

ICMS 2014 Schedule Overview

From	To	Aug 5 Tue			Aug 6 Wed			Aug 7 Thu			Aug 8 Fri			Aug 9 Sat			
9:00	9:30	Registration			Registration			Registration			Registration			Registration			
9:30	9:40	Opening			Announcement			Announcement			Announcement			Announcement			
9:40	10:40	0.1			0.2			0.3			0.4			0.5			
10:40	11:00	Break			Break			Break			Break			Break			
		A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	
11:00	11:25	1.1	4.1	6.1	1.5	4.5	6.5	Business Meeting			5.1	9.1	14.9	11.1		13.9	
11:25	11:50	1.2	4.2	6.2	1.6	4.6	6.6				5.2	9.2	14.10	11.2		13.10	
11:50	12:15	1.3	4.3	6.3	1.7	4.7	6.7	15.1	15.2	15.3	5.3	9.3	14.11	11.3		13.11	
12:15	12:40	1.4	4.4	6.4	1.8	4.8	6.8				5.4	9.4	14.12	11.4		13.12	
12:40	2:00	Lunch			Lunch			Lunch			Lunch			Lunch			
2:00	2:25	10.1	2.1	14.1	12.1	2.5	14.5	15.4	15.5	16.*	12.5	13.1	3.1	11.5		13.13	
2:25	2:50	10.2	2.2	14.2	12.2	2.6	14.6				12.6	13.2	3.2	11.6		13.14	
2:50	3:15	10.3	2.3	14.3	12.3	2.7	14.7	15.6	15.7	17.*	12.7	13.3	3.3	11.7		13.15	
3:15	3:40	10.4	2.4	14.4	12.4	2.8	14.8				12.8	13.4	3.4	11.8		13.16	
3:40	4:00	Break			Break			Sightseeing			Break			Break			
4:00	4:25	10.5	8.1	7.1	10.9	8.5	7.5				12.9	13.5	3.5	5.5		9.5	
4:25	4:50	10.6	8.2	7.2	10.10	8.6	7.6				12.10	13.6	3.6	5.6		9.6	
4:50	5:15	10.7	8.3	7.3	10.11	8.7						13.7	3.7	1.4		9.7	
5:15	5:40	10.8	8.4	7.4	10.12							13.8					
7:00	9:00											Banquet / Closing					

- 0 Invited Plenary Talks
- 1 Mathematical Theory Exploration
- 2 Computational Group Theory
- 3 Coding Theory
- 4 Computational Topology
- 5 Numerical Algebraic Geometry
- 6 Geometry
- 7 Curves and Surfaces
- 8 Quantified Reasoning
- 9 Special Functions and Concrete Mathematics
- 10 Groebner Bases
- 11 Triangular Decompositions of Polynomial Systems
- 12 Parametric Polynomial Systems
- 13 Mathematical Web/Mobile Interfaces, Editing and Visualization
- 14 General
- 15 Tutorial
- 16 Demo
- 17 Poster

Invited talks and Business meeting: **Room A**

- Invited talk : 60 min = 55 min talk + 5 min questions
- Contributed talk : 25 min = 20 min talk + 5 min questions
- Tutorial : 50 min

Invited talk
Contributed talk
Tutorial
Poster / Demo
Admin
Rest

List of Talks

Invited Plenary Talks

- 0.1 Soft Math Math Soft
- 0.2 Principle of Independence for Robust Geometric Software Learned by the Human Visual Computation
- 0.3 CHEBFUN as a software project
- 0.4 Numerical Algebraic Geometry
- 0.5 Computer Discovery and Visual Theorems in Mathematics

