

**PAAR-2016**

**Fifth Workshop on  
Practical Aspects of Automated Reasoning**

July 2, 2016

Affiliated with the 8th International Joint Conference on Automated  
Reasoning (IJCAR 2016)  
Coimbra, Portugal

<http://cs.ru.nl/paar16/>

## Preface

This volume contains the papers presented at the Fifth Workshop on Practical Aspects of Automated Reasoning (PAAR-2016). The workshop was held on July 2, 2016, in Coimbra, Portugal, in association with the Eighth International Joint Conference on Automated Reasoning (IJCAR-2016).

PAAR provides a forum for developers of automated reasoning tools to discuss and compare different implementation techniques, and for users to discuss and communicate their applications and requirements. The workshop brings together different groups to concentrate on practical aspects of the implementation and application of automated reasoning tools. It allows researchers to present work in progress, and to discuss current trends, new implementation techniques and new applications.

Papers were solicited on topics that include all practical aspects of automated reasoning. More specifically, some suggested topics were:

- automated reasoning in propositional, first-order, higher-order and non-classical logics;
- implementation of provers (SAT, SMT, resolution, tableau, instantiation-based, rewriting, logical frameworks, etc);
- automated reasoning tools for all kinds of practical problems and applications;
- pragmatics of automated reasoning within proof assistants;
- practical experiences, usability aspects, feasibility studies;
- evaluation of implementation techniques and automated reasoning tools;
- performance aspects, benchmarking approaches;
- non-standard approaches to automated reasoning, non-standard forms of automated reasoning, new applications;
- implementation techniques, optimization techniques, strategies and heuristics, fairness;
- support tools for prover development;
- system descriptions and demos.

PAAR is particularly interested in contributions that help the community to understand how to build useful and powerful reasoning systems in practice, and how to apply existing systems to real problems.

The workshop received thirteen submissions. Each submission was reviewed by at least three program committee members, and eleven papers were accepted for presentation at the workshop and inclusion into the proceedings. The papers cover a broad area, with topics ranging from improved techniques for SMT and first-order reasoning to proof reconstruction, application of reasoners to modal logic, and logic language design.

The workshop organizers would like to thank the authors and participants of the workshop for helping making this a successful event. Our particular thanks go the program committee and the external reviewers for their considerable effort to provide very good reviews, often even in time.

We are also grateful to the IJCAR organizers for their support and for hosting the workshop, and are indebted to the EasyChair team for the availability of the EasyChair Conference System.

June 2016

Pascal Fontaine, Stephan Schulz, Josef Urban

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