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Algebraic Informatics

4th International Conference, CAI 2011
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Proceedings

Volume Editor

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Preface

CAI 2011 was the 4th International Conference on Algebraic Informatics. The three previous conferences, CAI 2005, CAI 2007, and CAI 2009, were all held at the Department of Mathematics of the Aristotle University of Thessaloniki in Greece. At CAI 2009, the Steering Committee asked me to organize CAI 2011 at RISC in Linz/Hagenberg, Austria; a proposal which I gladly accepted. In fact the focus of CAI is in very close correlation to the research topics at RISC, seeing mathematics and computer science as one academic field with close internal interactions and mutual dependencies. Thus, CAI 2011 continued the tradition established by previous CAIs, namely, to bring together researchers from theoretical computer science and constructive algebra. The goal of this endeavor was to enhance the understanding of syntactic and semantic problems by algebraic models; and also to propagate the application of modern techniques from informatics in algebraic computation. CAI 2011 tried to achieve these goals via invited lectures, tutorials, and contributed research talks.

As stated in the call for papers and on the homepage of CAI 2011, the topics of interest included algebraic semantics, formal power series, syntactic objects, algebraic picture processing, finite and infinite computations, acceptors and transducers for discrete structures, decision problems, algebraic characterization of logical theories, process algebra, algebraic algorithms, algebraic coding theory, algebraic aspects of cryptography, term rewriting, algebraic aspects of number theory.

The program of CAI 2011 consisted of 4 invited lectures and 13 contributed talks. With 1 exception, all these presentations are reflected in the proceedings. Additionally 2 tutorials were given: by A. Middeldorp and F. Neurauter on "Termination and Complexity of Rewrite Systems," and by P. Padawitz on "Co/Algebraic Modelling and Verification at Work." Unfortunatey, during the preparation phase of CAI 2011 one of our leading colleagues and designated member of the Program Committee, Stephen L. Bloom, passed away. In the first lecture at the opening of CAI 2011, Z. Ésik, member of the Steering Committee, recalled the life and academic achievements of Stephen L. Bloom.

I am grateful to a great number of colleagues for making CAI 2011 a successful event: the members of the Steering Committee, the colleagues in the Program Committee, my co-workers in the Local Committee, and also Alfred Hofmann and his team at Springer LNCS.

June 2011 Franz Winkler

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CAI 2011 was organized by the Research Institute for Symbolic Computation, Johannes Kepler University Linz.

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