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José Luiz Fiadeiro · Ionuț Țuțu (Eds.)

Recent Trends in Algebraic Development Techniques

24th IFIP WG 1.3 International Workshop, WADT 2018
Egham, UK, July 2–5, 2018
Revised Selected Papers

Editors

José Luiz Fiadeiro
Royal Holloway University
of London
Egham, UK

Ionuț Țuțu
Simion Stoilow Institute
of Mathematics of the Romanian
Academy
Bucharest, Romania

Royal Holloway University
of London
Egham, UK

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Preface

The 24th International Workshop on Algebraic Development Techniques (WADT 2018) was held in Egham, UK, during July 2–5, 2018. The workshop took place under the auspices of IFIP WG 1.3 and was organized by the Department of Computer Science at Royal Holloway, University of London.

The workshop provided an opportunity to present recent and ongoing work, to meet colleagues, and to discuss new ideas and future trends. Its scientific program consisted of four invited talks by Rolf Hennicker (Ludwig Maximilian University of Munich, Germany), Artur d’Avila Garcez (City, University of London, UK), Kai-Uwe Kühnberger (University of Osnabrück, Germany), and Fernando Orejas (Technical University of Catalonia, Spain).



Fig. 1. Participants of WADT 2018 at Royal Holloway

In addition, 17 contributed presentations covered a range of topics: specification and modelling languages such as CASL, Event-B, Maude, MMT, and SRML; foundations of system specification such as graph transformation, categorical semantics, fuzzy and temporal logics, institutions, module systems and parameterization, refinement, static analysis, and substitutions; and applications including categorical programming, communicating finite state machines, neural-symbolic integration, relational databases, and service-oriented computing.

Participants of this edition of the Workshop on Algebraic Development Techniques travelled from Argentina, Belgium, Brazil, Canada, Germany, Ireland, Italy, The Netherlands, Norway, Portugal, Romania, Spain, and the UK.

As for previous ADT events, the authors were invited after the workshop to submit full papers, which underwent a thorough peer-review process. Each paper was reviewed by at least two referees – and most papers were examined by three referees. This volume contains those papers that were accepted by the Program Committee. We wish to thank all authors, the members of the Program Committee for their diligent work in the selection process, and the external reviewers for their support in evaluating the papers.

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

The ADT workshop has a proud history of previous editions. The first workshop took place in 1982 in Sorpesee, followed by Passau (1983), Bremen (1984), Braunschweig (1986), Gullane (1987), Berlin (1988), Wusterhausen (1990), Dourdan (1991), Caldes de Malavella (1992), S. Margherita (1994), Oslo (1995), Tarquinia (1997), Lisbon (1998), Chateau de Bonas (1999), Genoa (2001), Frauenchiemsee (2002), Barcelona (2004), La Roche en Ardenne (2006), Pisa (2008), Etelsen (2010), Salamanca (2012), Sinaia (2014), and Gregynog (2016).

We would like to thank Claudia Chiriță for her contribution to the organisation of the workshop, including the design of the posters and the website. We are also grateful to Royal Holloway, University of London, for hosting WADT 2018, to the Leverhulme Trust, who supported the organization of the co-located School on Graph Transformation Techniques and the invited talk by Fernando Orejas, and to EasyChair and Springer for supporting the management of the workshop and the publication of this volume.

April 2019

José Luiz Fiadeiro
Ionuț Țuțu

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