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Compiler Construction

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Preface

The CC program committee is pleased to present this volume with the proceedings of the 13th International Conference on Compiler Construction (CC 2004). CC continues to provide an exciting forum for researchers, educators, and practitioners to exchange ideas on the latest developments in compiler technology, programming language implementation, and language design. The conference emphasizes practical and experimental work and invites contributions on methods and tools for all aspects of compiler technology and all language paradigms.

This volume serves as the permanent record of the 19 papers accepted for presentation at CC 2004 held in Barcelona, Spain, during April 1–2, 2004. The 19 papers in this volume were selected from 58 submissions. Each paper was assigned to three committee members for review. The program committee met for one day in December 2003 to discuss the papers and the reviews. By the end of the meeting, a consensus emerged to accept the 19 papers presented in this volume. However, there were many other quality submissions that could not be accommodated in the program; hopefully they will be published elsewhere.

The continued success of the CC conference series would not be possible without the help of the CC community. I would like to gratefully acknowledge and thank all of the authors who submitted papers and the many external reviewers who wrote reviews.

I especially thank the program committee members for their efforts and commitment in providing thoughtful and knowledgeable reviews. Special thanks go to our invited keynote speaker, Prof. Mary Lou Soffa from the University of Pittsburgh. Finally, many thanks to the entire ETAPS committee for making CC 2004 possible, especially to Fernando Orejas, the ETAPS 2004 organizing committee chair and to José Luiz Fiadeiro, the current chair of the ETAPS steering committee.

New York, January 2004

Evelyn Duesterwald

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Foreword

ETAPS 2004 was the seventh 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 five conferences (FOSSACS, FASE, ESOP, CC, TACAS), 23 satellite workshops, 1 tutorial, and 7 invited lectures (not including those that are specific to the satellite events).

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 that 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 loose confederation in which each event retains its own identity, with a separate program committee and independent proceedings. Its format is open-ended, allowing it to grow and evolve as time goes by. Contributed talks and system demonstrations are in synchronized 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 2004 was organized by the LSI Department of the Catalonia Technical University (UPC), 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)
ACM SIGACT, SIGSOFT and SIGPLAN

The organizing team comprised

Jordi Cortadella (Satellite Events), Nikos Mylonakis, Robert Nieuwenhuis,
Fernando Orejas (Chair), Edelmira Pasarella, Sonia Perez, Elvira Pino,
Albert Rubio

and had the assistance of TILES A OPC.

ETAPS 2004 received generous sponsorship from:

UPC, Spanish Ministry of Science and Technology (MCYT), Catalan Department for Universities, Research and Information Society (DURSI), IBM, Intel.

Overall planning for ETAPS conferences is the responsibility of its Steering Committee, whose current membership is:

Ratislav Bodik (Berkeley), Maura Cerioli (Genoa), Evelyn Duesterwald (IBM, Yorktown Heights), Hartmut Ehrig (Berlin), José Fiadeiro (Leicester), Marie-Claude Gaudel (Paris), Andy Gordon (Microsoft Research, Cambridge), Roberto Gorrieri (Bologna), Nicolas Halbwachs (Grenoble), Görel Hedin (Lund), Kurt Jensen (Aarhus), Paul Klint (Amsterdam), Tiziana Margaria (Dortmund), Ugo Montanari (Pisa), Hanne Riis Nielson (Copenhagen), Fernando Orejas (Barcelona), Mauro Pezzè (Milan), Andreas Podelski (Saarbrücken), Mooly Sagiv (Tel Aviv), Don Sannella (Edinburgh), Vladimiro Sassone (Sussex), David Schmidt (Kansas), Bernhard Steffen (Dortmund), Perdita Stevens (Edinburgh), Andrzej Tarlecki (Warsaw), Igor Walukiewicz (Bordeaux), Michel Wermelinger (Lisbon)

I would like to express my sincere gratitude to all of these people and organizations, the program committee chairs and PC members of the ETAPS conferences, the organizers of the satellite events, the speakers themselves, and finally Springer-Verlag for agreeing to publish the ETAPS proceedings. This year, the number of submissions approached 600, making acceptance rates fall to 25%. I congratulate the authors who made it into the final program! I hope that all the other authors still found a way of participating in this exciting event and I hope you will continue submitting.

In 2005, ETAPS will be organized by Don Sannella in Edinburgh. You will be welcomed by another “local”: my successor as ETAPS Steering Committee Chair – Perdita Stevens. My wish is that she will enjoy coordinating the next three editions of ETAPS as much as I have. It is not an easy job, in spite of what Don assured me when I succeeded him! But it is definitely a very rewarding one. One cannot help but feel proud of seeing submission and participation records being broken one year after the other, and that the technical program reached the levels of quality that we have been witnessing. At the same time, interacting with the organizers has been a particularly rich experience. Having organized the very first edition of ETAPS in Lisbon in 1998, I knew what they were going through, and I can tell you that each of them put his/her heart, soul, and an incredible amount of effort into the organization. The result, as we all know, was brilliant on all counts! Therefore, my last words are to thank Susanne Graf (2002), Andrzej Tarlecki and Paweł Urzyczyn (2003), and Fernando Orejas (2004) for the privilege of having worked with them.

Leicester, January 2004

José Luiz Fiadeiro
ETAPS Steering Committee Chair