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Compiler Construction

24th International Conference, CC 2015

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Foreword

ETAPS 2015 was the 18th instance of the European Joint Conferences on Theory and Practice of Software. ETAPS is an annual federated conference that was established in 1998, and this year consisted of six constituting conferences (CC, ESOP, FASE, FoSSaCS, TACAS, and POST) including five invited speakers and two tutorial speakers. Prior to and after the main conference, numerous satellite workshops took place and attracted many researchers from all over the world.

ETAPS is a confederation of several conferences, each with its own Program Committee and its own Steering Committee (if any). The conferences cover various aspects of software systems, ranging from theoretical foundations to programming language developments, compiler advancements, analysis tools, formal approaches to software engineering, and security. Organizing these conferences into a coherent, highly synchronized conference program enables the participation in an exciting event, having the possibility to meet many researchers working in different directions in the field, and to easily attend talks at different conferences.

The six main conferences together received 544 submissions this year, 152 of which were accepted (including 10 tool demonstration papers), yielding an overall acceptance rate of 27.9%. I thank all authors for their interest in ETAPS, all reviewers for the peer-reviewing process, the PC members for their involvement, and in particular the PC Co-chairs for running this entire intensive process. Last but not least, my congratulations to all authors of the accepted papers!

ETAPS 2015 was greatly enriched by the invited talks by Daniel Licata (Wesleyan University, USA) and Catuscia Palamidessi (Inria Saclay and LIX, France), both unifying speakers, and the conference-specific invited speakers [CC] Keshav Pingali (University of Texas, USA), [FoSSaCS] Frank Pfenning (Carnegie Mellon University, USA), and [TACAS] Wang Yi (Uppsala University, Sweden). Invited tutorials were provided by Daniel Bernstein (Eindhoven University of Technology, the Netherlands and the University of Illinois at Chicago, USA), and Florent Kirchner (CEA, the Alternative Energies and Atomic Energy Commission, France). My sincere thanks to all these speakers for their inspiring talks!

ETAPS 2015 took place in the capital of England, the largest metropolitan area in the UK and the largest urban zone in the European Union by most measures. ETAPS 2015 was organized by the Queen Mary University of London in cooperation with the following associations and societies: ETAPS e.V., EATCS (European Association for Theoretical Computer Science), EAPLS (European Association for Programming Languages and Systems), and EASST (European Association of Software Science and Technology). It was supported by the following sponsors: Semmler, Winton, Facebook, Microsoft Research, and Springer-Verlag.

The organization team comprised:

- General Chairs: Pasquale Malacaria and Nikos Tzevelekos
- Workshops Chair: Paulo Oliva
- Publicity chairs: Michael Tautschnig and Greta Yorsh
- Members: Dino Distefano, Edmund Robinson, and Mehrnoosh Sadrzadeh

The overall planning for ETAPS is the responsibility of the Steering Committee. The ETAPS Steering Committee consists of an Executive Board (EB) and representatives of the individual ETAPS conferences, as well as representatives of EATCS, EAPLS, and EASST. The Executive Board comprises Gilles Barthe (satellite events, Madrid), Holger Hermanns (Saarbrücken), Joost-Pieter Katoen (Chair, Aachen and Twente), Gerald Lüttgen (Treasurer, Bamberg), and Tarmo Uustalu (publicity, Tallinn). Other members of the Steering Committee are: Christel Baier (Dresden), David Basin (Zurich), Giuseppe Castagna (Paris), Marsha Chechik (Toronto), Alexander Egyed (Linz), Riccardo Focardi (Venice), Björn Franke (Edinburgh), Jan Friso Groote (Eindhoven), Reiko Heckel (Leicester), Bart Jacobs (Nijmegen), Paul Klint (Amsterdam), Jens Knoop (Vienna), Christof Löding (Aachen), Ina Schäfer (Braunschweig), Pasquale Malacaria (London), Tiziana Margaria (Limerick), Andrew Myers (Boston), Catuscia Palamidessi (Paris), Frank Piessens (Leuven), Andrew Pitts (Cambridge), Jean-Francois Raskin (Brussels), Don Sannella (Edinburgh), Vladimiro Sassone (Southampton), Perdita Stevens (Edinburgh), Gabriele Taentzer (Marburg), Peter Thiemann (Freiburg), Cesare Tinelli (Iowa City), Luca Vigano (London), Jan Vitek (Boston), Igor Walukiewicz (Bordeaux), Andrzej Wasowski (Copenhagen), and Lenore Zuck (Chicago).

I sincerely thank all ETAPS SC members for all their hard work to make the 18th edition of ETAPS a success. Moreover, thanks to all speakers, attendants, organizers of the satellite workshops, and to Springer for their support. Finally, many thanks to Pasquale and Nikos and their local organization team for all their efforts enabling ETAPS to take place in London!

January 2015

Joost-Pieter Katoen

Preface

This volume contains the papers presented at CC 2015: 24th International Conference on Compiler Construction held during April 10–17, 2015 in London.

There were 34 submissions. Each submission was reviewed by at least three Program Committee members. The committee decided to accept 11 papers. The program also included one invited talk.

CC brings together a unique blend of scientists and engineers working on processing programs in a general sense. The conference is the most targeted forum for the discussion of progress in analyzing, transforming, or executing input that describes how a system operates, including traditional compiler construction as a special case. This year's topics of interest included, but were not limited to: Compiler Engineering and Compiling Techniques, Compiler Analysis and Optimization, and Formal Techniques in Compilers.

We take this opportunity to thank our invited speaker, to congratulate the authors, and to thank them for submitting their fine work to the Compiler Construction conference. Many thanks to the Local Organization team and to the Steering Committee of ETAPS for making CC 2015 possible.

February 2015

Björn Franke

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