Mathematical Theory Exploration

- 1.1 Flyspecking Flyspeck
- 1.2 Symbolic Computing Package for Mathematica for Versatile Manipulation of Mathematical Expressions
- 1.3 Representing, Archiving, and Searching the Space of Mathematical Knowledge
- 1.4 Early Examples of Software in Mathematical Knowledge Management
- 1.5 Discourse-Level Parallel Markup and Meaning Adoption in Flexiformal Theory Graphs
- 1.6 Theorema 2.0: A System for Mathematical Theory Exploration
- 1.7 Complexity Analysis of the Bivariate Buchberger Algorithm in Theorema
- 1.8 Formalizing a Key Theorem from Auction Theory using the Theorema System

Computational Group Theory

- 2.1 Software for Groups: Theory and Practice
- 2.2 New approaches in black box group theory
- 2.3 Approximating generators for integral arithmetic groups
- 2.4 A GAP package for computing with real semisimple Lie algebras
- 2.5 Bacterial Genomics and Computational Group Theory
- 2.6 Cascade (De)Compositions of Finite Transformation Semigroups and Permutation Groups
- 2.7 Computation of genus 0 Belyi functions
- 2.8 On computation of the first Baues-Wirsching cohomology of a freely-generated small category

Coding Theory

- 3.1 Lifts of Self-Dual Codes
- 3.2 Codes over a non chain ring with some applications
- 3.3 On the Weight Enumerators of the Projections of the 2-adic Golay Code of Length 24 to Z_{2^e}
- 3.4 Computer based reconstruction of binary extremal self-dual codes of length 32
- 3.5 Magma Implementation of Decoding Algorithms for General Algebraic Geometry Codes
- 3.6 Formally Self-Dual Codes over a Ring of Characteristic 2 and Their Binary Images
- 3.7 Reversible codes and applications to DNA

Computational Topology

- 4.1 Recent developments in Regina: Exact computation with triangulated 3-manifolds
- 4.2 Heuristic manifold recognition, bistellar flips and discrete Morse theory
- 4.3 Computing Persistence Modules on Commutative Ladder Quivers of Finite Type
- 4.4 CAPD::RedHom v2 - Homology software based on reduction algorithms
- 4.5 PHAT - Persistent Homology Algorithms Toolbox
- 4.6 The Gudhi Library: Simplicial Complexes and Persistent Homology
- 4.7 Distributed Persistent Homology via Mayer Vietoris
- 4.8 javaPlex - an extensible platform for persistence

Numerical Algebraic Geometry

- 5.1 An Introduction to Software in Numerical Algebraic Geometry
- 5.2 Paramotopy: Software for Parameter Homotopies
- 5.3 Hom4PS-3
- 5.4 Bertini Real: Real Algebraic Curve and Surface Cellular Decomposition Software
- 5.5 Bertini for Macaulay2
- 5.6 Using Monodromy to Avoid High Precision in Homotopy Continuation

Geometry

- 6.1 CGAL – Reliable Geometric Computing for Academia and Industry
- 6.2 Implementing the L_∞ Segment Voronoi Diagram in CGAL and Applying in VLSI Pattern Analysis
- 6.3 BULL! - The Molecular Geometry Engine Based on Voronoi Diagram, Quasi-Triangulation, and Beta-Complex
- 6.4 Integrating Circumradius and Area Formulae for Cyclic Pentagons
- 6.5 Computer Aided Geometry
- 6.6 The Sustainability of Digital Educational Resources
- 6.7 OpenGeo: An Open Geometric Knowledge Base
- 6.8 A Touch-Operation-Based Dynamic Geometry System: Design and Implementation

Curves and Surfaces

- 7.1 Robustly and Efficiently Computing Algebraic Curves and Surfaces
- 7.2 Numerical algebraic geometric techniques for real curves and surfaces
- 7.3 Root Refinement for Real Polynomials
- 7.4 Isotopic Epsilon-approximation of algebraic curves
- 7.5 Computing The Orthogonal Projection of Rational Curves Onto Rational Parameterized Surface by Symbolic Methods
- 7.6 Isotopic Arrangement of Simple Curves

