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Message from the Program Chair

Welcome to the proceedings of the 10th International Conference on High Performance Computing, HiPC 2003. This year, we were delighted to have 164 papers submitted to this conference from 20 different countries, including countries in North America, South America, Europe, Asia, and the Middle East. Of these, 48 papers from 11 different countries were accepted for presentation at the conference and publication in the conference proceedings. Less than 30% of the submitted papers were accepted this year, with each paper receiving a minimum of three reviews. Although the selection process was quite competitive, we were pleased to accomodate 10 (parallel) technical sessions of high-quality contributed papers. In addition to the contributed paper sessions, this year's conference also featured a poster session, an industrial track session, five keynote addresses, five tutorials and seven workshops.

It was a pleasure putting this program together with the help of five excellent Program Vice-Chairs and the 65-person Program Committee. Although the hard work of all the program committee members is deeply appreciated, I especially wish to acknowledge the dedicated effort made by the Vice-Chairs: Rajiv Gupta (Architecture), Jose Moreira (System Software), Stephan Olariu (Communication Networks), Yuanyuan Yang (Algorithms), and Xiaodong Zhang (Applications). Without their help and timely work, the quality of the program would not have been as high nor would the process have run so smoothly. I also wish to thank the other members of the supporting cast who helped in putting together this program, including those who organized the keynotes, tutorials, workshops, poster session, and industrial track session, and those who performed the administrative functions that were essential to the success of this conference. The work of Sushil Prasad in putting together the conference proceedings is also acknowledged, as well as the support provided by Jeonghee Shin in maintaining the CyberChair on-line paper submission and evaluation software. Last, but certainly not least, I express heartfelt thanks to our General Co-chair, Viktor Prasanna, for all his useful advice and for giving me the opportunity to serve as the program chair of this conference. This truly was a very rewarding experience for me.

I trust you find this proceedings volume to be as informative and stimulating as we endeavored to make it. If you attended HiPC 2003, I hope you found time to enjoy the rich cultural experience provided by this interesting city of Hyderabad, India!

December 2003 Timothy Mark Pinkston

Message from the Steering Chair

It was my pleasure to welcome attendees to the 10th International Conference on High-Performance Computing and to Hyderabad, an emerging center of IT activities in India.

We are indebted to Timothy Pinkston for his superb efforts as program chair in organizing an excellent technical program. We received a record number of submissions this year. Over the past year, I discussed the meeting details with Timothy. I am grateful to him for his thoughtful inputs.

Many volunteers helped to organize the meeting. In addition, I was glad to welcome Rajesh Gupta as Keynote Chair, Atul Negi as Student Scholarships Chair, and Sushil Prasad as Proceedings Chair. I look forward to their contributions for the continued success of the meeting series. Sushil Prasad did an excellent job in bringing out these proceedings. Kamal Karlapalem assisted us with local arrangements at IIIT, Hyderabad. Dheeraj Sanghi took on the responsibility of focussed publicity for the meeting within India.

Vijay Keshav of Intel India, though not listed as a volunteer, provided me with many pointers for bringing the India-based high-performance computing vendors to the meeting.

I would like to thank M. Vidyasagar for agreeing to host the meeting in Hyderabad and for his assistance with the local arrangements.

Continuing the tradition set at last year's meeting, several workshops were organized by volunteers. These workshops were coordinated by C.P. Ravikumar. He also volunteered to put together the workshop proceedings, and Sushil Prasad assisted him in this.

I would like to offer my special thanks to A.K.P. Nambiar for his continued efforts in handling financial matters in India. He has been associated with the meeting since its beginning. He has acted as Finance Cochair for 10 years and also provided me with invaluable inputs over the years in resolving meeting-related issues. He has expressed his desire to retire from his role as Finance Cochair.

B. Ramachandra of Software Technology Park, Bangalore has graciously agreed to take on the responsibility of Finance Cochair for 2004.

Major financial support for the meeting was provided by several leading IT companies. I would like to thank the following individuals for their support:

N.R. Narayana Murthy, Infosys; Venkat Ramana, Hinditron Infosystems; Shubhra Roy, Intel India; and Uday Shukla, IBM India.

The meeting has very limited financial resources. I would like to thank the keynote speakers for their efforts to come to the meeting in spite of our limited financial support.

Finally, I would like to thank Henryk Chrostek, Sumit Mohanty, and Animesh Pathak at USC and Rohini Bhide at the Taj Krishna for their assistance over the past year.

December 2003 Viktor K. Prasanna

Message from the Vice General Chair

It was a pleasure to invite attendees to Hyderabad – the City of Pearls – and the 10th International Conference on High-Performance Computing. It was an honor and a pleasure to be able to serve the international community by bringing together researchers, scientists, and students, from academia and industry, to this meeting in Hyderabad, the capital city of Andhra Pradesh and a city that is fast emerging as India's information technology center.

First let me recognize **Manish Parashar** for his help publicizing this conference, and **Sushil K. Prasad** for serving as the publications chair. **Srinivas Aluru** did an excellent job organizing the tutorials presented by leading experts. HiPC 2003 included seven tutorials in areas likely to be at the forefront of high-performance computing in the next decade, such as mobile, ad hoc, and sensor networks, information security, and application areas in sensors, multimedia, and iterative methods.

I wish to thank all of the conference organizers and volunteers for their contributions to making HiPC 2003 a great success. I would especially like to thank the general co-chairs, **Viktor K. Prasanna** and **M. Vidyasagar**, for their enormous contributions steering and organizing this meeting. Their leadership and dedication is remarkable. It is to their credit that this meeting has become the premier international conference for high-performance computing. Special thanks are also due to the program chair, **Timothy Pinkston**, for his hard work assembling a high-quality technical program that included contributed and invited papers, an industrial track, keynote addresses, tutorials, and several workshops.

December 2003 David A. Bader

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