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# Computer Science – Theory and Applications

5th International Computer Science Symposium  
in Russia, CSR 2010  
Kazan, Russia, June 16-20, 2010  
Proceedings

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Library of Congress Control Number: 2010927600

CR Subject Classification (1998): F.2, F.3, E.3, G.2, F.1, F.4

LNCS Sublibrary: SL 1 – Theoretical Computer Science and General Issues

ISSN 0302-9743  
ISBN-10 3-642-13181-6 Springer Berlin Heidelberg New York  
ISBN-13 978-3-642-13181-3 Springer Berlin Heidelberg New York

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© Springer-Verlag Berlin Heidelberg 2010  
Printed in Germany

Typesetting: Camera-ready by author, data conversion by Scientific Publishing Services, Chennai, India  
Printed on acid-free paper 06/3180

# Preface

The 5th International Computer Science Symposium in Russia (CSR 2010) was held June 16–20, 2010 in Kazan, Russia, hosted by the Institute of Informatics of the Tatarstan Academy of Sciences and the Kazan State University. It was the fifth event in the series of regular international meetings, following CSR 2006 in St. Petersburg, CSR 2007 in Ekaterinburg, CSR 2008 in Moscow, and CSR 2009 in Novosibirsk.

The opening lecture was given by Alexander Razborov, and seven more invited plenary lectures were given by Susanne Albers, Fedor Fomin, Juraĵ Hromkoviĉ, Richard Jozsa, Prabhakar Raghavan, Miklos Santha, and Uwe Schöning.

This volume contains all the accepted papers and, at varying detail, the abstracts or extended abstracts of the invited talks. The scope of the proposed topics for the symposium was quite broad and covered basically all areas of the foundations of (meaning: theoretical) computer science. Unlike in previous years, no special application track was scheduled. We received 62 valid submissions in total, and out of these the Program Committee selected 30 for acceptance.

As in previous years, Yandex provided the Best Paper Awards; the recipients of these awards were, as selected by the Program Committee:

- Best Paper Award:  
Dmitry Itsykson: “Lower Bound on Average-Case Complexity of Inversion of Goldreich’s Function by Drunken Backtracking Algorithms”
- Best Student Paper Award:  
Yu Junhua: “Prehistoric Phenomena and Self-Referentiality”

The reviewing process was organized using the EasyChair conference system, created by Andrei Voronkov, and we would like to acknowledge that this system very much helped to improve the efficiency of the committee work (and, of course, made a physical meeting of the PC unnecessary, a fact certainly advantageous in a number of respects, and at the same time not in others).

The following satellite events were collocated with CSR 2010:

1. Workshop on Program Semantics, Specification and Verification: Theory and Applications (PSSV 2010)
2. International Workshop on High Productivity Computations (HPC 2010)

We are very grateful to our sponsors:

- Russian Foundation for Basic Research
- Yandex (the largest Russian Internet portal providing key Web services)

We would also like to thank all the local organizers, among them in particular Alexander Vasiliev, Dina Mingazova, Rauf Ahtyamov, Ramil Garaev, Mikhail Abramsky, Mansur Ziyatdinov, and Regina Kozlova.

June 2010

Farid Ablayev  
Ernst W. Mayr

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CSR 2010 was organized jointly by the Institute of Informatics of the Tatarstan Academy of Sciences, and by Kazan State University.

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