Quantified Reasoning

- 8.1 Real Quantifier Elimination in the RegularChains Library
- 8.2 Skolemization Modulo Theories

- 8.3 Incremental QBF Solving
- 8.4 Bit-Precise Quantifier Elimination
- 8.5 Software for Quantifier Elimination in Propositional Logic
- 8.6 Quantified Reasoning Over the Reals
- 8.7 NLCertify: A Tool for Formal Nonlinear Optimization

Special Functions and Concrete Mathematics

- 9.1 Fast algorithms for Monte Carlo simulation of self-avoiding walks
- 9.2 BetaSCP: A Program for the Optimal Prediction of Side-chains in Proteins
- 9.3 Computation of an Improved Lower Bound to Giuga's Primality Conjecture
- 9.4 Mathematical software for modified Bessel functions
- 9.5 An extension and efficient calculation of the Horner's rule for matrices
- 9.6 Expectations on IFS attractors
- 9.7 Developing linear algebra packages on Risa/Asir for eigenproblems

Groebner Bases

- 10.1 Software for discussing parametric polynomial systems: The Groebner Cover
- 10.2 Maximizing Likelihood Function for Parameter Estimation in Point Clouds
- 10.3 What is new in CoCoA?
- 10.4 Application of Groebner Basis Methodology to Nonlinear Mechanics Problems
- 10.5 Groebner Basis Applications in Geodesy and Geoinformatics
- 10.6 Generic and parallel Groebner bases in JAS
- 10.7 Verification of Groebner basis candidates
- 10.8 An algorithm for computing standard bases by change of ordering via algebraic local cohomology
- 10.9 Groebner Bases in Theorema
- 10.10 Effective Computation of Radical of Ideals and its Application to Invariant Theory
- 10.11 Groebner Bases in Teaching Mechanics
- 10.12 Software Packages for Holonomic Gradient Method

Triangular Decompositions of Polynomial Systems

- 11.1 Cylindrical Algebraic Decomposition in the RegularChains Library
- 11.2 Choosing a Variable Ordering for Truth-Table Invariant Cylindrical Algebraic Decomposition by Incremental Triangular Decomposition
- 11.3 Using the Regular Chains Library to Build Cylindrical Algebraic Decompositions by Projecting and Lifting
- 11.4 Hierarchical Comprehensive Triangular Decomposition
- 11.5 Doing Algebraic Geometry with the RegularChains Library
- 11.6 Computing Moore-Penrose Inverses of Ore Polynomial Matrices
- 11.7 On Multivariate Birkhoff Rational Interpolation
- 11.8 An Improvement of Rosenfeld-Groebner Algorithm

Parametric Polynomial Systems

- 12.1 An algorithm for computing Tjurina stratifications of μ -constant deformations using algebraic local cohomology
- 12.2 An implementation method of Boolean Groebner bases and comprehensive Boolean Groebner bases on general computer algebra systems
- 12.3 Mathematical hierarchies of Sudoku puzzles and its computation by Boolean Groebner bases
- 12.4 A method to determine if two parametric polynomial systems are equal
- 12.5 QE software based on comprehensive Groebner systems
- 12.6 SyNRAC: A toolbox for solving real algebraic constraints
- 12.7 Software Using the Groebner Cover for Geometrical Loci Computation and Classification
- 12.8 Using Maple's RegularChains Library to Automatically Classify Plane Geometric Loci
- 12.9 Solving Parametric Polynomial Systems by RealComprehensiveTriangularize
- 12.10 A Package for Parametric Matrix Computations

