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Preface

The volume comprises final versions of the papers presented at the 5th International Andrei Ershov Memorial Conference "Perspectives of System Informatics," Akademgorodok (Novosibirsk, Russia), July 9–12, 2003. The main goal of the conference was to give an overview of research directions that are decisive for growth in the major areas of research activities in system informatics.

The conference was held to honor the 70th anniversary of Ershov's closest colleague, the late Prof. Igor Pottosin (1933–2001), and his outstanding contribution towards advancing informatics. The first four Andrei Ershov conferences were held in May 1991, June 1996, July 1999, and July 2001, and they proved to be significant international events.

Andrei Ershov was one of the early Russian pioneers in the field of theoretical and systems programming, a founder of the Siberian School of Computer Science. His closest colleague, Igor Pottosin, worked for the Siberian Branch of the Russian Academy of Sciences from 1958, step by step filling positions from junior researcher to director of the A. P. Ershov Institute of Informatics Systems. In later years he headed the Laboratory of Systems Programming in this institute and the Department of Programming at Novosibirsk State University.

I. V. Pottosin took a leading position among Russian specialists in computer science. It is hardly possible to overestimate his contribution to the formation and development of this research direction in the country. He obtained fundamental results in the theory of program optimization, formulated main principles and typical schemes of optimizing compilers, and suggested efficient algorithms for optimizing program transformations. One of the world's first optimizing compilers ALPHA, the ALPHA-6 programming system, and the multilanguage compiling system BETA were designed and developed on the basis of these results and with the direct participation of Igor Pottosin.

In later years he mainly concentrated on the problems of designing programming environments for efficient and reliable program construction, and headed the SOKRAT project aimed at producing software for embedded computers. Research in program analysis and programming methodology was essentially inspired and greatly influenced by his practical work. Prof. Pottosin was actively involved in the training of computer professionals, and there is a professor, 11 Ph.D. holders, and hundreds of graduates among his disciples.

The fifth conference followed the traditions of the previous ones and included many of their subjects, such as theoretical computer science, programming methodology, and new information technologies, which are the most important components of system informatics. The style of the previous conferences was preserved to a certain extent: a considerable number of invited papers in addition to contributed regular and short papers.

This time 110 papers (a record number!) were submitted to the conference by researchers from 28 countries. Each paper was reviewed by three experts, at

least two of them from the same, or from a closely related one discipline as the authors. The reviewers generally provided high-quality assessments of the papers and often gave extensive comments to the authors for possible improvements of the presentations. The Programme Committee selected 25 high-quality papers as regular talks and 27 papers as short talks. A broad range of hot topics in system informatics was covered by five invited talks given by prominent computer scientists from different countries.

We are glad to express our gratitude to all the persons and organizations who contributed to the conference: to the sponsors for their moral, financial and organizational support, to the members of the Programme Committee who did their best to select the worthiest papers, and to the members of the Local Organizing Committee for their efforts towards the success of this event. We are especially grateful to N. Cheremnykh for her selfless labor when preparing the conference.

July, 2003

M. Broy,
A. Zamulin

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