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457

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CONPAR 90 – VAPP IV

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Preface

While parallel architectures were pure research vehicles some years ago, this situation has changed substantially. There are many commercial systems available now that compete for market segments in scientific computing. The 1990s are likely to become the decade of parallel processing.

The past decade has already seen the emergence of the two highly successful series of CONPAR and VAPP conferences on the subject of parallel processing. The *Vector and Parallel Processors in Computational Science* (VAPP) meetings were held in Chester (1981), Oxford (1984) and Liverpool (1987). The *International Conferences on Parallel Processing* (CONPAR) took place in Erlangen (1981), Aachen (1986) and Manchester (1988). Despite the importance of parallel architectures and parallel computing, the Standing Committees of both conference series got the impression that there are too many conferences, workshops, summer schools, and exhibitions at the moment. The idea of a joint conference came up. On one hand we succeeded because for the first time these conferences are being held together. During the preparations for this conference, however, several new meetings appeared, with the result that there is a tremendous number of events this year. The organizers of CONPAR 90 - VAPP IV are thus satisfied to see that their conference series is already quite mature. We have received such a lot of good and well-written papers that we had to reduce the number of published papers considerably. Whether CONPAR and VAPP continue as joint conferences in future is still open at the moment. Hopefully this joint conference series can be developed into *the* important European event.

This is the first time such a big conference on parallel processing is taking place in Switzerland. Returning home from the Frankfurt meeting in February 1989 where the final vote was given for a Zurich conference, it was a great relief to get so much support from colleagues. I would like to express my special thanks to Ernst Rothauser, who took the heavy load of coordinating all local arrangements and the organization.

I would also like to thank the other members of the Steering and Organizing Committees for their continuous help. Special thanks go to Peter Arbenz, Armin Friedli, Walter Gander, Hans-Jürgen Halin and Richard Wait. I wish to extend my sincere thanks to the members of the Program Committee for their contributions to the shaping of the conference program and their help in reviewing papers. I also express my gratitude to all other referees for their assistance in

this process. The idea of the Computation Race came up in an early lunch with Jürg Nievergelt. I would link to thank him as well as the Awards Committee for this and other enrichments of the conference program.

Two prominent computer architects offered their help in organizing this event. Professor Speiser will act as the Honorary Chairman and will address the conference with his keynote "Digital Electronics for 50 Years: No Limits to Growth?". Professor Händler, the founder of the CONPAR series, is acting as the Chairman of the Standing Committee. We are indebted to him for his continual advice on, and confidence in, our Zurich conference.

The preparation of the technical program was a time-consuming process. I would not have managed to fulfill all the deadlines without my assistants Stephan Gutzwiller and Stephan Waser, who carefully co-ordinated all steps and many times suffered with me. The secretaries Mrs. A. Mathys and Mrs. Rothauser helped a lot to ease our job. Let me thank them all.

No conference preparations can be made without initial funding. The Swiss Informatics Society/Swiss Chapter of the ACM and IEEE Switzerland Section provided this help without hesitation. GI-PARS, BCS-PPSG, and IEEE CS later co-operated.

We would like to thank ETH Zürich for acting as the host site, as it provides such a pleasant conference environment. Last but not least I would like to thank the University of Basel for providing an infrastructure which enabled us to organize the conference from a distance.

The proceedings in hand start with the keynote address given by the Honorary Chairman. Next come two papers given by invited speakers, V. Bhatkar and E. Odijk. The main part of the proceedings consists of 77 papers written by authors from 20 different countries. These contributed papers have been selected by an international program committee. The topics of the papers are manifold; please note that we have grouped the table of contents according to the session titles. We have also added the rules for the Computation Race for future reference. The results of this competition will be presented at the conference and possibly published later.

Now it is up to you, the conference participant and reader of these proceedings, to make the final assessment.

Basel, June 1990 H.Burkhart

Contents

Logic Programming

Performance Monitoring and Debugging

Algorithms for Matrix Factorization

Large-Grain Data Flow

Compile-Time Analysis and Restructurers

Architectures and Algorithms for Image Processing

Interconnection Networks

Load Balancing and the Mapping Problem

Efficient Use of Vector Processors

Concurrency Control

Transputer Tools and Applications

Cellular/Systolic Architectures and Algorithms

Implementation Issues for Novel Architectures and Languages

The TOPSYS Tool Environment

Array Processors and Applications

High-Performance Systems and Accelerators

Visualization and Runtime Analysis

Algorithmic Studies for Hypercube-Type Systems

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