Mathematical Web/Mobile Interfaces, Editing and Visualization

- 13.1 Math Web Interfaces and the Generation Gap of Mathematicians
- 13.2 An Implementation Method of a CAS with a Handwriting Interface on Tablet Devices
- 13.3 A Touch-based Mathematical Expression Editor
- 13.4 A Tablet-Compatible Web-Interface for Mathematical Collaboration
- 13.5 Development and Evaluation of A Web-Based Drill System to Master A Basic Math Formula Using The New Interactive Math Input Method
- 13.6 GNU TeXmacs: towards a scientific office suite
- 13.7 IFSGen4LaTeX: Interactive Graphical User Interface to Generate and Visualize Iterated Function Systems for LaTeX
- 13.8 Computer Software for Representation and Visualization of Free-Form Curves with Bio-inspired Optimization Techniques
- 13.9 Creating Interactive Graphics for Mathematics Education Utilizing KETpic
- 13.10 Generating Data of Mathematical Figures for 3D Printers with KETpic and Educational Impact of the Printed Models
- 13.11 Establishment of KETpic programming styles for drawing
- 13.12 New Way of Explanation of the Stochastic Interpretation of Wave Functions and its Teaching Materials Using KETpic
- 13.13 Practice with Computer Algebra Systems in Mathematics Education and Teacher Training Courses
- 13.14 On some attempts to verify the effect of using high-quality graphics in mathematics education
- 13.15 Development of Visual Aid Materials in Teaching the Bivariate Normal Distributions
- 13.16 Some problems of making educational materials of mathematics with CAS

General

- 14.1 Metalibm: A Mathematical Functions Code Generator
- 14.2 From Calculus to Algorithms without Errors
- 14.3 Function Interval Arithmetic
- 14.4 Analyze the Effect of Sparse Matrix Ordering for Iterative Solver on GPU
- 14.5 swMATH - an information service for mathematical software
- 14.6 MathLibre: modifiable desktop environment for mathematics
- 14.7 Recent developments in Normaliz
- 14.8 Integration of libnormaliz in CoCoALib and CoCoA 5

- 14.9 Generating Optimized Sparse Matrix Vector Product over Finite Fields
- 14.10 Elements of Design for Containers and Solutions in the LinBox library
- 14.11 Dense Arithmetic over Finite Fields with the CUMODP Library
- 14.12 The Basic Polynomial Algebra Subprograms

Tutorial

- 15.1 BULL! – Molecular Geometry Engine
- 15.2 CoCoA-5, CoCoALib, and a touch of normaliz
- 15.3 Mathematical Analysis Using the Symbolic Computing Package for Mathematica
- 15.4 Theorema 2.0: A Mathematical Theory Exploration System based on Mathematica
- 15.5 Which Convex Hull Algorithm Should I Use?
- 15.6 Recent Developments in Computational Semigroup Theory
- 15.7 A RegularChains Library Tutorial

Demo

- 16.1 Algebraic and visual representations of branch cuts in Maple
- 16.2 BetaCavity and BetaConcept
- 16.3 CoCoA-5 and CoCoALib
- 16.4 Hom4PS-3
- 16.5 L_infinity Segment Voronoi Diagram in CGAL - Applying in VLSI pattern analysis
- 16.6 MathLibre: modifiable desktop environment for mathematics
- 16.7 Metalibm, a mathematical functions code generator
- 16.8 Normaliz
- 16.9 Removing the blind spot
- 16.10 Approximating Exact Real Numbers (AERN)
- 16.11 Writing a scientific paper using GNU TeXmacs.

Poster

- 17.1 L_infinity Segment Voronoi Diagram in CGAL - Applying in VLSI pattern analysis
- 17.2 Molecular Geometry and Molecular Geometry Operating System
- 17.3 The Sustainability of Digital Educational Resources

Detailed List of Titles / Authors

Invited Plenary Talks

0.1	Soft Math Math Soft	Bruno Buchberger			
0.2	Principle of Independence for Robust Geometric Software Learned by the Human Visual Computation	Kokichi Sugihara			
0.3	CHEBFUN as a software project	Lloyd N. Trefethen			
0.4	Numerical Algebraic Geometry	Andrew Sommese			
0.5	Computer Discovery and Visual Theorems in Mathematics	Jonathan M. Borwein			

