

A.P. Ershov Informatics Conference (the PSI Conference Series, 12<sup>th</sup> edition) is the premier international forum in Russia for research and applications in computer, software and information sciences. The conference brings together academic and industrial researchers, developers and users to discuss the most recent topics in the field. PSI provides an ideal venue for setting up research collaborations between the Russian informatics community and its international counterparts, as well as between established scientists and younger researchers.

### Organizers

- A.P. Ershov Institute of Informatics Systems, Siberian Branch of the Russian Academy of Sciences
- Novosibirsk State University

### Conference Chair

#### *Alexander Marchuk*

A.P. Ershov Institute of Informatics Systems & Novosibirsk State University, Novosibirsk, Russia

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#### *Sriram Rajamani*

Microsoft Research India

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Microsoft Research, Redmond, USA

#### *Irina Virbitskaite*

A.P. Ershov Institute of Informatics Systems & Novosibirsk State University, Novosibirsk, Russia

#### *Andrei Voronkov*

University of Manchester, UK

### Keynote Speakers

*Moshe Vardi*, Rice University, USA

*Andrew Yao*, Tsinghua University, Beijing, China

*Sören Auer*, Leibniz Information Centre for Science and Technology and University Library, Germany

*Joost-Pieter Katoen*, Aachen University, Germany

*Marta Kwiatkowska*, Oxford University, UK

*Margus Veanes*, Microsoft Research, Redmond, USA

### Important Dates

- **February 3, 2019:** abstract submission
- **February 17, 2019:** submission deadline
- **April 1, 2019:** notification of acceptance
- **July 2–5, 2019:** the conference dates

### Conference Topics

#### 1. *Foundations of Program and System Development and Analysis*

- specification, validation, and verification techniques,
- program analysis, transformation and synthesis,
- semantics, logic and formal models of programs,
- partial evaluation, mixed computation, abstract interpretation, compiler construction,
- theorem proving and model checking,
- concurrency theory,
- static program analysis
- modeling and analysis of real-time and hybrid systems.

#### 2. *Programming Methodology and Software Engineering*

- object-oriented, aspect-oriented, component-based and generic programming,
- programming by contract,
- program and system construction for parallel and distributed computing,
- constraint programming,
- multi-agent technology,
- system re-engineering and reuse,
- integrated programming environments,
- software architectures,
- software development and testing,
- agile software development,
- software engineering methods and tools,
- service engineering, service-oriented architecture,
- reverse engineering,
- reflection techniques,
- software bugs, aging and reliability models and countermeasures,
- program understanding and visualization.

#### 3. *Information Technologies*

- database and information systems,
- data models,
- distributed data storage and processing,
- data science and data analytics: machine learning, data mining, knowledge discovery,
- knowledge-based systems and knowledge engineering,
- integration of data and knowledge,
- computer models and algorithms for bioinformatics,
- digital libraries, collections and archives, Web publishing.

More generally, the conference welcomes novel contributions in the areas of computer, software and information sciences, and application papers showing practical use of research results.

## Program Committee Members

**Farhad Arbab**, CWI and Leiden University, Netherlands

**David Aspinall**, Edinburgh University, UK

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**Gennady Pekhimenko**, University of Toronto, Canada

**Wojciech Penczek**, Institute of Computer Science PAS, Poland

**Alexander Petrenko**, Ivannikov Institute for System Programming of the Russian Academy of Sciences, Russia

**Alberto Pettorossi**, University of Rome Tor Vergata, Italy

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**Giancarlo Succi**, Innopolis University, Russia

**Mark Trakhtenbrot**, Holon Institute of Technology, Israel

**Enrique Herrera Viedma**, University of Granada, Spain

**Matthias Weidlich**, Humboldt-Universität zu Berlin, Germany

## Submissions

There are three categories of submissions:

- Regular papers describing fully developed work and complete results (15 pages / 30 minutes talks).
- Short papers reporting on interesting work in progress and/or preliminary results (9 pages / 15 minutes talks).

- System and experimental papers describing implementation or evaluation of experimental systems and containing a link to a working system (7 pages / 10 minutes presentations).

Submissions should

- Present original contributions that have not been previously published and are not being submitted to another publication.
- Clearly state the problem being addressed, the goal of the work, the results achieved, and the relation to other work.
- Be in good-quality English, in a form that can be immediately published without revision.
- Be sent electronically, as a PDF file formatted according to Springer LNCS Instructions for Authors (<http://www.springer.com/gp/computer-science/lncs/conference-proceedings-guidelines>) through submission site (<https://easychair.org/conferences/?conf=psi2019>) not later than February 17, 2019.

It is permissible to include a link to an appendix listing detailed results, proofs, or supporting data that do not fit within the page limits, as long as the paper can be evaluated without reading this appendix.

At least one author of each accepted paper has to register and attend the conference to present the paper.

## Conference Proceedings

Preliminary proceedings will be available at the conference. Final versions of invited and accepted papers will be published by Springer after the conference in the *Lecture Notes in Computer Science* series. Proceedings of previous PSIs are volumes 1181, 1755, 2244, 2890, 4378, 5947, 7162, 8974, 9609 and 10742 of LNCS.

## Location

The conference will be held in Akademgorodok, a picturesque town near Ob' Lake, 30 km south from Novosibirsk, the largest city of Siberia. This quiet place with its beautiful nature and pure air is sure to foster scientific activity and creativity of the conference participants.

## Travelling

You can fly to Novosibirsk via Moscow by Aeroflot, S7, UTair or Ural Airlines. There are direct flights to Novosibirsk airport Tolmachevo from Frankfurt, Düsseldorf, Prague, Thessaloniki, Tbilisi, Yerevan, Tokyo, Seoul, Hongkong, Shanghai, Beijing or Bangkok. The Conference Organizing Committee provides a free transfer between the Novosibirsk airport Tolmachevo and Akademgorodok.

## Conference Secretaries

**Irina Adrianova**

**Natalia Cheremnykh**

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See for more information <https://psi.nsc.ru/>.