Welcome from the Chairs

It is our great pleasure to welcome you on behalf of the Conference Committee to the 4th International Conference on Parallel Computing in Electrical Engineering (PARELEC 2004). It is a continuation of a fruitful tradition established by the series of PARELEC conferences, carried out in Bialystok, Trois-Rivières and Warsaw.

In this year’s event, we decided to include the 2004 Workshop on System Design Automation. It is the fourth open project workshop of the Sonderforschungsbereich 358 of the Dresden University of Technology, dedicated to the synthesis, test, and verification of electronic, hybrid, hardware, and software systems as well as system design automation in general.

The main objective of the PARELEC conference has always been to bring together experts in parallel computing methods and professionals in Electrical Engineering, who use parallel computing as a tool to solve their specific problems. In such a way, the conference provides a forum for lively discussion and mutual stimulation of the research and applied work we carry out in these two fields.

The domain of Electrical Engineering requires extensive computations with a complexity very often exceeding the capacity of single processor machines.

The progress in this field requires in particular the application of parallel processing to yield a substantial reduction in computation time. Typical applications, for instance, are electromagnetic field modeling, power distribution simulation, or optimization during electronic circuit design.

The application of parallel processing to the computer intensive processes requires research in areas such as parallel program design methodology, network and cluster computing, and parallel optimization techniques.

This year’s PARELEC conference is organized by Dresden University of Technology in cooperation with Schmalkalden University of Applied Sciences and the TU München.

The city of Dresden and the region have a strong engineering and natural sciences research and development sector—contributed by Dresden University of Technology, numerous institutions of the Max Planck Society, the Fraunhofer Society, and the Leibniz Association as well as industry companies.

This year’s conference received more than 85 potential contributions by authors from 16 countries. Fifty-five oral and nine poster presentations were selected, based on the reviews carried out by the International Program Committee and invited experts. We would like to thank the authors who will present their papers in the following days as well as all the reviewers for their great efforts. We anticipate that their contributions will make this conference an interesting and fruitful event for all participants.

All those who have helped to organize and prepare the conference deserve our special gratitude. We acknowledge gratefully the encouragement and the support of the Program Committee.

Renate Merker, Chair  
Gerhard Fettweis, Program Chair  
Jürgen Kelber and Carsten Trinitis, Program Co-Chairs