Mathematical Theory Exploration

1.1	Flyspecking Flyspeck	Mark Adams			
1.2	Symbolic Computing Package for Mathematica for Versatile Manipulation of Mathematical Expressions	Youngjoo Chung			
1.3	Representing, Archiving, and Searching the Space of Mathematical Knowledge	Mihnea Ianu	Michael Kohlhase	Corneliu Prodescu	
1.4	Early Examples of Software in Mathematical Knowledge Management	Patrick Ion			
1.5	Discourse-Level Parallel Markup and Meaning Adoption in Flexiformal Theory Graphs	Michael Kohlhase	Mihnea Ianu		
1.6	Theorema 2.0: A System for Mathematical Theory Exploration	Wolfgang Windsteiger			
1.7	Complexity Analysis of the Bivariate Buchberger Algorithm in Theorema	Alexander Maletzky	Bruno Buchberger		
1.8	Formalizing a Key Theorem from Auction Theory using the Theorema System	Wolfgang Windsteiger	Manfred Kerber	Colin Rowat	

Computational Group Theory

2.1	Software for Groups: Theory and Practice	Alexander Hulpke			
2.2	New approaches in black box group theory	Alexandre Borovik	Sukru Yalcinkaya		
2.3	Approximating generators for integral arithmetic groups	Bettina Eick			
2.4	A GAP package for computing with real semisimple Lie algebras	Heiko Dietrich	Paolo Faccin	Willem A. de Graaf	
2.5	Bacterial Genomics and Computational Group Theory	Attila Egry-Nagy	Andrew Francis	Volker Gebhardt	
2.6	Cascade (De)Compositions of Finite Transformation Semigroups and Permutation Groups	Attila Egry-Nagy	James D. Mitchell	Christopher L. Nehaniv	
2.7	Computation of genus 0 Belyi functions	Mark van Hoeij	Raimundas Vidunas		
2.8	On computation of the first Baues-Wirsching cohomology of a freely-generated small category	Yasuhiro Momose	Yasuhide Numata		

Coding Theory

3.1	Lifts of Self-Dual Codes	Suat Karadeniz	Refia Aksoy		
3.2	Codes over a non chain ring with some applications	Aysegul Bayram	Elif Segah Oztas	Irfan Siap	
3.3	On the Weight Enumerators of the Projections of the 2-adic Golay Code of Length 24 to $Z_2\{2^n\}$	Sunghyu Han			
3.4	Computer based reconstruction of binary extremal self-dual codes of length 32	Jon-Lark Kim			
3.5	Magma Implementation of Decoding Algorithms for General Algebraic Geometry Codes	Kwankyu Lee			
3.6	Formally Self-Dual Codes over a Ring of Characteristic 2 and Their Binary Images	Zeynep Odemis Ozger	Bahattin Yildiz		
3.7	Reversible codes and applications to DNA	Elif Segah Oztas	Irfan Siap	Bahattin Yildiz	

Computational Topology

4.1	Recent developments in Regina: Exact computation with triangulated 3-manifolds	Benjamin Burton			
4.2	Heuristic manifold recognition, bistellar flips and discrete Morse theory	Michael Joswig	Frank Lutz	Mimi Tsuruga	
4.3	Computing Persistence Modules on Commutative Ladder Quivers of Finite Type	Yasuaki Hiraoka	Emerson Escolar		
4.4	CAPD:RedHom v2 - Homology software based on reduction algorithms	Mateusz Juda	Marian Mrozek		
4.5	PHAT - Persistent Homology Algorithms Toolbox	Ulrich Bauer	Michael Kerber	Jan Reininghaus	Hubert Wagner
4.6	The Gudhi Library: Simplicial Complexes and Persistent Homology	Clement Maria	Jean-Daniel Boissonnat	Marc Glisse	Mariette Yvinec
4.7	Distributed Persistent Homology via Mayer Vietoris	Ryan Lewis	Gunnar Carlsson		
4.8	javaPlex - an extensible platform for persistence	Henry Adams	Andrew Tausz	Mikael Vejdemo-Johansson	

