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Compiler Construction

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Albert Cohen

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Paris, France

E-mail: albert.cohen@inria.fr

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Foreword

ETAPS 2014 was the 17th 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 eight invited speakers and two tutorial speakers. Before and after the main conference, numerous satellite workshops took place and attracted many researchers from all over the globe.

ETAPS is a confederation of several conferences, each with its own Program Committee (PC) 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 in 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 the talks of different conferences.

The six main conferences together received 606 submissions this year, 155 of which were accepted (including 12 tool demonstration papers), yielding an overall acceptance rate of 25.6%. 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 2014 was greatly enriched by the invited talks of Geoffrey Smith (Florida International University, USA) and John Launchbury (Galois, USA), both unifying speakers, and the conference-specific invited speakers (CC) Benoît Dupont de Dinechin (Kalray, France), (ESOP) Maurice Herlihy (Brown University, USA), (FASE) Christel Baier (Technical University of Dresden, Germany), (FoSSaCS) Petr Jančar (Technical University of Ostrava, Czech Republic), (POST) David Mazières (Stanford University, USA), and finally (TACAS) Orna Kupferman (Hebrew University Jerusalem, Israel). Invited tutorials were provided by Bernd Finkbeiner (Saarland University, Germany) and Andy Gordon (Microsoft Research, Cambridge, UK). My sincere thanks to all these speakers for their great contributions.

For the first time in its history, ETAPS returned to a city where it had been organized before: Grenoble, France. ETAPS 2014 was organized by the Université Joseph Fourier 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 had

support from the following sponsors: CNRS, Inria, Grenoble INP, PERSYVAL-Lab and Université Joseph Fourier, and Springer-Verlag.

The organization team comprised:

General Chair: Saddek Bensalem
 Conferences Chair: Alain Girault and Yassine Lakhnech
 Workshops Chair: Axel Legay
 Publicity Chair: Yliès Falcone
 Treasurer: Nicolas Halbwachs
 Webmaster: Marius Bozga

The overall planning for ETAPS is the responsibility of the Steering Committee (SC). The ETAPS SC 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 current SC members are: Martín Abadi (Santa Cruz and Mountain View), Erika Ábráham (Aachen), Roberto Amadio (Paris), Christel Baier (Dresden), Saddek Bensalem (Grenoble), Giuseppe Castagna (Paris), Albert Cohen (Paris), Alexander Egyed (Linz), Riccardo Focardi (Venice), Björn Franke (Edinburgh), Stefania Gnesi (Pisa), Klaus Havelund (Pasadena), Reiko Heckel (Leicester), Paul Klint (Amsterdam), Jens Knoop (Vienna), Steve Kremer (Nancy), Pasquale Malacaria (London), Tiziana Margaria (Potsdam), Fabio Martinelli (Pisa), Andrew Myers (Boston), Anca Muscholl (Bordeaux), Catuscia Palamidessi (Palaiseau), Andrew Pitts (Cambridge), Arend Rensink (Twente), Don Sanella (Edinburgh), Vladimiro Sassone (Southampton), Ina Schäfer (Braunschweig), Zhong Shao (New Haven), Gabriele Taentzer (Marburg), Cesare Tinelli (Iowa), Jan Vitek (West Lafayette), and Lenore Zuck (Chicago).

I sincerely thank all ETAPS SC members for all their hard work in making the 17th ETAPS a success. Moreover, thanks to all speakers, attendants, organizers of the satellite workshops, and Springer for their support. Finally, many thanks to Saddek Bensalem and his local organization team for all their efforts enabling ETAPS to return to the French Alps in Grenoble!

January 2014

Joost-Pieter Katoen

Preface

This volume contains the papers presented at CC 2014: the 23rd International Conference on Compiler Construction held on April 5–13, 2014 in Grenoble.

There were 47 complete submissions. Each submission was reviewed by at least 3 committee members. The review process and edition of the proceedings was conducted with EasyChair. The committee decided to accept 10 standard and 4 tool papers. The program also included 1 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 include, but are not limited to: compilation and interpretation techniques, including program representation and analysis, code generation, and code optimization; run-time techniques, including memory management and dynamic and just-in-time compilation; programming tools, from refactoring editors to checkers to compilers to virtual machines to debuggers; techniques for specific domains, such as secure, parallel, distributed, embedded or mobile environments; and design of novel language constructs and their implementation.

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 led by Saddek Bensalem, and to the steering committee of ETAPS for making CC 2014 possible.

January 2014

Albert Cohen

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Ireland, Iain	Zhou, Hao
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Table of Contents

Invited Presentation

Using the SSA-Form in a Code Generator	1
<i>Benoît Dupont de Dinechin</i>	

Program Analysis and Optimization

Parameterized Construction of Program Representations for Sparse Dataflow Analyses	18
<i>André Tavares, Benoit Boissinot, Fernando Pereira, and Fabrice Rastello</i>	
Inter-iteration Scalar Replacement Using Array SSA Form	40
<i>Rishi Surendran, Rajkishore Barik, Jisheng Zhao, and Vivek Sarkar</i>	
Recovery of Class Hierarchies and Composition Relationships from Machine Code	61
<i>Venkatesh Srinivasan and Thomas Reps</i>	
Liveness-Based Garbage Collection	85
<i>Rahul Asati, Amitabha Sanyal, Amey Karkare, and Alan Mycroft</i>	
deGoal a Tool to Embed Dynamic Code Generators into Applications	107
<i>Henri-Pierre Charles, Damien Couroussé, Victor Lomüller, Fernando A. Endo, and Rémy Gauguey</i>	
Improving the Performance of X10 Programs by Clock Removal	113
<i>Paul Feautrier, Éric Violard, and Alain Ketterlin</i>	

Parallelism and Parsing

Taming Control Divergence in GPUs through Control Flow Linearization	133
<i>Jayvant Anantpur and Govindarajan R.</i>	
Exploitation of GPUs for the Parallelisation of Probably Parallel Legacy Code	154
<i>Zheng Wang, Daniel Powell, Björn Franke, and Michael O’Boyle</i>	
A Flexible and Efficient ML Lexer Tool Based on Extended Regular Expression Submatching	174
<i>Martin Sulzmann and Pippijn van Steenhoven</i>	

The PAPAGENO Parallel-Parser Generator	192
<i>Alessandro Barenghi, Stefano Crespi Reghizzi, Dino Mandrioli,</i> <i>Federica Panella, and Matteo Pradella</i>	
String Analysis for Dynamic Field Access	197
<i>Magnus Madsen and Esben Andreasen</i>	

New Trends in Compilation

Addressing JavaScript JIT Engines Performance Quirks: A Crowdsourced Adaptive Compiler	218
<i>Rafael Auler, Edson Borin, Peli de Halleux, Michal Moskal, and</i> <i>Nikolai Tillmann</i>	
A First Step towards a Compiler for Business Processes	238
<i>Thomas M. Prinz, Norbert Spieß, and Wolfram Amme</i>	
CBMC-GC: An ANSI C Compiler for Secure Two-Party Computations	244
<i>Martin Franz, Andreas Holzer, Stefan Katzenbeisser,</i> <i>Christian Schallhart, and Helmut Veith</i>	
Author Index	251