PASCO'94 First International Symposium on **Parallel Symbolic Computation**

PROGRAM

Monday, 26 September 1994

8:40 Administration / Opening of the Symposium

9:00 Session 1: Invited Tutorial

Parallel Computer Algebra
Paul Wang (Kent, USA).

10:00 Coffee Break

10:20 Session 2: Contributed Papers (session chairman: Paul Wang)

Parallel Solution of Toeplitz and Toeplitz-Like Linear Systems Over Fields of Small Positive Characteristic
Erich Kaltofen (Troy, USA), *Victor Pan* (Bronx, USA).

The vectorisation monad
Jonathan M.D. Hill , *Keith Clarke* , *Richard Bornat* (London, UK).

Constraint Solving in Distributed Concurrent Logic Programming
Ho-Fung Leung (Hong Kong), *Keith Clark* (London, UK).

11:20 Coffee Break

11:40 Session 3: Contributed Papers (session chairman: Jieh Hsiang)

On the reconstruction of proofs in distributed theorem proving with contraction: a modified Clause-Diffusion method
Maria Paola Bonacina (Iowa City, USA).

A strategy-accurate parallel Buchberger algorithm
Giuseppe Attardi , *Carlo Traverso* (Pisa, Italy).

Optimizing Clause Matching Automata in Committed-Choice Languages
Bart Massey , *Evan Tick* (Eugene, USA).

12:40 Lunch Break

14:20 Session 4: Invited Talk

Parallel Automated Deduction
Claude Kirchner (Nancy, France).

15:20 Coffee Break

15:40 Session 5: Contributed Papers (session chairman: Claude Kirchner)

Multi-Threaded AC Term Rewriting
Reinhard Bündgen , *Manfred Göbel* , *Wolfgang Küchlin* (Tübingen, Germany).

A Parallel Gröbner Factorizer
Hans-Gert Gräbe , *Wolfgang Lassner* (Leipzig, Germany).

A Comparative Study of Methods for Automatic Compile–time Parallelization of Logic Programs
Francisco Bueno , *Maria José Garcia de la Banda* , *Manuel Hermenegildo* (Madrid, Spain).

16:40 Coffee Break

17:00 Session 6: Contributed Papers (session chairman: Wolfgang Küchlin)

Distributed programming in Erlang
Claes Wikström (Älvsjö, Sweden)

The Multipath Parallel Execution Model for Prolog
Antonio González , *Jordi Tubella* (Barcelona, Spain)

Some Experiments with Parallel Bignum Arithmetic
Bruce Char , *Jeremy Johnson* (Philadelphia, USA), *David Saunders* , *Andrew P. Wack* (Newark, USA).

18:00 End of Day

PROGRAM

Tuesday, 27 September 1994

8:40 Administration

9:00 Session 1: Invited Tutorial

Parallel Functional Languages:
Kevin Hammond (Glasgow, UK)

10:00 Coffee Break

10:20 Session 2: Contributed Papers (session chairman: Kevin Hammond)

Parallel Implementation of the Gamma-Operation on Bags
Katia Gladitz , *Herbert Kuchen* (Aachen, Germany).

PAC++ system and parallel algebraic numbers computation
Thierry Gautier , *Jean-Louis Roch* (Grenoble, France).

Towards Granularity Based Control of Parallelism in Logic Programs
Pedro López Garcia , *Manuel Hermenegildo* (Madrid, Spain), *Saumya Debray* (Tucson, USA).

11:20 Coffee Break

11:40 Session 3: Contributed Papers (session chairman: David Saunders)

An AND Parallelization Method for MGTP and Its Evaluation
Ryuzo Hasegawa , *Miyuki Koshimura* (Tokyo, Japan).

Parallel GCD for Sparse Multivariate Polynomials on Shared Memory Multiprocessors
Mohamed Omar Rayes (Kent, USA) *Paul S. Wang* (Livermore, USA).

Local and Conditional Blackboard Operations in μLog: Semantics, Applicability, and Implementation
Koen De Bosschere (Gent, Belgium), *Jean-Marie Jacquet* (Namur, Belgium).

12:40 Lunch Break

14:20 Session 4: Contributed Papers (session chairman: Jeremy Johnson)

A Para-Functional Programming Interface for a Parallel Computer Algebra Package
Wolfgang Schreiner (Linz, Austria).