Numerical Algebraic Geometry

5.1	An Introduction to Software in Numerical Algebraic Geometry	Jonathan Hauenstein			
5.2	Paramotopy: Software for Parameter Homotopies	Daniel Bates	Daniel Brake	Matthew Niemerg	
5.3	Hom4PS-3	Tianran Chen	Tsung-Lin Lee	Tien-Yien Li	
5.4	Bertini Real: Real Algebraic Curve and Surface Cellular Decomposition Software	Daniel Brake	Daniel Bates	Jonathan Hauenstein	Charles Wampler
5.5	Bertini for Macaulay2	Jose I. Rodriguez	Daniel Bates	Elizabeth Gross	Anton Leykin
5.6	Using Monodromy to Avoid High Precision in Homotopy Continuation	Matthew Niemerg	Daniel Bates		Andrew Sommese
					Wenrui Hao

Geometry

6.1	CGAL - Reliable Geometric Computing for Academia and Industry	Eric Berberich			
6.2	Implementing the L_∞ Segment Voronoi Diagram in CGAL and Applying in VLSI Pattern Analysis	Panagiotis Cheilaris	Sandeep Kumar Dey	Maria Gabriani	Evanthia Papadopoulou
6.3	BULL! - The Molecular Geometry Engine Based on Voronoi Diagram, Quasi-Triangulation, and Beta-Complex	Deok-Soo Kim	Youngsong Cho	Jae-Kwan Kim	Joonghyun Ryu
6.4	Integrating Circumradius and Area Formulae for Cyclic Pentagons	Shuichi Moritsugu			Mokwon Lee
6.5	Computer Aided Geometry	Douglas Navarro Guevara	Adrian Navarro Alvarez		Jehyun Cha
6.6	The Sustainability of Digital Educational Resources	Yongsheng Rao	Ying Wang	Yu Zou	Jingzhong Zhang
6.7	OpenGeo: An Open Geometric Knowledge Base	Dongming Wang	Xiaoyu Chen	Wenya An	Lei Jiang
6.8	A Touch-Operation-Based Dynamic Geometry System: Design and Implementation	Wei Su	Paul S. Wang	Chuan Cai	Lian Li
					Dan Song
					Chanyoung Song

Curves and Surfaces

7.1	Robustly and Efficiently Computing Algebraic Curves and Surfaces	Eric Berberich			
7.2	Numerical algebraic geometric techniques for real curves and surfaces	Daniel Bates	Daniel Brake	Jonathan D. Hauenstein	Andrew J. Sommese
7.3	Root Refinement for Real Polynomials	Michael Kerber			Charles W. Wampler
7.4	Isotopic Epsilon-approximation of algebraic curves	Kai Jin			
7.5	Computing The Orthogonal Projection of Rational Curves Onto Rational Parameterized Surface by Symbolic Methods	Zhiwang Gan	Meng Zhou		
7.6	Isotopic Arrangement of Simple Curves	Jyh-Ming Lien	Vikram Sharma	Gert Vegter	Chee Yap

Quantified Reasoning

8.1	Real Quantifier Elimination in the RegularChains Library	Changbo Chen	Marc Moreno Maza		
8.2	Skolemization Modulo Theories	Konstantin Korovin	Margus Veanes		
8.3	Incremental QBF Solving	Florian Losing	Uwe Egly		
8.4	Bit-Precise Quantifier Elimination	Ajith K. John	Supratic Chakraborty		
8.5	Software for Quantifier Elimination in Propositional Logic	Eugene Goldberg	Panagiotis (Pete) Manolios		
8.6	Quantified Reasoning Over the Reals	Sicun (Sean) Gao	Soonho Kong	Edmund M. Clarke	
8.7	NLCertify: A Tool for Formal Nonlinear Optimization	Victor Magron			

