PREFACE

The International Conference on *Distributed Systems: Optimization and Economic-Environmental Applications, DSO 2000*, was held between 30 May and 2 June near Ekaterinburg in the Ural mountains, Russia.

The main objectives of the Conference included an analysis and assessment of the present status of the field of distributed systems, control theory and economic-environmental applications, as well as a presentation of the most recent developments in those areas. The Conference was organised by the Ural Branch of the Russian Academy of Sciences as well as its Institute of Mathematics and Mechanics, Ekaterinburg; the Ural State Technical University in Ekaterinburg; and the Steklov Mathematical Institute of the Russian Academy of Sciences in Moscow. Among the sponsors of *DSO 2000* there were the Russian Foundation for Basic Research; the International Association for the Promotion of Cooperation with Scientists from the New Independent States of the Former Soviet Union; the International Institute for Applied Systems Analysis; the Finance Group *Severnaya Kazna*; and, providing a partial support, the International Federation for Information Processing as well as the World Scientific and Engineering Society.

The organisation of the Conference was aided by many outstanding specialists in the field of mathematical optimization of distributed systems and related disciplines from 8 countries (Australia, Austria, Italy, Kazakhstan, Mozambique, Poland, Spain, USA) as well as 10 Russian cities. The papers submitted for the presentation at *DSO 2000* were authored by scientists from around the world.

At the Conference, 15 plenary reports were delivered and the following sections were organised:
- dynamics and control of systems with distributed parameters;
- theory and methods of mathematical programming;
- distributed systems in economic and financial areas;
- inverse problems for distributed and high-dimensional systems;
- distributed systems in geophysics and environment;
- parallel computations and optimization.

A significant asset of the Conference was the variety of research topics discussed. The present, special section of the *International Journal of Applied Mathematics and Computer Science* includes the papers written by the participants of the Conference which are concerned with the mathematical methods of optimization and control of large-scale systems.

We would like to express our gratitude to all the authors for their valuable contribution to *DSO 2000*, and to the reviewers for their opinions and very helpful comments. In particular, we wish to thank Professor Józef Korbicz, the Editor-in-Chief of the *International Journal of Applied Mathematics and Computer Science*, for his engagement in the Conference and for inviting us to work as guest editors of this special section on *Mathematical Methods of Optimization and Control of Large-Scale Systems*.

October 2001

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