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Foundations of Software Science and Computational Structures

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Proceedings

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Foreword

ETAPS 2011 was the 14th instance of the European Joint Conferences on Theory and Practice of Software. ETAPS is an annual federated conference that was established in 1998 by combining a number of existing and new conferences. This year it comprised the usual five sister conferences (CC, ESOP, FASE, FOS-SACS, TACAS), 16 satellite workshops (ACCAT, BYTECODE, COCV, DICE, FESCA, GaLoP, GT-VMT, HAS, IWIGP, LDTA, PLACES, QAPL, ROCKS, SVARM, TERMGRAPH, and WGT), one associated event (TOSCA), and seven invited lectures (excluding those specific to the satellite events).

The five main conferences received 463 submissions this year (including 26 tool demonstration papers), 130 of which were accepted (2 tool demos), giving an overall acceptance rate of 28%. Congratulations therefore to all the authors who made it to the final programme! I hope that most of the other authors will still have found a way of participating in this exciting event, and that you will all continue submitting to ETAPS and contributing to make of it the best conference on software science and engineering.

The events that comprise ETAPS address various aspects of the system development process, including specification, design, implementation, analysis and improvement. The languages, methodologies and tools which support these activities are all well within its scope. Different blends of theory and practice are represented, with an inclination towards theory with a practical motivation on the one hand and soundly based practice on the other. Many of the issues involved in software design apply to systems in general, including hardware systems, and the emphasis on software is not intended to be exclusive.

ETAPS is a confederation in which each event retains its own identity, with a separate Programme Committee and proceedings. Its format is open-ended, allowing it to grow and evolve as time goes by. Contributed talks and system demonstrations are in synchronised parallel sessions, with invited lectures in plenary sessions. Two of the invited lectures are reserved for ‘unifying’ talks on topics of interest to the whole range of ETAPS attendees. The aim of cramming all this activity into a single one-week meeting is to create a strong magnet for academic and industrial researchers working on topics within its scope, giving them the opportunity to learn about research in related areas, and thereby to foster new and existing links between work in areas that were formerly addressed in separate meetings.

ETAPS 2011 was organised by the *Universität des Saarlandes* in cooperation with:

- ▷ European Association for Theoretical Computer Science (EATCS)
- ▷ European Association for Programming Languages and Systems (EAPLS)
- ▷ European Association of Software Science and Technology (EASST)

It also had support from the following sponsors, which we gratefully thank: DFG DEUTSCHE FORSCHUNGSGEMEINSCHAFT; ABSINT ANGEWANDTE INFORMATIK GMBH; MICROSOFT RESEARCH; ROBERT BOSCH GMBH; IDS SCHEER AG / SOFTWARE AG; T-SYSTEMS ENTERPRISE SERVICES GMBH; IBM RESEARCH; GWSAAR GESELLSCHAFT FÜR WIRTSCHAFTSFÖRDERUNG SAAR MBH; SPRINGER-VERLAG GMBH; and ELSEVIER B.V.

The organising team comprised:

General Chair:	<i>Reinhard Wilhelm</i>
Organising Committee:	<i>Bernd Finkbeiner, Holger Hermanns (chair), Reinhard Wilhelm, Stefanie Haupert-Betz, Christa Schäfer</i>
Satellite Events:	<i>Bernd Finkbeiner</i>
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Overall planning for ETAPS conferences is the responsibility of its Steering Committee, whose current membership is:

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I would like to express my sincere gratitude to all of these people and organisations, the Programme Committee Chairs and members of the ETAPS conferences, the organisers of the satellite events, the speakers themselves, the many reviewers, all the participants, and Springer for agreeing to publish the ETAPS proceedings in the ARCoSS subline.

Finally, I would like to thank the Organising Chair of ETAPS 2011, Holger Hermanns and his Organising Committee, for arranging for us to have ETAPS in the most beautiful surroundings of Saarbrücken.

Preface

FoSSaCS presents original papers on the foundations of software science. The Programme Committee (PC) invited submissions on theories and methods to support analysis, synthesis, transformation and verification of programs and software systems. We received 100 full paper submissions; of these, 30 were selected for presentation at FoSSaCS and inclusion in the proceedings. Also included is an invited paper on “The Search for Structure in Quantum Computation” by Prakash Panangaden, the FoSSaCS 2011 invited speaker.

Numbers of submissions and accepted papers at the last five FoSSaCS conferences—2010 (Paphos), 2009 (York), 2008 (Budapest), 2007 (Braga), 2006 (Vienna)—were 86/25, 102/30, 124/33, 103/25, 107/28, respectively.

I thank all the authors of papers submitted to FoSSaCS 2011. I thank also the members of the PC for their excellent work, as well as the external reviewers for the expert help and reviews they provided. Throughout the phases of submission, evaluation, and production of the proceedings, we relied on the invaluable assistance of the EasyChair system; we are very grateful to its developer Andrei Voronkov and his team. Last but not least, we would like to thank the ETAPS 2011 Local Organizing Committee (chaired by Holger Hermanns) and the ETAPS Steering Committee (chaired by Vladimiro Sassone) for their efficient coordination of all the activities leading up to FoSSaCS 2011.

January 2011

Martin Hofmann

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