

1st International Conference on Formal Structures for Computation and Deduction

FSCD 2016, June 22–26, 2016, Porto, Portugal

Edited by

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■ Preface

This volume contains the proceedings of the First International Conference on Formal Structures for Computation and Deduction (FSCD'16), which was held from June 22 to June 26, in Porto, Portugal.

FSCD (<http://fscdconference.org/>) covers all aspects of formal structures for computation and deduction, from theoretical foundations to applications. It builds on two communities: RTA (Rewriting Techniques and Applications) which goes back to 1983 and TLCA (Typed Lambda Calculi and Applications) which was founded in 1993. Since 2003, both conferences have co-located together for most meetings under the umbrella of the Federated Conference on Rewriting, Deduction and Programming. FSCD continues this tradition and broadens their scope to closely related areas in logics, proof theory and new emerging models of computation.

FSCD'16 has received 82 submissions (77 regular research papers and 5 system descriptions) with contributing authors from 27 countries. The program committee consisted of 34 members from 16 countries. Each submitted paper was reviewed by at least 3 members of the program committee, with the help of 103 external reviewers. The reviewing process was handled by the Easychair system over a whole period of 8 weeks, including a rebuttal phase. A total of 28 regular papers and 4 system descriptions were accepted for publication and are included in this proceeding. The FSCD program also featured four invited talks given by Amal Ahmed (Northeastern University, USA), Ichiro Hasuo (University of Tokyo, Japan), Gérard Huet (INRIA, France), and Tobias Nipkow (Technical University Munich, Germany) whose extended abstracts appear in the proceeding.

The program committee has selected two papers for the best student paper and the best paper award respectively: the best student paper award goes to Dmitriy Traytel for the paper “Formal Languages, Formally and Coinductively”, and the best paper award goes to Andrés Aristizábal, Dariusz Biernacki, Sergueï Lenglet and Piotr Polesiuk for the paper “Environmental Bisimulations for Delimited-Control Operators With Dynamic Prompt Generation”.

In addition to the main program, 11 workshops covering a wide range of topics co-located with FSCD and took place before, in parallel, and after FSCD:

- 6th Workshop on Classical Logic and Computation (CL&C)
- 2nd Workshop on Higher-Dimensional Rewriting and Applications (HDRA)
- 8th Workshop on Higher-Order Rewriting (HOR)
- 2nd Workshop on Homotopy Type Theory/Univalent Foundations (HoTT/UF)
- IFIP Working Group 1.6: Term Rewriting
- 8th Workshop on Intersection Types and Related Systems (ITRS)
- 18th Workshop on Logical Frameworks and Meta-Languages: Theory and Practice (LFMTP)
- 11th Logical and Semantic Frameworks with Applications (LSFA)
- 4th Workshop on Linearity (Linearity)
- 30th Workshop on Unification (UNIF)
- 3rd Workshop on Rewriting Techniques for Program Transformation and Evaluation (WPTE)

Many people helped make FSCD 2016 a success. We are very grateful to all the authors of submitted papers for considering FSCD for publishing their work. We also would like to thank all the members of the program committee, as well as all external reviewers, for

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carefully reviewing and evaluating papers. Their hard work helped to select a balanced and attractive program. Thanks also goes to Andrei Voronkov and his team for making available the easychair tool to manage the submission and reviewing process. On behalf of the program committee, we thank all invited speakers for enriching the conference with their talks. We also acknowledge the important contributions of the workshop organizers who were enthusiastic about co-locating with FSCD. The workshops helped shine the light on many areas related to computation and deduction and made the conference a vibrant event.

FSCD would not have been possible without the dedicated hard work of the Organizing Committee, headed by the Conference Chair Sandra Alves. The steering committee, lead by Luke Ong, provided valuable guidance ensuring FSCD will have a bright and long future ahead. Last, but not least, we thank all participants of the conference for creating a lively and exciting event.

This volume of FSCD 2016 is being published in the LIPIcs series under a Creative Common license, with free online access to all, and with authors retaining rights over their contributions. We thank in particular Marc Herbstritt from Schloss Dagstuhl, Leibniz Center for Informatics, for his helpful support during the production of this proceedings.

FSCD received support from many organizations. On behalf of all organizers, we gratefully acknowledge the support by Center for Research in Advanced Computing Systems (CRACS), Center for Mathematics from the University of Porto (CMUP), Artificial Intelligence and Computer Science Laboratory (LIACC), Two Sigma Investments, and University of Porto.

Delia Kesner and Brigitte Pientka
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