Preface

This volume contains the proceedings of the 14th International Conference on Relational and Algebraic Methods in Computer Science (RAMiCS 2014). The conference took place in Marienstatt, Germany, from April 27 to May 1, 2014, and was the third conference using the RAMiCS title, after Cambridge, UK, 2012, and Rotterdam, The Netherlands, 2011, but the 14th in a series that started out using the name "Relational Methods in Computer Science" with the acronym RelMiCS. From 2003 to 2009, the 7th through 11th RelMiCS conferences were held as joint events with Applications of Kleene Algebras (AKA) conferences, motivated by the substantial common interests and overlap of the two communities. The purpose of the RAMiCS conferences continues to be bringing together researchers from various subdisciplines of computer science, mathematics, and related fields who use the calculus of relations and/or Kleene algebra as methodological and conceptual tools in their work.

The call for papers invited submissions in the general area of relational and algebraic methods in computer science, placing special focus on formal methods for software engineering, logics of programs, and links with neighboring disciplines. This focus was also realized in the choice of the following three invited talks: "Developments in Concurrent Kleene Algebra" by Tony Hoare, "Preparing Relation Algebra for 'Just Good Enough' Hardware" by José Nuno Oliveira, and "Relation Lifting" by Alexander Kurz.

The body of this volume is made up of invited papers accompanying the invited talks by Hoare and Oliveira, and of 25 contributions by researchers from all over the world. The papers have been arranged into five groups, with the invited talks closely related to the first three:

Concurrent Kleene Algebras and Related Formalisms,
including Kleene algebras with tests and Kleene algebras with converse, both in theoretical investigations and in applications to program correctness.
Reasoning about Computations and Programs,
with considerations of faults and imperfect hardware, separation logics, infinite computations, process calculi, and program verification.
Heterogeneous and Categorical Approaches,
including "relation-categorical" studies of topology, concept lattices, semilattice categories, and fuzzy relations.
Applications of Relational and Algebraic Methods,
including to voting systems, databases and data learning, optimization, and mereotopology.
Developments Related to Modal Logics and Lattices,
with papers related to domain operators for homogeneous fuzzy relations, accessibility relation semantics and tableau proving for tense operators,

representation theorems for nominal sets, and fixed-point theory of lattice μ-calculus.

The contributed papers were selected by the Program Committee from 37 relevant submissions. Each submission was reviewed by at least three Program Committee members; the Program Committee did not meet in person, but had over one week of intense electronic discussions.

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