TABLEAUX 2017 / FROCOS 2017 / ITP 2017

CO-SPONSORED BY THE ASSOCIATION FOR SYMBOLIC LOGIC

Brasilia, Brazil
September 25–29, 2017

The University of Brasília hosted three conferences on Automated Reasoning: the 26th International Conference on Automated Reasoning with Analytic Tableaux and Related Methods (TABLEAUX 2017), co-chaired by Renate A. Schmidt and Cláudia Nalon; the 11th International Symposium on Frontiers of Combining Systems (FroCoS 2017), co-chaired by Clare Dixon and Marcelo Finger; and the 8th International Conference on Interactive Theorem Proving (ITP 2017), co-chaired by César Muñoz and Mauricio Ayala-Rincón. The co-location of the three meetings created an exciting conference programme.

All the events were organized in conjunction with the Federal University of Rio Grande do Norte. The Association for Automated Reasoning (AAR), the European Association for Computer Science Logic (EACSL), and the Association for Symbolic Logic (ASL) provided scientific support. Financial support was given by the Brazilian research agencies CNPq (ARC 03/2016), CAPES (PAEP 03/2017), and FAP-DF (02/2017), and by the European Association for Artificial Intelligence (EurAI).

Four workshops were held during the weekend preceding the main conferences: The *12th Workshop on Logical and Semantic Frameworks with Applications* (LSFA 2017) was co-chaired by Sandra Alves and Renata Wassermann. The *5th Workshop on Proof eXchange for Theorem Proving* (PxTP) was co-chaired by Catherine Dubois and Bruno Woltzenlogel Paleo. *Encyclopedia of Proof Systems* (EPS) was co-chaired by Giselle Reis and Bruno Woltzenlogel Paleo. The *Workshop Dalí – Dynamic Logic*: *New Trends and Applications* was co-chaired by Alexandre Madeira and Mário Benevides. Four tutorials were held during the first three days, including topics on theoretical aspects of automated reasoning and a hands-on tutorial on interactive theorem proving: Proof Compressions and the Conjecture NP = PSPACE (Lew Gordeev, Edward Hermann Haeusler), General Methods in Proof Theory for Modal and Substructural Logics (Björn Lellmann, Revantha Ramanayake), From Proof Systems to Complexity Bounds (Anupam Das), and PVS for Computer Scientists (César Muñoz, Mauricio Ayala-Rincón, Mariano Moscato).

This was the first time the conferences were held in South America, attracting, together with the workshops and tutorials, 165 participants from all continents, including 16 invited speakers. Invited talks were given by Carlos Areces on *Tableau Calculus for Hybrid Xpath with Data*, Wolfgang Bibel on *A Vision for Automated Deduction Rooted in the Connection Method*, Reiner Hähnle on *Locally Abstract, Globally Concrete Semantics of Concurrent Programming Languages*, Katalin Bimbó on *The Perimeter of Decidability* (*with Sequent Calculi on the Inside*), Jasmin Blanchette on *Foundational* (*Co*)*Datatypes and* (*Co*)*Recursion for Higher-Order Logic*, Moa Johansson on *Automated Theory Exploration for Interactive Theorem Proving*: *An introduction to the Hipster system*, Cezary Kaliszyk on *Automating Formalization by Statistical and Semantic Parsing of Mathematics*, Leonardo de Moura on *Whitebox Automation*, Cesare Tinelli on *Designing Extensible Theory Solvers*, and Renata Wassermann on *Revising System Specifications in Temporal Logic*. The invited talks of LSFA

were given by Beniamino Accattoli on (*In*)*Efficiency and Reasonable Cost Models*, Hélène Kirchner on *Strategic Port Graph Rewriting in Porgy, an Interactive Modelling Framework*, and Renate A. Schmidt on *Automated Forgetting and Uniform Interpolation for Description Logics*. PxTP invited speakers were Gilles Dowek on *Analyzing Logics, Analyzing Theories, and Analyzing Proofs* and Cesare Tinelli on *Increasing Automation in Coq via Trustworthy Cooperation with External Automated Reasoners*. For Dalí, the invited talks were given by Alexandru Baltag on *Logic goes viral*: *dynamic modalities for social networks* and Hermann Haeusler on *Propositional Dynamic Logic with Petri Net Programs*: *A Discussion and a Logical System*.

The scientific programme of TABLEAUX included 24 technical presentations; FroCoS contributed 17 technical talks; and ITP had 30 technical presentations. The proceedings of TABLEAUX, FroCoS and ITP 2017 were published in Springer's Lecture Notes in Artificial Intelligence (LNAI/LNCS), volumes 10501, 10483, and 10499, respectively.

A joint poster session, with 14 contributions, was also held during the week. The TABLEAUX's Best Paper Award was presented to Ori Lahav and Yoni Zohar for their paper *Cut-Admissibility as a Corollary of the Subformula Property*. This year marked the 25th anniversary of the TABLEAUX conference. The invited talks of Wolfgang Bibel and Reiner Hähnle were part of a special session celebrating the achievements of TABLEAUX. Further information is available at the conference websites:

`http://tableaux2017.cic.unb.br.`
`http://frocos2017.cic.unb.br.`
`http://itp2017.cic.unb.br.`