

Preface

These proceedings contain the papers selected for presentation at the *10th International Symposium on Frontiers of Combining Systems*, FroCoS 2015, held during September 21-24, 2015 in conjunction with the *International Conference on Automated Reasoning with Analytic Tableaux and Related Methods*, Tableaux 2015, in Wrocław, Poland. Previous FroCoS meetings were organized in Munich (Germany, 1996), Amsterdam (The Netherlands, 1998), Nancy (France, 2000), Santa Margherita Ligure (Italy, 2002), Cork (Ireland, 2004, as part of the International Joint Conference on Automated Reasoning, IJCAR), Vienna (Austria, 2005), Seattle (USA, 2006, as part of IJCAR), Liverpool (UK, 2007, co-located with the International Workshop on First-Order Theorem Proving, FTP), Sidney (Australia, 2008, as part of IJCAR), Trento (Italy, 2009), Edinburgh (UK, 2010, as part of IJCAR), Saarbrücken (Germany, 2011), Manchester (UK, 2012, as part of IJCAR), Nancy (France, 2013, in conjunction with Tableaux), and Vienna (Austria, 2014, as part of IJCAR).

Like previous events in the FroCoS series, FroCoS 2015 offered a common forum for research in the general area of combination, modularization, and integration of systems, with an emphasis on logic-based ones, and on their practical use. The development of techniques and methods for the combination and integration of dedicated formal systems, as well as for their modularization and analysis, is crucial to the development of systems in logic, computation, program development and verification, artificial intelligence, knowledge representation, and automated reasoning.

FroCoS 2015 received 34 submissions, which were evaluated on the basis of their significance, novelty, technical quality, and appropriateness to the FroCoS audience. After intensive reviewing and electronic discussions, 20 papers were selected for presentation at the symposium. Their topics include description logics, theorem proving and model building, decision procedures as well as their combination and application to verification, rewriting and constraint solving, reasoning in large theories, and transformations between symbolic systems. The symposium program included three invited talks:

- Andreas Herzig (Université Paul Sabatier, Toulouse, France): “*Knowledge and Action: How Should We Combine Their Logics?*”
- Philipp Rümmer (Uppsala University, Sweden): “*Free Variables and Theories: Revisiting Rigid E-unification*”, and
- Thomas Sturm (Max-Planck-Institut für Informatik, Saarbrücken, Germany): “*From Complete Elimination Procedures to Subtropical Decisions over the Reals*”.

It also shared Tableaux 2015’s invited speaker, Oliver Ray, featured two shared sessions with Tableaux 2015, and the following tutorials:

- Till Mossakowski (University of Magdeburg, Germany): “The Distributed Ontology, Modeling, and Specification Language (DOL): Networks of Theories, Languages, and Logics”
- Cesare Tinelli (University of Iowa, USA): “A Taste of CVC4”
- Christoph Weidenbach (Max-Planck-Institut für Informatik, Saarbrücken, Germany): “Automated Reasoning Building Blocks.”

We would like to thank all the people who invested their time and energy to make this year’s symposium happen. In particular, we thank the authors for submitting their manuscripts and the attendees for contributing to the symposium discussion. We are also very grateful to the members of the Program Committee and to the external reviewers for carefully reviewing and discussing the submissions, and for their commitment to meet the strict deadlines.

We thank the people at Springer for their assistance with publishing these proceedings and for the generous financial support that allowed us to offer several student travel grants. Last but certainly not least, our thanks go to everybody who contributed to the organization of the event, most notably to Hans de Nivelle, General Chair of Tableaux 2015 and FroCoS 2015, for taking care of all the details of local organization.

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