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# Recent Trends in Algebraic Development Techniques

21st International Workshop, WADT 2012

Salamanca, Spain, June 7-10, 2012

Revised Selected Papers



Springer

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# Preface

The 21st International Workshop on Algebraic Development Techniques (WADT 2012) was held in Salamanca, Spain, during June 7–10 2012.

The algebraic approach to system specification encompasses many aspects of the formal design of software systems. Originally born as a formal method for reasoning about abstract data types, it now covers new specification frameworks and programming paradigms (such as object-oriented, aspect-oriented, agent-oriented, logic, and higher-order functional programming) as well as a wide range of application areas (including information systems, concurrent, distributed, and mobile systems).

The WADT workshop series focuses on the algebraic approach to the specification and development of systems and aims at providing a platform for presenting recent and ongoing work, to meet colleagues, and to discuss new ideas and future trends. Typical, but not exclusive, topics of interest are:

- Foundations of algebraic specification
- Other approaches to formal specification, including process calculi and models of concurrent, distributed, and mobile computing
- Specification languages, methods, and environments
- Semantics of conceptual modeling methods and techniques
- Model-driven development
- Graph transformations, term rewriting, and proof systems
- Integration of formal specification techniques
- Formal testing and quality assurance
- Validation and verification

During the workshop, 36 abstracts were presented and compiled in a technical report. In addition to the presentations of ongoing research results, the program included three invited lectures by Roberto Bruni (Università di Pisa, Italy), Francisco Durán (Universidad de Málaga, Spain), and Kim G. Larsen (Aalborg University, Denmark).

As for previous WADT workshops, after the meeting authors were invited to submit full papers for the refereed proceedings. There were 25 submissions from which 16 were selected for these final proceedings after being reviewed each by at least three referees.

Even a small workshop like WADT requires the effort of many people to make it happen. We first want to thank all the authors who submitted papers and showed interest in the subject. The members of the Program Committee and the external referees appointed by them worked hard to satisfactorily complete the reviewing process on time, for which we are most grateful. Special thanks also to Gustavo Santos, whose help in the organization of this event was invaluable.

The workshop took place under the auspices of IFIP WG 1.3, and it was organized by the Departamento de Sistemas Informáticos y Computación at

Universidad Complutense de Madrid. We gratefully acknowledge the sponsorship by the Spanish Ministerio de Economía y Competitividad, IFIP TC1, Facultad de Informática of Universidad Complutense de Madrid, Caja España–Duero Obra Social, Universidad de Salamanca, and IMDEA Software Institute.

We also thank EasyChair for making the life of the organizers so much easier.

February 2013

Narciso Martí-Oliet  
Miguel Palomino

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