Program CASC'99

Monday, May 31

Morning session

Session Chair: Christoph Zenger

8:50 Opening (E.W. Mayr)

9:00 Richard Liska
Where Numerics can Benefit from Computer Algebra in Finite Difference Modelling of Fluid Flows

9:35 Michel Fournié
Symbolic Derivation of Different Class of High Order Compact Schemes for Partial Differential Equations

10:10 coffee break

10:40 V.G. Ganzha, E.V.Vorozhtsov
Implementation of Aerodynamic Computations with Mathematica

11:15 Gerrit Handrich
Quantization by Presentation: The Nambu-Goto String in $1 + 3$ Dimensions

12:00 lunch

Afternoon session

Session Chair: Victor Edneral

13:30 Vladimir P. Gerdt, Vladimir V.Kornyak, Matthias Berth, Günter Czichowski
Construction of Involutive Monomial Sets for Different Involutive Divisions

14:05 Vladimir P. Gerdt
Completion of Linear Differential Systems to Involution

14:40 Gerd Baumann
Solution of Ordinary Differential Equations with MathLie

15:15 coffee break

15:40 A.N. Prokopenya, N.I. Chochits, R. Kragler (short talk)
Simulation of Forces in Classical Mechanics

16:15 Tim Wichmann, Ralf Popp, Walter Hartong, Lars Hedrich
On the Simplification of Nonlinear DAE Systems in Analog Circuit Design

16:50 Vladimir F. Kovalev
Computer Algebra Tools in Construction of Renormgroup Symmetries

18:00 dinner

Tuesday, June 1

Morning session

Session Chair: Vladimir Gerdt

9:00	Brian J. Dupée, James H. Davenport An Automatic Symbolic-Numeric Taylor Series ODE Solver
9:35	Radu Zapotinschi Symbolic Analysus of Computational Algorithms with SYDNA
10:10	coffee break
10:40	W. Govaerts, Yu. A. Kuznetsov, B. Sijnave Bifurcations of Maps in the Software Package CONTENT
11:15	Yves A. Papegay From Modeling to Simulation with Symbolic Computation: An Application to Design and Performance Analysis of Complex Optical Device
12:00	lunch

Afternoon session

Session Chair: Ernst W. Mayr

13:30	Hans J. Stetter Polynomials with Coefficients of Limited Accuracy
14:05	Joachim von zur Gathen, Jaime Gutierrez, Rosario Rubio On Multivariate Polynomial Decomposition
14:40	Alexii Yu. Uteshev Localization of Roots of a Polynomial Not Represented in Canonical Form
15:15	coffee break
15:40	Rainer Steinwandt Decomposing Systems of Polynomial Equations
16:10	Nikolay Vasiliev Complexity of Monomial Evaluations and Duality
16:40	M. Cafaro, B. Paternoster Analysis of Stability of Rational Approximations Through Computer Algebra
17:10	Sergey Gutnik Symbolic-numeric Investigations for Stability Analysis of Satellite Systems
18:00	dinner
19:00	Tim Wichmann Software Demonstration: ANALOG INSYDES

Wednesday, June 2

Morning session

Session Chair: Yuri Matiyasevich

9:00	Vladimir V. Kornyak Cohomology of Lie Suberalgebras of Hamiltonian Vector Fields: Computer Analysis
9:35	R. González-Díaz, P. Real Computing Cocycles on Simplicial Complexes
10:10	coffee break
10:40	Invited lecture Werner M. Seiler Indices and Solvability for General Systems of Differential Equations
12:00	lunch
14:00	excursion
18:00	dinner

Thursday, June 3

Morning session

Session Chair: Volker Weispfenning

9:00 V. Y. Pan, A. Zheng, M. Abu Tabanjeh, Z. Chen, S. Providence
Superfast Computations with Singular Structured Matrices over Abstract Fields

9:35 A.N. Prokopenya, N.I. Chochits, R. Kragler (short talk)
Simulation of Forces in Classical Mechanics

10:10 coffee break

10:40 Invited lecture
Gaston H. Gonnet, Allan Bonadio
Partial Inverse Heuristic for the Approximate Solution of Non-linear Equations

12:00 lunch

Afternoon session

Session Chair: Evgenii Vorozhtsov

13:30 Vladimir P. Gerdt, Soso A. Gogilidze
Constrained Hamiltonian Systems and Gr"obner Bases

14:05 Victor F. Edneral
About Normal Form Method

14:40 Eugenio Roanes-Lozano, E. Roanes-Macínas, L.M. Laita
Geometric Interpretation of Strong Inconsistency in Knowledge Based Systems

15:15 coffee break

15:40 Christoph Richard, Andreas Weber
A Symbolic Numeric Environment for Analyzing Measurement Data in Multi-Model Settings

16:15 Manfred G"obel, Wolfgang K"uchlin, Stefan M"uller, Andreas Weber
Extending a Java Based Framework for Scientific Software-Components

16:50 Yoshio Uwano, Nikolai Chekanov, Vitaly Rostovtsev, Sergue Vinitsky
On Normalization of a Class of Polynomial Hamiltonians: From Ordinary and Inverse Points of View

18:30 banquet

Friday, June 4

Morning session

Session Chair: Nikolay Vassiliev

9:00	Edgar Martínez-Moro Computations on Character Tables of Association Schemes
9:35	V.I. Mysovskikh Investigation of Subgroup Embeddings by the Computer Algebra Package GAP
10:10	coffee break
10:40	Yuri Matiyasevich Colouring graphs with (computer) algebra
11:15	business meeting/closing (Vladimir P. Gerdt)
12:00	lunch