

# CASC '2005

*The 8th International Workshop  
on Computer Algebra in Scientific Computing*

*September 12-16, 2005, Kalamata, GREECE*

## CONFERENCE PROGRAM

### Monday September 12


9:00 a.m.– 18:00 p.m.—CASC 2005 Satellite Workshops HOTEL FILOXENIA

14:00 p.m.– 19:00 p.m.—CASC 2005 Registration HOTEL FILOXENIA

	Tuesday September 13, 2005	Wednesday September 14, 2005	Thursday September 15, 2005	Friday September 16, 2005
8:50 a.m. 9:00 a.m.	<p><b><u>Opening Remarks</u></b></p> <p>CASC General Chairs V. P. Gerdt E. W. Mayr</p> <p>CASC 2005 Conference Chairs Emiris Kotsireas Vrahatis</p>			

9:00 a.m. 9:30 a.m.	<b>Invited Talk I</b> <b>Joachim von zur Gathen</b>	<b>Invited Talk II</b> <b>Bernard Mourrain</b>	<b>V. P. Gerdt Y. A. Blinkov</b> <b>Janet-like Monomial Division</b>	<b>D. Chibisov V. Ganzha,</b> <b>E. W. Mayr</b> <b>E. Vorozhtsov</b> <b>Generation of Almost</b> <b>Orthogonal Grids On</b> <b>Curvilinear Trimmed</b> <b>Regions in Constant</b> <b>Time</b>
9:30 a.m. 10:00 a.m.	<b>High-performance</b> <b>computer algebra</b>	<b>Symbolic numeric</b> <b>methods for solving</b> <b>polynomial equations</b>	<b>V. P. Gerdt Y. A. Blinkov</b> <b>Janet-like Gröbner Bases</b>	<b>D. Chibisov, V. Ganzha,</b> <b>S. Pankratov C. Zenger</b> <b>Computer Algebra in</b> <b>Nanosciences: Modeling</b> <b>of Electronic States in</b> <b>Quantum Dots</b>
10:00 a.m. 10:15 a.m.	<b>Coffee Break</b>	<b>Coffee Break</b>	<b>Coffee Break</b>	<b>Coffee Break</b>
10:15 a.m. 10:45 a.m.	<b>L. Gonzalez-Vega,</b> <b>C. Traverso A. Zanoni</b> <b>Hilbert Stratification</b> <b>and Parametric</b> <b>Groebner Bases</b>	<b>V. Weispfenning</b> <b>Solving Linear</b> <b>Differential Problems</b> <b>with Parameters</b>	<b>A. Suzuki</b> <b>Computation of Full</b> <b>Comprehensive Gröbner</b> <b>Bases</b>	<b>R. Berghammer</b> <b>F. Neumann</b> <b>RELVIEW - An OBDD-</b> <b>based Computer</b> <b>Algebra System For</b> <b>Relations</b>

10:45 a.m. 11:15 a.m.	<b>J. Gago-Vargas M. I. Hartillo-Hermoso J. M. Ucha-Enriquez Nouvelle Cuisine for the Computation of the Annihilating Ideal of <math>f^s</math></b>	<b>S. A. Abramov M. Bronstein D.E. Khmel'nov On Regular and Logarithmic Solutions of Ordinary Linear Differential Systems</b>	<b>M. Borges-Quintana M. A. Borges-Trenard E. Martinez-Moro On the Use of Gröbner Bases for Computing the Structure of Finite Abelian Groups</b>	<b>D. G. Richardson W. Krandick Compiler-Enforced Memory Semantics in the SACLIB Computer Algebra Library</b>
11:15 a.m. 11:45 a.m.	<b>V. V. Kornyak On Compatibility of Discrete Relations</b>	<b>A. D. Bruno V. F. Edneral Normal Forms and Integrability of ODE Systems</b>	<b>D. Gomez, J. Gutierrez. A. Ibeas Circulant Digraphs and Monomial Ideals</b>	<b>E. Roanes-Lozano R. Garcia E. Roanes-Macias A. Aparicio L. M. Laita Meta-Petro: An Expert System for Training Undergraduates in Metamorphic Rocks Recognition and Classification Using Photomicrographics</b>
11:45 a.m. 12:15 pm.	<b>S. Basu M. Kettner Computing the Betti Numbers of Arrangements in Practice</b>	<b>S. Yu. Slavyanov V. Yu. Papshev Differential and Difference Equations for Products of Classical Orthogonal Polynomials</b>	<b>T. Sturm Quantifier Elimination for Constraint Logic Programming</b>	<b>I. N. Belyaeva N. A. Chekanov A. A. Gusev V. A. Rostovtsev, Yu. A. Ukolov Y. Uwano S. I. Vinit'sky A MAPLE Symbolic- Numeric Program for Solving of the 2D-Eigenvalue Problem by a Self-Consistent Basis Method</b>
12:15 pm. 14:15 pm.	<b>Lunch</b>	<b>Lunch</b>	<b>Lunch</b>	<b>Lunch</b>

