

## **REPORT ON PSI 2003**

### **The 5th A.P. Ershov International Conference on Perspectives of System Informatics**

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PSI 2003, the 5th in the series of international conferences “PERSPECTIVES OF SYSTEM INFORMATICS” aimed to honor the 70th anniversary of A.P. Ershov’s closest colleague, the late professor Igor Pottosin (1933–2001), and his outstanding contributions towards advancing informatics took place in Novosibirsk Akademgorodok from July 9 to July 12, 2003. The conference was organized by the A.P. Ershov Institute of System Informatics of the Siberian Division of the Russian Academy of Sciences. Alexander Marchuk, director of this institute, was the conference chair and Natalya Cheremnyh was the conference secretary.

Akademgorodok (Academic town) is a big research center, 30 km South from Novosibirsk, the largest city of Siberia. Akademgorodok is located in a picturesque place near the Ob lake. It is surrounded with birch and pine forests and pleasant not only for work but for recreation as well. Silence, beautiful landscape, and pure air are the factors promoting scientific activity and creativity. One can obtain more information about Akademgorodok on the web site <http://www.nsc.ru/other/akadem/index.htm>.

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 Russian Academy of Sciences since 1958, step by step filling positions from junior researcher to director of A.P. Ershov Institute of Informatics Systems. In recent 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 this country. He has obtained fundamental results in the theory of program optimization, formulated main principles and typical schemes of optimizing compilers, and suggested efficient algorithms of optimizing program transformations. One of the world’s first optimizing compilers ALPHA, the ALPHA-6 programming system, and the multi-language compiling system BETA has been designed and developed on the basis of these results and with direct participation of Igor Pottosin. In recent 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 by this practical work, which greatly influenced its results. Prof. Pottosin was actively involved in the training of computer professionals. There is a professor, eleven Ph.D. holders, and hundreds of graduates among his disciples.

The first four Andrei Ershov conferences were held in Akademgorodok in May 1991, June 1996, July 1999, and July 2001, respectively, and proved to be remarkable international events. The program of the fifth conference included many of the topics of the fourth one: theoretical computer science, programming methodology, and new information technologies, which are the most important constituents 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 papers.

The Programme Committee consisted of 50 members from 23 countries. It was co-chaired by Manfred Broy (Germany) and Alexandre Zamulin (Russia).

This time 110 papers (a record number!) were submitted to the conference by researchers from 30 countries. Each paper was reviewed by three experts, at least two of them from the same or closely related discipline as the authors. The reviewers generally provided high quality assessment of the papers and often gave extensive comments to the authors for the possible improvement of the presentation. As a result, the Program Committee selected 25 high quality papers as regular talks and 28 papers as short talks.

A broad range of hot topics in system informatics was covered by the following invited talks:

1. **Kim Bruce** ((Williams College, USA). “Bending without breaking: Making software more flexible.”
2. **David Harel** (The Weizmann Institute of Science, Israel). “On the Visualization and Aesthetics of Large Graphs.”
3. **Tony Hoare** (Microsoft Research, UK). “The Verifying Compiler: a Grand Challenge for Computing Research.”
4. **Bertrand Meyer** (ETH Zurich, Switzerland, and Eiffel Software, USA). “How I Teach Programming.”

The whole number of participants was 125 with the following distribution by countries: Australia: 2, Austria: 1, Belgium: 3, Denmark: 2, Estonia: 1, France: 3, Germany: 10, Israel: 1, Italy: 3, Japan: 2, Mexico: 4, the Netherlands: 4, Norway: 1, Spain: 4, Russia: 73, Sweden: 1, Switzerland: 1, UK: 6, USA: 3.

Conference program consisted of seventeen sessions: SOFTWARE EDUCATION, SOFTWARE ENGINEERING, PROGRAMMING ISSUES, GRAPHICAL INTERFACES, PARTIAL EVALUATION & SUPERCOMPILATION, VERIFICATION, PROGRAM SYNTHESIS, TRANSFORMATION &

SEMANTICS, LOGIC AND TYPES, CONCURRENT & DISTRIBUTED SYSTEMS, CONCURRENT & REACTIVE SYSTEMS, PROGRAM SPECIFICATION, VERIFICATION & MODEL CHECKING, DOCUMENTATION & TESTING, DATABASES, CONSTRAINT PROGRAMMING, NATURAL LANGUAGE PROCESSING. Details of the program can be found on the web site <http://www.iis.nsk.su/PSI03>.

The participants stayed at the hotel “Zolotaya Dolina” (Golden Valley) situated in the center of Akademgorodok. All conference sessions were held in the Small Hall of the House of Scientists located up the street from the hotel — approximately a five minute walk.

Breakfast was served in the hotel restaurant. Lunch was offered in the restaurant of the House of Scientists. The guests enjoyed traditional Russian cuisine, including famous borsch. During coffee breaks various choices of sandwiches and Russian pirozhki were available.

An informal picnic for the “early birds” at a beach of the Ob lake was held the night preceding the first day of the conference. The participants enjoyed wine, snacks, and night swimming in the lake.

The *welcome party* took place the first day of the conference in the restaurant of the House of Scientists. It lasted till midnight. A music band and a good collection of discs provided a wonderful environment for dances.

The next day a *barbecue picnic* with Russian steam bath took place at the Blue Lake villa, 10 km away from Akademgorodok. It lasted till 10 p.m. People tasted a good Moldavian wine and Russian shashlyk (shish-kebab) and enjoyed taking the Russian steam bath and swimming in the Ob Lake.

The *conference dinner* took place the last day of the conference in the restaurant of the Zolotaya Dolina hotel. In the first part of the dinner there were plenty of speeches following “go to” procedure (each speaker designated the next speaker). In the second part of the dinner people mainly danced to the accompaniment of a music band. The dinner finished at 1 a.m.

The participants also enjoyed a number of excursions to Novosibirsk downtown, Geological Museum (one had a chance to see there a wonderful collection of Siberian minerals and treasure stones), Museum of the Cultural History of Siberian and Far East Peoples (one had a chance to see “mumia” there), and Railway Steamer Museum.

The conference was followed by International Workshop on Program Understanding held in a picturesque place of Altai mountains. The workshop page is [http://www.iis.nsk.su/psi03/workshop/index\\_e.shtml](http://www.iis.nsk.su/psi03/workshop/index_e.shtml).

PSI 2003 was a very well organized high-level conference. The last day the participants thanked the organizers for the good organization of the conference and expressed their desire to come to Akademgorodok once again.