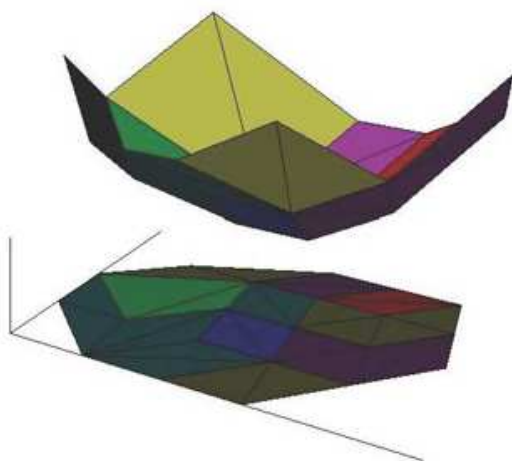


ESF Mathematics Conference in partnership with EMS and ERCOM/IML

MEGA 2011: Effective Methods in Algebraic Geometry

30 May-3 June 2011

Stockholm University, SE



In partnership with:



ERCOM



Chaired by:

- Sandra di Rocco, *KTH Stockholm, SE*
- Mikael Passare, *Stockholm University, SE*

Executive Committee: Wolfram Decker, *Universität Kaiserslautern, DE*; Alicia Dickenstein, *Universidad de Buenos Aires, AR*; Sandra di Rocco, *KTH Stockholm, SE*; Mikael Passare, *Stockholm University, SE*; Ragni Piene, *Centre of Mathematics for Applications, NO*; Marie-Francoise Roy, *Université de Rennes 1, FR*; Michael Singer, *North Carolina State University, US*; Carlo Traverso, *Università di Pisa, IT*

Sunday 29 May	
17:00 – 19:00	Registration at ESF desk
Monday 30 May	
08.50-09.10	Conference Opening and Welcome Message Stefan Nordlund , <i>Stockholm University, SE</i> Anders Björner , <i>Institut Mittag-Leffler, SE</i> Irfan Siap , <i>Yildiz Technical University, TR</i>
Session 1 - Chair: Alicia Dickenstein, University of Buenos Aires, AR	
9:10 – 10:00	Monique Laurent , <i>Centrum Wiskunde & Informatica (CWI) and Tilburg University, NL</i> Semidefinite Programming Characterization and Computation of Real Radical Ideals
10:10 – 10:40	Coffee break

10:40 – 11:10	Lars Kastner and Nathan Owen Ilten, <i>Freie Universitaet Berlin, DE</i> Calculating Generators of Multigraded Algebras
11:20 – 12:50	Francesca Cioffi and Margherita Roggero, <i>Universita' di Napoli "Federico II", IT</i> Flat families by strongly stable ideals and a generalization of Groebner bases
12.00-12.30	Mariemi Alonso , Jerome Brachat and Bernard Mourrain, <i>Universidad Complutense de Madrid, ES</i> On flat deformation of points
12:30 - 14:00	Lunch
Session 2 – Chair: Sandra di Rocco, KTH, SE	
14:00 – 14:50	Kristian Ranestad , <i>University of Oslo, NO</i> Symmetric tensor decompositions
15:00 – 15:30	Jenya Soprounova , Olivia Beckwith, Matthew Grimm and Bradley Weaver, <i>Kent State University US</i> Minkowski Length of 3D Polytopes
15:40 – 16:10	Elisa Postinghel , <i>University of Oslo, NO</i> Secant Degree of Toric Surfaces and Delightful Planar Toric Degenerations
16:10 – 16:30	Coffee Break
16:30 – 17:00	Felipe Rincon , <i>UC Berkeley, US</i> Computing Tropical Linear Spaces
17:10 – 17:40	Bernard Mourrain , Jean-Bernard Lasserre, Monique Laurent, , Philipp Rostalski and Philippe Trebuchet, <i>INRIA, FR</i> Moment matrices, border bases and radical computation
17:50 – 18:20	Abraham Martin del Campo , Jonathan Hauenstein, Nickolas Hein, Christopher Hillar, Frank Sottile and Zach Teitler, <i>Texas A&M University, US</i> The Monotone Secant Conjecture in the real Schubert calculus
Tuesday 31 May	
Session 3 – Chair: Ragni Piene, University of Oslo, NO	
9:00 – 9:50	Anton Leykin , <i>Georgia Institute of Technology, US</i> Certification in Numerical Algebraic Geometry
10:00 – 10:30	Coffee Break
10:30 – 11:00	Joris van der Hoeven , <i>CNRS, FR</i> Relaxed resolution of implicit equations
11:00 – 11:40	Elias Tsigaridas , Kristoffer Arnsfelt Hansen, Michal Koucky, Niels Lauritzen and Peter Bro Miltersen, <i>Aarhus University, DK</i> Separation bounds for real roots of polynomial systems
11:50 – 12:20	Jeremy Berthomieu and Luis Miguel Pardo, <i>École polytechnique, FR</i> Average Condition Number on great circles that contain real systems of equations
12:30	Lunch
Session 4 – Chair: Wolfram Decker, Universität Kaiserslautern, DE	
14:00 – 14:50	Guy Casale , <i>University of Rennes, FR</i> Liouvillian solutions of nonlinear differential equations