14:15 pm. 14:45 pm.	<b>A. Shermenev</b> <b>Nonlinear Waves</b> <b>in a Rod</b>	<b>S. Zemskov</b> <b>Approximate Solution of</b> <b>the Dirichlet Problem</b> <b>for Elliptic PDE and 1st</b> <b>Error Estimate</b>	<p><b>DIROS CAVES</b></p>  <p><b>Sightseeing Excursion</b></p> <p>Buses leave at <b>14:00 p.m.</b></p>	<b>S. Liu A. Weber</b> <b>A Symbolic-numeric</b> <b>Method For Solving</b> <b>Boundary Value</b> <b>Problems of Kirchhoff</b> <b>Rods</b>
14:45 pm. 15:15 pm.	<b>S. Yu. Vernov</b> <b>The Laurent-Series and</b> <b>Elliptic Solutions of</b> <b>Nonintegrable Systems</b>	<b>C. Koukouvinos</b> <b>E. Lappas</b> <b>Construction of Two</b> <b>Level Orthogonal</b> <b>Arrays Via Solutions of</b> <b>Linear Systems</b>		<b>L. Semin V. Shapeev</b> <b>Constructing the</b> <b>Numerical Method for</b> <b>Navier-Stokes Equations</b> <b>Using Computer</b> <b>Algebra System</b>
15:15 pm. 15:45 pm.	<b>Akira Terui</b> <b>Recursive Polynomial</b> <b>Remainder Sequence</b> <b>and the Nested</b> <b>Subresultants</b>	<b>C. Kravvaritis</b> <b>M. Mitrouli J. Seberry</b> <b>Counting Techniques</b> <b>Specifying the Existence</b> <b>of Submatrices in</b> <b>Weighing Matrices</b>		<b>R. Gonzalez-Diaz, B.</b> <b>Medrano P. Real J.</b> <b>Sanchez-Pelaez</b> <b>Algebraic Topological</b> <b>Analysis of Sequence of</b> <b>Digital Images</b>
15:45 pm. 16:00 pm.	<b>Coffee Break</b>	<b>Coffee Break</b>		<b>Coffee Break</b>
16:00 pm. 16:30 pm.	<b>S. Schmitt</b> <b>The Diamond Operator</b> <b>- Implementation of</b> <b>Exact Real Algebraic</b> <b>Numbers</b>	<b>S. Miyajima T. Ogita</b> <b>S. Oishi</b> <b>Fast Verification for</b> <b>Respective Eigenvalues</b> <b>of Symmetric Matrix</b>		<b>E. A. Grebenicov</b> <b>D. Kozak-Skoworodkin</b> <b>M. Jakubiak</b> <b>Investigation of the</b> <b>Stability Problem for the</b> <b>Critical Cases of the</b> <b>Newtonian Many-Body</b> <b>Problem</b>

16:30 pm. 17:00 pm.	<b>Kosaku Nagasaka</b> <b>Towards More Accurate Separation Bound of Empirical Polynomials II</b>	<b>A. D. Chtcherba</b> <b>D. Kapur M. Minimair</b> <b>Cayley-Dixon Resultant Matrices of Multi-Univariate Composed Polynomials</b>		<b>A. Gusev.V.Gerdt M. Kaschiev V. Rostovtsev V. Samoylov T.Tupikova Y.Uwano S. Vinitisky</b> <b>Symbolic-Numerical Algorithm for Solving the Time-Dependent Shrodinger Equation by Split-Operator Method</b>
17:00 pm. 17:30 pm.	<b>A. Eigenwillig</b> <b>L. Kettner W. Krandick, K. Mehlhorn S. Schmitt N. Wolpert</b> <b>A Descartes Algorithm for Polynomials with Bitstream Coefficients</b>	<b>L. Buse, H. Khalil B. Mourrain</b> <b>Resultant-Based Methods for Plane Curves Intersection Problems</b>		<b>V. Irtegov T. Titorenko</b> <b>On Some Results of Investigation of Kirchhoff Equations in Case of a Rigid Body's Motion in Fluid</b>
17:30 pm. 18:00 pm.	<b>I. Z. Emiris E. P. Tsigaridas</b> <b>Real Solving of Bivariate Polynomial Systems</b>	<b>A. Soleev</b> <b>Algorithm of Local Resolution of Singularities of a Space Curve</b>		<b>C. Cattani E. A. Grebenikov A. N. Prokopenya</b> <b>Symbolic Calculations in Studying the Stability of Dynamically Symmetric Satellite Motion</b>
18:00 pm. 19:00 pm	<b>1<sup>st</sup> Poster Session</b>	<b>2<sup>nd</sup> Poster Session</b>		
	<b>Free Afternoon</b>	<b>CASC 2005 Gala Dinner &amp; Poster Prizes Announcements</b> <b>19:30 p.m.</b>		<b><u>Closing Remarks</u></b> <b>CASC General Chairs</b> <b>CASC 2005 Conference Chairs</b>

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