Modular Algorithm for Sparse Multivariate Polynomial Interpolation and its Parallel Implementation
Hirokazu Murao , *Tetsuro Fujise* (Tokyo, Japan).

Constraint-Based Knowledge Brokers
Jean-Marc Andreoli , *Uwe M. Borghoff* , *Remo Pareschi* (Meylan, France).

15:20 Coffee Break

15:40 Session 5: Contributed Papers (session chairman: Manuel Hermengildo)

Implementation of a Data-Parallel Concurrent Constraint Programming System
Bo-Ming Tong , *Ho-Fung Leung* (Hong Kong).

The Parallel Computation of $f(x)^{\frac{(p-1)}{2}}$ mod $h(x)$ on a Network of Workstations using *Sugarbush 1.1*
Tracy Burke-Perline (Philadelphia, USA).

Parallel Symbolic Processing with the Distributed Lists
Masaru Takesue (Tokyo, Japan).

16:40 Coffee Break

17:00 Session 6: Contributed Papers (session chairman: Herbert Kuchen)

A Semi-Automatic Approach for Parallelizing Symbolic Processing Programs
Angela Sodan , *Hua Bi* (Berlin, Germany).

A High Performance Runtime System for Parallel Evaluation of Lazy Languages
Owen Kaser (Saint John, Canada), *C.R. Ramakrishnan* (Stony Brook, USA), *R.C. Sekar* (Morristown, USA).

Synchronization of Constrained Transition Systems
Antoine Rauzy (Talence, France), *Srećko Brlek* (Montréal, Canada).

18:00 End of Day

PROGRAM

Wednesday, 28 September 1994

8:40 Administration

9:00 Session 1: Invited Tutorial

Parallel Constraint/Logic Languages:
Gert Smolka (Saarbrücken, Germany)

10:00 Coffee Break

10:20 Session 2: Contributed Papers (session chairman: Gert Smolka)

PARCS: An MPP-Oriented CLP Language
Kazuhiro Konno , *Masaaki Nagatsuka*, *Naoki Kobayashi* , *Satoshi Matsuoka* , *Akinori Yonezawa* (Tokyo, Japan).

A Stack-based Machine for Parallel Execution of Babel Language
Fernando Sáenz , *J.J. Ruz* (Madrid, Spain), *Werner Hans* , *Stephan Winkler* (Aachen, Germany).

Bidirectional Exact Integer Division
Werner Krandick , *Tudor Jebelean* (Linz, Austria).

11:20 Coffee Break

11:40 Session 3: Contributed Papers (session chairman: Jean-Louis Roch)

Cumulating Search in a Distributed Computing Environment: A Case Study
Hantao Zhang , *Maria Paola Bonacina* (Iowa City, USA).

Parallel Implementation of the Accelerated Integer GCD Algorithm
Kenneth Weber (Kent, USA).

A Cooperative Scheme for Solving Constraints over the Reals
Philippe Marti , *Michel Rueher* (Sophia Antipolis, France).

12:40 Lunch Break

14:20 Session 4: Contributed Papers (session chairman: Roman Maeder)

Parallel Abduction in Logic Programming
Antonis C. Kakas , *George A. Papadopoulos* (Nicosia, Cyprus).

A Parallel Factorization Tree Gröbner Basis Algorithm
Kurt Siegl (Linz, Austria)

Independent Subexpressions Parallelism with Delayed Synchronization for Functional Logic Languages
Andrés del Pozo-Prieto , *Juan José Moreno-Navarro* (Madrid, Spain).

15:20 Coffee Break

15:40 Session 5: Contributed Papers (session chairman: Maria Paola Bonacina)

Parallelization of Gröbner basis
Jean-Charles Faugère (Paris, France)

Parallelising a Functional Program Using a List-Homomorphism Skeleton
Tore A. Bratvold (Edinburgh, UK).

Recording, Analyzing and Presenting Distributed Deduction Processes
Jörg Denzinger , *Stephan Schulz* (Kaiserslautern, Germany).

16:40 Coffee Break

17:00 Session 6: Contributed Papers (session chairman: Heinz Kredel)

Distributed Computer Algebra: the Central Control approach
Stéphane Dalmas , *Marc Gaëtano* , *Alain Sausse* (Sophia-Antipolis, France).

Reducing Graph Copying Costs - Time to Wrap it up
Marco Kesseler (Nijmegen, The Netherlands)

17:40 Closing of the Symposium

19:30 Symposium Banquet