15:00 – 15:30	María Cruz Fernández-Fernández and Francisco-Jesús Castro-Jiménez, <i>Universidad de Extremadura, ES</i> On irregular binomial D-modules.
15:40 – 16:10	Paolo Faccin and Willem A. De Graaf, <i>University of Trento, IT</i> Computing generators of the unit group of an integral abelian group ring
16:20 – 16:50	Thomas Cluzeau , Moulay Barkatou, Carole El Bacha and Alban Quadrat, <i>Université de Limoges ; CNRS ; XLIM, FR</i> Monge parametrizations and integration of rectangular linear differential systems
16:50 – 18:30	Coffee break + Poster session
19:30	Get-together & Conference Dinner at Solliden Restaurant at Skansen Museum
Wednesday 1 June	
Session 5 – Chair: Marie-Francoise Roy, University of Rennes 1, FR	
9:00 – 9:50	Pablo Parrilo , <i>Massachusetts Institute of Technology, US</i> From Sparsity to Rank, and Beyond: algebra, geometry, and convexity
10:00 – 10:30	Group picture and Coffee Break
Session of software presentations:	
10:30 – 10:55	Anne Fruehbis Krüger , Andreas Steenpass and Stefan Steidel, <i>Leibniz Universität Hannover, DE</i> Singular 3-1-3 -- Tackling New Challenges
11:00 – 11:25	Zach Teitler , <i>Boise State University, US</i> Software for the computation of multiplier ideals
11:30 – 11:55	Thomas Kahle , <i>Institut Mittag-Leffler, SE</i> Decompositions of Binomial Ideals in Macaulay 2
12:00 – 12:25	Eva García Llorente , Isabel Bermejo and Philippe Gimenez, <i>University of La Laguna, ES</i> monomialideal.lib
12:30 – 12:55	Mikael Vejdemo-Johansson and Andrew Tausz , <i>Stanford University, US</i> javaPlex: a research software package for persistent (co)homology
13:00	Lunch and free afternoon
19:00	Official reception at the City Hall, Stockholm
Thursday 2 June	
Session 6 Chair: Marc Giusti, Ecole Polytechnique, FR	
9:00 – 9:50	Johannes Buchmann , <i>Technische Universität Darmstadt, DE</i> Future signatures
10:00 – 10:30	Coffee break
10:30 – 11:00	Luis Felipe Tabera , <i>Universidad de Cantabria, ES</i> A Parametric version of Hilbert-Hurwitz method using Hypercircles.
11:10 – 11:40	Patrizia Gianni , Elisabetta Fortuna and Barry Trager, <i>Universita' di Pisa, IT</i> Ideals of curves given by points

