mohab Safey El Din. Computing the Global Optimum of a Multivariate Polynomial over the Reals	14:50 15:15	Fritz Schwarz and Dima Grigoriev. Loewy Decomposition of Linear Third-Order PDE's in the Plane
15.15 15:40	Songxin Liang, David Jeffrey and Marc Moreno Maza. The Complete Root Classification of a Parametric Polynomial on an Interval	15.15 15:40	Markus Rosenkranz and Georg Regensburger. Integro-Differential Polynomials and Operators

Ship tour & banquet

Wednesday 23rd July

Session A (Room A)		Session B (Room B)	
9:00 9:25	Jean-Charles Faugere, Guillaume Moroz, Fabrice Rouillier and Mohab Safey El Din. Classification of the Perspective-Three-Point Problem, Discriminant variety and real solving polynomial systems of inequalities	9:00 9:25	Jean-Guillaume Dumas. Q-adic Transform revisited
9:25 9:50	Masaaki Kanno, Kazuhiro Yokoyama, Hirokazu Anai and Shinji Hara. Symbolic Optimization of Algebraic Functions	9:25 9:50	Mark Giesbrecht and Daniel Roche. On Lacunary Polynomial Perfect Powers
9:50 10:15	Massimo Caboara, Fabrizio Caruso and Carlo Traverso. Gröbner Bases for Public Key Cryptography	9:50 10:15	Erich Kaltofen and Pascal Koiran. Expressing a Fraction of Two Determinants as a Determinant.

10:15-10:45 Coffee Break

10:45-11:45 Plenary lecture (Room A)

William Stein (*University of Washington, USA*)

Can There be a Viable Free Open Source Alternative to Magma, Maple, Mathematica, and Matlab?

11:45-12:45 Poster session (Room C)

14:00-14:35 **Jürgen Gerhard.** New features in Maple 12 (Room A)

Session A (Room A)		Session B (Room B)	
14:40 15:05	Michael Brickenstein and Alexander Dreyer. Gröbner-free Normal Forms for Boolean Polynomials	14:40 15:05	Felix Antritter and Jean Levine. Computer Algebra Implementation of the Necessary and Sufficient Conditions for Differential Flatness in the Differential Geometric Framework of Jets of Infinite Order
15:05 15:30	Jesus De Loera, Jon Lee, Peter Malkin and Susan Margulies. Hilbert's Nullstellensatz and an Algorithm for Proving Combinatorial Infeasibility	15:05 15:30	Valery Romanovski and Zhibek Kadyrsizova. Linearizability of 1:-3 resonant system with homogeneous cubic nonlinearities
15:30 15:55	Itnuit Janovitz-Freireich, Bernard Mourrain, Lajos Ronyai and Agnes Szanto. Moment Matrices, Trace Matrices and the Radical of Ideals	15:30 15:55	Eckhard Pfluegel. A Rational Decomposition-Lemma for Systems of Linear Differential-Algebraic Equations
15:55 16:20	Matthias Aschenbrenner and Christopher Hillar. An Algorithm for Finding Symmetric Groebner Bases in Infinite Dimensional Rings	15:55 16:20	Alin Bostan, Frederic Chyzak and Nicolas Le Roux. Products of Ordinary Differential Operators by Evaluation and Interpolation

16:20-16:50 Coffee Break

16:50 Closing (Room A)

Linz tour