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Corina Cîrstea (Ed.)

Coalgebraic Methods in Computer Science

14th IFIP WG 1.3 International Workshop, CMCS 2018
Colocated with ETAPS 2018
Thessaloniki, Greece, April 14–15, 2018
Revised Selected Papers

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Preface

The 14th International Workshop on Coalgebraic Methods in Computer Science, CMCS 2018, was held during April 14–15, 2018, in Thessaloniki, Greece, as a satellite event of the Joint Conference on Theory and Practice of Software, ETAPS 2018. Coalgebras allow for a uniform treatment of a large variety of state-based dynamical systems, such as transition systems, automata (including weighted and probabilistic variants), Markov chains, and game-based systems. Over the last two decades, coalgebra has developed into a field of its own interest, presenting a deep mathematical foundation, a growing field of applications, and interactions with various other fields such as reactive and interactive system theory, object-oriented and concurrent programming, formal system specification, modal and description logics, artificial intelligence, dynamical systems, control systems, category theory, algebra, analysis, etc. The aim of the workshop is to bring together researchers with a common interest in the theory of coalgebras, their logics, and their applications.

Previous workshops of the CMCS series were held in Lisbon (1998), Amsterdam (1999), Berlin (2000), Genova (2001), Grenoble (2002), Warsaw (2003), Barcelona (2004), Vienna (2006), Budapest (2008), Paphos (2010), Tallinn (2012), Grenoble (2014), and Eindhoven (2016). Since 2004, CMCS has been a biennial workshop, alternating with the International Conference on Algebra and Coalgebra in Computer Science (CALCO).

The CMCS 2018 program featured a keynote talk by Samson Abramsky (University of Oxford, UK), an invited talk by Clemens Kupke (University of Strathclyde, UK), and an invited talk by Daniela Petrişan (Université Paris Diderot, France). In addition, a special session on categorical quantum computation was held, featuring invited tutorials by Bob Coecke (University of Oxford, UK) and Aleks Kissinger (Radboud University Nijmegen, The Netherlands).

This volume contains revised regular contributions (10 accepted out of 17 submissions) and the abstracts of two keynote/invited talks. All regular contributions were refereed by three reviewers. Special thanks go to all the authors for the high quality of their contributions, to the reviewers and Program Committee members for their thorough reviewing and help in improving the papers presented at CMCS 2018, and to all the participants for active discussions.

May 2018

Corina Cîrstea

Organization

CMCS 2018 was organized as a satellite event of the Joint Conference on Theory and Practice of Software (ETAPS 2018).

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