

# Preface

This volume contains a selection of the papers presented at the 10th International Workshop on Rewriting Logic and its Applications (WRLA 2014), held during April 5–6, 2014 in Grenoble, France.

Rewriting logic (RL) is a natural model of computation and an expressive semantic framework for concurrency, parallelism, communication, and interaction. It can be used for specifying a wide range of systems and languages in various application fields. It also has good properties as a metalogical framework for representing logics. In recent years, several languages based on RL (ASF+SDF, CafeOBJ, ELAN, Maude) have been designed and implemented. The aim of the workshop is to bring together researchers with a common interest in RL and its applications, and to give them the opportunity to present their recent works, discuss future research directions, and exchange ideas. The previous meetings were held at Asilomar (USA) 1996, Pont-à-Mousson (France) 1998, Kanazawa (Japan) 2000, Pisa (Italy) 2002, Barcelona (Spain) 2004, Vienna (Austria) 2006, Budapest (Hungary) 2008, Paphos (Cyprus) 2010, and Tallinn (Estonia) 2012.

Typically, the topics of interest include (but are not restricted to):

- foundations and models of RL;
- languages based on RL, including implementation issues;
- RL as a logical framework;
- RL as a semantic framework, including applications of RL to
  - object-oriented systems,
  - concurrent and/or parallel systems,
  - interactive, distributed, open ended and mobile systems,
  - specification of languages and systems;
- use of RL to provide rigorous support for model-based software engineering;
- formalisms related to RL, including
  - real-time and probabilistic extensions of RL,
  - rewriting approaches to behavioral specifications,
  - tile logic;
- verification techniques for RL specifications, including
  - equational and coherence methods,
  - verification of properties expressed in first-order, higher-order, modal and temporal logics,
  - narrowing-based analysis and verification;
- comparisons of RL with existing formalisms having analogous aims;
- application of RL to specification and analysis of
  - distributed systems,
  - physical systems.

The last editions of WRLA were held as a satellite event of the European Joint Conferences on Theory & Practice of Software (ETAPS). This year's edition was a satellite event of ETAPS 2014.

There were 21 original contributions to the workshop and the Program Committee selected 13 papers for publication, and revised versions of these selected papers are included in this volume. Each contribution was reviewed by at least three Program Committee members. This volume also includes three invited contributions by Francisco Durán from the University of Málaga, Spain, Alberto Lluch Lafuente from the IMT Institute for Advanced Studies Lucca, Italy, and Peter Ölveczky from the University of Oslo, Norway. We would like to thank them for having accepted our invitation for both presentation at the workshop and this volume.

We would also like to thank all the members of the Program Committee and all the referees for their careful work in the review process. Finally, I express our gratitude to all members of the local organization of ETAPS 2014 and the Easychair system, whose work has made the workshop possible.

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