

Preface

The Austrian Center for Parallel Computation (ACPC) is a cooperative research organization founded in 1989 to promote research and education in the field of Software for Parallel Computer Systems.

The areas in which the ACPC is active include algorithms, languages, compilers, programming environments, and applications for parallel and high-performance computing systems. The partners of ACPC run research projects in these fields, use a common pool of hardware equipment, and offer a joint curriculum in Parallel Computation for graduate and postgraduate students. Moreover, several national and international workshops and conferences have been organized within the framework of the ACPC.

These proceedings concern the Fourth International Conference of the ACPC (ACPC'99), held on February 16–18 in Salzburg, Austria. This conference is a merge of two established international conference/workshop series devoted to parallel processing: the ACPC conferences which were held previously in Salzburg, Gmunden, and Klagenfurt (all Austria) and the Parallel Numerics (ParNum) workshops which were organized in Smolenice (Slovakia), Sorrento (Italy), Gozd Martuljek (Slovenia), and Zakopane (Poland).

We invited 20 researchers to participate on the program committee. The conference attracted authors from 22 countries around the world who submitted 75 papers, out of which 50 were selected for presentation at the conference. Additionally, a poster session was organized featuring work in progress. Four distinguished researchers presented invited papers with topics related to the two special tracks on Parallel Numerics and Parallel Computing in Image Processing, Video Processing, and Multimedia.

The conference was a result of the dedicated work of a large number of individuals, not all of whom can be mentioned here. In particular, we must acknowledge the reviewers, who formed an international panel and did a competent job in a timely manner. We have to thank also the members of the local organizing committee for their effort in enabling the conference to run smoothly. Finally, we gratefully acknowledge the support of all organizations and institutions sponsoring the conference.

Salzburg, December 1998

Peter Zinterhof
Marian Vajteršic
Andreas Uhl

Organization

Program Committee

- Chairman: P. Zinterhof (Univ. of Salzburg, Austria)
- Special Tracks Chairmen: M. Vajteršic (Univ. of Salzburg, Austria and
Slovak Academy of Sciences, Slovakia)
A. Uhl (Univ. of Salzburg, Austria)
- Program Committee Members: P. Brezany (Univ. of Vienna, Austria)
L. Böszörményi (Univ. of Klagenfurt, Austria)
B. Buchberger (Univ. of Linz, Austria)
B. Chapman (University of Southampton, UK)
T. Fahringer (Univ. of Vienna, Austria)
A. Ferscha (Univ. of Vienna, Austria)
S. Grabner (Univ. of Linz, Austria)
C. Guerrini (Univ. of Bologna, Italy)
G. Haring (Univ. of Vienna, Austria)
U. Langer (Univ. of Linz, Austria)
L. Montefusco (Univ. of Bologna, Italy)
G. di Pietro (IRSIP-CNR Naples, Italy)
W. Schreiner (Univ. of Linz, Austria)
O. Steinhauser (Univ. of Vienna, Austria)
R. Trobec (Jozef Stefan Institute, Slovenia)
C. Ueberhuber (Technical Univ. of
Vienna, Austria)
J. Volkert (Univ. of Linz, Austria)
R. Wyrzykowski (Univ. of Czestochowa,
Poland)
H. Zima (Univ. of Vienna, Austria)
W. Zulehner (Univ. of Linz, Austria)

Organizing Committee

- Chairman: A. Uhl (Univ. of Salzburg, Austria)
- Organizing Committee Members: M. Feil, J. Hämmerle,
W. Ch. Schmid, M. Traunmüller

Referees

Each paper was carefully reviewed by at least 2 reviewers and by 2.62 reviewers on average. We thank all reviewers listed below for their valuable work.

S. Akramullah	A. Goller	A. Petrosino
P. Arbenz	S. Grabner	M. Pic
D. Arita	C. Guerrini	E. Pissaloux
A. Averbuch	M. Guggisberg	G. Podhájecký
K. Balla	J. Hämmerle	I. Podlubný
W. Bauer	L. Halada	A. Pommer
S. Benkner	S. Hambruch	P. Purcz
A. Bilas	G. Haring	T. Rauber
R. Bisseling	Y. He	J. Roman
D. Bone	M. Hegland	G. Schaufler
R. Borgia	M. Holmström	W. Schreiner
L. Böszörményi	T. Hruz	S. Sedukhin
P. Brezany	R. Huber	K. Shen
A. Broggi	J. Jackson	D. Sparano
U. Bueker	D. Jadav	O. Steinhauser
H. Bungartz	A. Kiper	W. Stürzlinger
B. Chapman	C. Konstantopoulos	K. Tamaru
S. Chow	R. Koppler	R. Trobec
M. Clint	H. Kosch	P. Tsanakas
G.W. Cook	D. Kranzlmüller	C.W. Ueberhuber
M. Corvi	G. Larcher	A. Uhl
T. Crockett	M. Lea	G. Uytterhoeven
P. de Pietro	J. Linhart	M. Vajteršic
D. di Serafino	V. Manian	L. van Eycken
T. Ertl	S. Manohar	O. Veryovka
T. Fahringer	A. Marsh	J. Volkert
M. Feil	F. Meunier	I. Vrto
A. Ferscha	L. Montefusco	G. Wesp
J. Fridman	A. Murli	R. Wyrzykowski
J. Fritts	J. Nabrzyski	D. Xu
M. Gabbouj	H. Niederreiter	J. You
L. Gatineau	O. Nielsen	E. Zapata
B. Gennart	G. Oksa	H. Zima
R. Geus	S. Pagnutti	W. Zulehner
I. Glendinning	F. Perla	