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36th Conference on Current Trends
in Theory and Practice of Computer Science
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Proceedings

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Preface

This volume contains the *invited* and *contributed* papers selected for presentation at SOFSEM 2010, the 36th Conference on Current Trends in Theory and Practice of Computer Science, held January 23–29, 2010 in the Hotel Bedřichov, Špindlerův Mlýn, of the Krkonoše Mountains of the Czech Republic.

SOFSEM (originally: SOFTware SEMinar) is devoted to leading research, and fosters the cooperation among researchers and professionals from academia and industry in all areas of computer science. As a well-established and fully international conference, SOFSEM maintains the best of its original Winter School aspects, such as a high number of invited talks and an in-depth coverage of novel research results in selected areas within computer science. SOFSEM 2010 was organized around the following four tracks:

- *Foundations of Computer Science* (Chairs: David Peleg, Anca Muscholl)
- *Principles of Software Construction* (Chair: Bernhard Rumpe)
- *Data, Knowledge, and Intelligent Systems* (Chair: Jaroslav Pokorný)
- *Web Science* (Chair: Jan van Leeuwen)

With these tracks, SOFSEM 2010 covered the latest advances in research, both theoretical and applied, in leading areas of computer science. The SOFSEM 2010 Program Committee consisted of 78 international experts from 20 different countries, representing the track areas with outstanding expertise.

An integral part of SOFSEM 2010 was the traditional *Student Research Forum* (SRF, Chair: Mária Bieliková), organized with the aim to present student projects in the theory and practice of computer science and to give students feedback on both the originality of their scientific results and on their work in progress. The papers presented at the Student Research Forum were published in the local proceedings.

In response to the call for papers, SOFSEM 2010 received 134 submissions: 76 submissions in Foundations, and 58 in the applied computing tracks. After a detailed reviewing process with four reviewers per paper, a careful electronic selection procedure (using EasyChair) was carried out within each track between September 3 and September 14, 2009. A total of 53 papers were selected for presentation at SOFSEM 2010, following strict criteria of quality and originality: 32 papers in Foundations, 21 in the other tracks.

Of the 53 accepted papers, 15 papers were submitted as student papers. In fact, two student papers, namely, the paper by David Duris and the one by Elisa Pappalardo and Simone Faro, received the highest evaluations of all submissions in their respective tracks.

Furthermore, 12 student papers were selected for the SOFSEM 2010 Student Research Forum, based on the recommendations of the Chair of the SRF, and with the approval of the Track Chairs.

As editors of these proceedings, we are grateful to everyone who contributed to the scientific program of the conference, especially the invited speakers and all authors of contributed papers. We thank all authors for their prompt responses to our editorial requests.

SOFSEM 2010 was the result of a considerable effort by many people. We would like to express our special thanks to:

- The SOFSEM 2010 Program Committees of the four tracks and all additional referees for their precise and detailed reviewing of the submissions
- Jan Oliver Ringert, of the Software Engineering group in the Department of Computer Science at RWTH Aachen University, for his outstanding assistance of the PC for Software Construction
- Mária Bieliková, of the Slovak University of Technology in Bratislava, for her expert preparation and handling of the Student Research Forum
- The SOFSEM Steering Committee headed by Július Štuller, of the Institute of Computer Science (ICS) in Prague, for its excellent guidance and support throughout the preparation of the conference
- Springer-Verlag’s LNCS series, for its great support of the SOFSEM conferences.

We are also greatly indebted to:

- The SOFSEM 2010 Organizing Committee consisting of: Roman Špánek (chair), Filip Zavoral, Pavel Tyl, Martin Řimnáč, and Hanka Bílková, for the outstanding support and excellent preparation of all aspects of the conference
- The Action M Agency, in particular Milena Zeithamlová and Pavla Kozáková, for the excellent local arrangements of SOFSEM 2010.

We especially thank Roman Špánek, of the Institute of Computer Science (ICS) in Prague, for his excellent assistance in all duties and responsibilities of the Track Chairs and the General Chair.

Finally, we are very grateful for the financial support of our sponsors, which enabled us to compose a high-quality program of invited speakers and helped us to keep the student fees low. We thank the Institute of Computer Science (ICS) of the Academy of Sciences of the Czech Republic in Prague for its invaluable support of all aspects of SOFSEM 2010.

October 2009

Jan van Leeuwen
Anca Muscholl
David Peleg
Jaroslav Pokorný
Bernhard Rumpe

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SOFSEM 2010 was organized by:

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