

## Preface

This proceedings contains the papers presented at the 2004 IFIP International Conference on Network and Parallel Computing (NPC 2004), held at Wuhan, China, from October 18 to 20, 2004. The goal of the conference was to establish an international forum for engineers and scientists to present their ideas and experiences in network and parallel computing.

A total of 338 submissions were received in response to the call for papers. These papers were from Australia, Brazil, Canada, China, Finland, France, Germany, Hong Kong, India, Iran, Italy, Japan, Korea, Luxemburg, Malaysia, Norway, Spain, Sweden, Taiwan, UK, and USA. Each submission was sent to at least three reviewers. Each paper was judged according to its originality, innovation, readability, and relevance to the expected audience. Based on the reviews received, a total of 69 papers were accepted to be included in the proceedings. Among the 69 papers, 46 were accepted as full papers and were presented at the conference. We also accepted 23 papers as short papers; each of these papers was given an opportunity to have a brief presentation at the conference, followed by discussions in a poster session. Thus, due to the limited scope and time of the conference and the high number of submissions received, only 20% of the total submissions were included in the final program.

In addition to the contributed papers, the NPC 2004 program featured several keynote speakers: Kai Hwang from the University of Southern California, Jos Fortes from the University of Florida, Thomas Sterling from the California Institute of Technology, Bob Kuhn from Intel, and Elmootazbellah Elnozahy from the IBM Austin Research Center. In addition, there was an invited session with several invited talks. The keynote and invited speakers were selected due to their significant contributions and reputations in the field.

Also associated with NPC 2004 were a tutorial session and two workshops, the Workshop on Building Intelligent Sensor Networks, and the Workshop on Multimedia Modeling and the Security in the Next Generation Network Information Systems.

The IFIP NPC 2004 conference emerged from initial email exchanges between Kemal Ebcioglu, Guojie Li, and Guang R. Gao in 2002, with the vision toward establishing a new, truly international conference for fostering research and collaboration in parallel computing. We are happy to see that the NPC conference, with its eminent team of organizers, and its high-quality technical program, is well on its way to becoming a flagship conference of IFIP.

We wish to thank the contributions of the other members of the organizing committee. We acknowledge the solid work by Nelson Amaral for his dedication in organizing the tutorial and workshop sessions. We thank the publicity co-chairs Cho-Li Wang and Chris Jesshope for their hard work in publicizing the NPC 2004 information under a very tight schedule constraint.

We are deeply grateful to the program committee members. The large number of submissions received and the diversified topics and coverage of the topics made this review process a particularly challenging one. Also, the program committee was working under a very tight schedule. We wish to thank the program committee vice-chairs Victor K. Prasanna, Albert Y. Zomaya, and Hai Jin for their assistance in organizing the NPC 2004 program and the paper selection guidelines. Without the solid work and dedication of the program committee members, the success of this program would not have been possible.

We appreciate the contribution of Hai Jin and his local team at the Huazhong University of Science and Technology, Wuhan — in particular, the local chair Song Wu and Web chair Li Qi — who organized and handled the conference website for paper submissions and the review process, the organization of the final program, the design and maintenance of the NPC 2004 conference websites, the solicitation of sponsorships and support, and numerous other matters related to the local arrangements of the conference. We are deeply impressed by the efficiency, professionalism, and dedication of their work.

We also appreciate other support we received at the Institute of Computing Technology (ICT), Beijing, and the University of Delaware. In particular, we wish to acknowledge the assistance from Zhenge Qiu and Jiang Yi at ICT, and Yingping Zhang and Yanwei Niu at the University of Delaware.

July 2004

H.J. Siegel, Guojie Li  
Kemal Ebcioglu,  
Guang R. Gao, Zhiwei Xu

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