Special Functions and Concrete Mathematics

9.1	Fast algorithms for Monte Carlo simulation of self-avoiding walks	Nathan Clisby			
9.2	BetaSCP: A Program for the Optimal Prediction of Side-chains in Proteins	Joonghyun Ryu	Mokwon Lee	Jehyun Cha	Chanyoung Song
9.3	Computation of an Improved Lower Bound to Giuga's Primality Conjecture	Matthew Skerritt			Deok-Soo Kim
9.4	Mathematical software for modified Bessel functions	Juri Rappoport			
9.5	An extension and efficient calculation of the Horner's rule for matrices	Shinichi Tajima	Katsuyoshi Ohara	Akira Terui	
9.6	Expectations on IFS attractors	Michael Rose			
9.7	Developing linear algebra packages on Risa/Asir for eigenproblems	Katsuyoshi Ohara	Shinichi Tajima	Akira Terui	

Groebner Bases

10.1	Software for discussing parametric polynomial systems: The Groebner Cover	Antonio Montes	Michael Wibmer					
10.2	Maximizing Likelihood Function for Parameter Estimation in Point Clouds	Joseph Awange	Béla Paláncz	Robert Lewis				
10.3	What is new in CoCoA?	John Abbott	Anna M. Bigatti					
10.4	Application of Groebner Basis Methodology to Nonlinear Mechanics Problems	Y. Jane Liu	John Peddieson					
10.5	Groebner Basis Applications in Geodesy and Geoinformatics	Joseph Awange	Béla Paláncz	Robert Lewis				
10.6	Generic and parallel Groebner bases in JAS	Heinz Kredel						
10.7	Verification of Groebner basis candidates	Masayuki Noro	Kazuhiro Yokoyama					
10.8	An algorithm for computing standard bases by change of ordering via algebraic local cohomology	Katsusuke Nabeshima	Shinichi Tajima					
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10.10	Effective Computation of Radical of Ideals and its Application to Invariant Theory	Amir Hashemi						
10.11	Groebner Bases in Teaching Mechanics	Y. Jane Liu	Rafal Ablamowicz					
10.12	Software Packages for Holonomic Gradient Method	Tamio Koyama	Hiromasa Nakayama	Katsuyoshi Ohara	Tomonari Sei	Nobuki Takayama		

Triangular Decompositions of Polynomial Systems

11.1	Cylindrical Algebraic Decomposition in the RegularChains Library	Changbo Chen	Marc Moreno Maza					
11.2	Choosing a Variable Ordering for Truth-Table Invariant Cylindrical Algebraic Decomposition by Incremental Triangular Decomposition	Matthew England	Russell Bradford	James H. Davenport	David Wilson			
11.3	Using the Regular Chains Library to Build Cylindrical Algebraic Decompositions by Projecting and Lifting	Matthew England	David Wilson	Russell Bradford	James H. Davenport			
11.4	Hierarchical Comprehensive Triangular Decomposition	Zhenghong Chen	Xiaoxian Tang	Bican Xia				
11.5	Doing Algebraic Geometry with the RegularChains Library	Parisa Alvandi	Changbo Chen	Steffen Marcus	Marc Moreno Maza	Eric Schost	Paul Vrbik	
11.6	Computing Moore-Penrose Inverses of Ore Polynomial Matrices	Yang Zhang						
11.7	On Multivariate Birkhoff Rational Interpolation	Peng Xia	Bao-Xin Shang	Na Lei				
11.8	An Improvement of Rosenfeld-Groebner Algorithm	Amir Hashemi	Zahra Touraji					