11:50 – 12:20	Maria-Laura Torrente and Lorenzo Robbiano, <i>University of Genova, IT</i> Stable Complete Intersections
12:30	Lunch
Session 7 Chair: Bernd Sturmfels, University of California, DE	
14:00 – 14:50	Duco van Straten, University of Mainz, DE Algorithmic Aspects of Monodromy
15:00 – 15:30	Stefano Pironio , Miguel Navascues and Antonio Acín, <i>Université Libre de Bruxelles, BE</i> Noncommutative polynomial optimization
15:40 – 16:10	Nicolas Borie and Nicolas M. Thiéry, <i>Université Paris-Sud XI, FR</i> An evaluation approach to computing invariants rings of permutation groups
16:10 – 16:40	Coffee break
16:40 – 17:10	Roberto La Scala and Viktor Levandovskyy, <i>University of Bari, IT</i> Skew polynomial rings, Groebner bases and the letterplace embedding of the free associative algebra
17:20 – 18:30	Forward look and Discussions
Friday 3 June	
Session 8 Chair: Gert-Martin Greuel, University of Kaiserslautern and MFO, DE	
9:00 – 9:50	Anne Fruehbis Krüger, Leibniz Universität Hannover, DE Algorithmic Resolution of Singularities
10:00 – 10:30	Coffee break
10:30 – 11:00	Frank Sottile , Luis David García Puente and Chungang Zhu, <i>Institut Mittag-Leffler, SE</i> Toric degenerations of Bezier patches
11:10 – 11:40	Kai Arzdorf, Leibniz Universität Hannover, DE Calculating the Semistable Reduction of Cyclic Galois Covers of Prime Power Degree
11:50 – 12:20	Alexander Aleksandrov, Russian Academy of Sciences, RU Locus and stratum of freeness for deformations of hypersurface singularities
12:30	Lunch
Session 9 Chair: Mikael Passare, University of Stockholm, SE	
14:00 – 14:50	Diane Maclagan, University of Warwick, UK Tropical Algebraic Geometry
15:00 – 15:30	Piotr Zwiernik and Bernd Sturmfels, <i>Institut Mittag-Leffler, SE</i> Binary cumulant varieties
15:30 – 16:00	Coffee break
16:00 – 16:30	Nelly Villamizar and Bernard Mourrain, <i>University of Oslo, NO</i> Bounds on the dimension of spline spaces

16:40 – 17:10	Mounir Nisse and Frank Sottile, <i>Texas A&M University, US</i> Complex and Non-Archimedean Coamoebae
List of accepted posters	
1. Alonso Maria Emilia	Revisiting Zariski Main Theorem from an algorithmic point of view (co-authors: Henri Lombardi and Thierry Coquand)
2. Berkech Christine	Equivariant D-modules and hypergeometric equations (co-author Laura Felicia Matusevich)
3. Timo De Wolff	Approximating amoebas and coamoebas by sums of squares (co-author: Theobald Thorsten)
4. Fernández-Ramos Oscar	Regularity 3 in edge ideals associated to bipartite graphs. (co-author Philippe Gimenez)
5. Frenk Bart	A tropical linear monoid (co-author Jan Draisma)
6. Garcia-Marco Ignacio	cisimplicial.lib (co-author: Isabel Bermejo)
7. Gross Elizabeth	Software Demonstration: A Macaulay2 interface for PHCpack (co-authors: Sonja Petrovic and Jan Verschelde)
8. Harrison Michael Corin	Explicit Solution By Radicals of Algebraic Curves of Genus 5 or 6
9. Huang Yanli	Rational General Solutions of Algebraic ODEs --- Generalization to Higher Order (co-authors: L.X.C. Ngo, F. Winkler)
10. Ito Atsushi	How to estimate Seshadri constants
11. Kogan Irina	Object-image correspondence for curves under projections (co-author: Joseph M. Burdis)
12. Koseleff Pierre-Vincent	Computing Chebyshev knot diagram (co-authors: Daniel Pecker and Fabrice Rouillier)
13. Ogata Shoetsu	Very ample but not integrally closed lattice polytopes
14. Ollivier François	Flat difference systems. A definition, some properties and open problems
15. Pfluegel Eckhard	Computing the Irregular Part of Formal Solutions of Systems of Pseudo-Linear Equations (co-author: Moulay Barkatou, Gary Broughton)
16. Roozmond Dan	On Lie Algebras Generated by Few Extremal Elements