Parametric Polynomial Systems

12.1	An algorithm for computing Tjurina stratifications of mu-constant deformations using algebraic local cohomology	Katsusuke Nabeshima	Shinichi Tajima					
12.2	An implementation method of Boolean Groebner bases and comprehensive Boolean Groebner bases on general computer algebra systems	Akira Nagai	Shutaro Inoue					
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12.6	SyNRAC: A toolbox for solving real algebraic constraints	Hideao Iwane	Hitoshi Yanami	Hirokazu Anai				
12.7	Software Using the Groebner Cover for Geometrical Loci Computation and Classification	Miguel Abanades	Francisco Botana	Antonio Montes	Tomas Recio			
12.8	Using Maple's RegularChains Library to Automatically Classify Plane Geometric Loci	Francisco Botana						
12.9	Solving Parametric Polynomial Systems by RealComprehensiveTriangularize	Changbo Chen	Marc Moreno Maza					
12.10	A Package for Parametric Matrix Computations	Robert M. Corless	Steven E. Thornton					

Mathematical Web/Mobile Interfaces, Editing and Visualization

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13.2	An Implementation Method of a CAS with a Handwriting Interface on Tablet Devices	Mitsushi Fujimoto						
13.3	A Touch-based Mathematical Expression Editor	Wei Su	Paul S. Wang	Li Lian				
13.4	A Tablet-Compatible Web-Interface for Mathematical Collaboration	Marco Pollanen	Jeff Hooper	Bruce Cater	Sohee Kang			
13.5	Development and Evaluation of A Web-Based Drill System to Master A Basic Math Formula Using The New Interactive Math Input Method	Shizuka Shirai	Tetsuo Fukui					
13.6	GNU TeXmacs: towards a scientific office suite	Massimiliano Gubinelli	Joris van der Hoeven					
13.7	IFSGen4LaTeX: Interactive Graphical User Interface to Generate and Visualize Iterated Function Systems for LaTeX	Akemi Galvez Tomida	Kiyoshi Kitahara	Masataka Kaneko				
13.8	Computer Software for Representation and Visualization of Free-Form Curves with Bio-inspired Optimization Techniques	Andres Iglesias	Akemi Galvez Tomida					
13.9	Creating Interactive Graphics for Mathematics Education Utilizing KETpic	Shunji Ouchi	Yoshifumi Maeda	Kiyoshi Kitahara	Naoki Hamaguchi			
13.10	Generating Data of Mathematical Figures for 3D Printers with KETpic and Educational Impact of the Printed Models	Setsumi Takato	Naoki Hamaguchi	Haiduke Sarafian				
13.11	Establishment of KETpic programming styles for drawing	Satoshi Yamashita	Yoshifumi Maeda	Hisashi Usui	Kiyoshi Kitahara	Hideyo Makishita	Kazushi Ahara	
13.12	New Way of Explanation of the Stochastic Interpretation of Wave Functions and its Teaching Materials Using KETpic	Kenji Fukazawa						
13.13	Practice with Computer Algebra Systems in Mathematics Education and Teacher Training Courses	Hideyo Makishita						
13.14	On some attempts to verify the effect of using high-quality graphics in mathematics education	Kiyoshi Kitahara	Tadashi Takahashi	Masataka Kaneko				
13.15	Development of Visual Aid Materials in Teaching the Bivariate Normal Distributions	Toshifumi Nomachi	Toshihiko Koshiba	Shunji Ouchi				
13.16	Some problems of making educational materials of mathematics with CAS	Kazushi Ahara						

General

14.1	Metalibm: A Mathematical Functions Code Generator	Olga Kupriianova	Christoph Lauter					
14.2	From Calculus to Algorithms without Errors	Norbert Mueller	Martin Ziegler					
14.3	Function Interval Arithmetic	Jan Duracz	Amin Farjudan	Michal Konecny	Walid Taha			
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14.8	Integration of libnormaliz in CoCoALib and CoCoA 5	John Abbott	Anna M. Bigatti	Christof Soeger				
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