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Compiler Construction

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on Theory and Practice of Software, ETAPS'99
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Foreword

ETAPS'99 is the second 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 comprises five conferences (FOSSACS, FASE, ESOP, CC, TACAS), four satellite workshops (CMCS, AS, WAGA, CoFI), seven invited lectures, two invited tutorials, and six contributed tutorials.

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 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 programme 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. As an experiment, ETAPS'99 also includes two invited tutorials on topics of special interest. 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 have hitherto been addressed in separate meetings.

ETAPS'99 has been organized by Jan Bergstra of CWI and the University of Amsterdam together with Frans Snijders of CWI. Overall planning for ETAPS'99 was the responsibility of the ETAPS Steering Committee, whose current membership is:

> André Arnold (Bordeaux), Egidio Astesiano (Genoa), Jan Bergstra (Amsterdam), Ed Brinksma (Enschede), Rance Cleaveland (Stony Brook), Pierpaolo Degano (Pisa), Hartmut Ehrig (Berlin), José Fiadeiro (Lisbon), Jean-Pierre Finance (Nancy), Marie-Claude Gaudel (Paris), Susanne Graf (Grenoble), Stefan Jähnichen (Berlin), Paul Klint (Amsterdam), Kai Koskimies (Tampere), Tom Maibaum (London), Ugo Montanari (Pisa), Hanne Riis Nielson (Aarhus), Fernando Orejas (Barcelona), Don Sannella (Edinburgh), Gert Smolka (Saarbrücken), Doaitse Swierstra (Utrecht), Wolfgang Thomas (Aachen), Jerzy Tiuryn (Warsaw), David Watt (Glasgow)

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- KPN Research
- Philips Research
- The EU programme "Training and Mobility of Researchers"
- CWI
- The University of Amsterdam
- The European Association for Programming Languages and Systems
- The European Association for Theoretical Computer Science

I would like to express my sincere gratitude to all of these people and organizations, the programme committee 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.

Edinburgh, January 1999

Donald Sannella
ETAPS Steering Committee Chairman

Preface

The present proceedings of the 1999 Compiler Construction Conference are, quite apart from the highly topical nature of the subjects addressed, remarkable for two reasons. First, I feel they illustrate very well the fact that this is still one of the most interesting research areas in computer science, and that it is possible to push the boundaries of knowledge here even further, thanks in large part to the growing theoretical penetration of the subject-matter. Second, both the quantity and quality of the contributions are a clear indication that the Compiler Compiler Conference has become firmly established not only as a part of ETAPS, but in its own right and with its own "regular" and highly motivated group of participants.

The number of papers submitted has remained roughly the same compared with previous years, as has the number of papers selected for presentation. Although, to begin with, I had – in my capacity as Program Committee Chair – favored a physical meeting of PC members and had practically called for such a meeting in my letter of invitation, I soon decided to first wait and see how the selection process and electronic discussion went – with the result that we were, ultimately, able to dispense with the meeting.

This proved possible thanks not only to the use of an electronic conference system, provided courtesy of Vladimiro Sassone, but also and in particular to Jochen Burghardt's willingness to assist me in the PC work and to take full charge of technical support for the installation and use of the relevant software. And I think all PC members will join me in saying he did a great job and is owed our thanks for ensuring that the submission, selection and publication procedures went so smoothly.

I am also indebted, though, to my colleagues in the Program Committee for their willingness to cooperate so closely in these procedures and to offer their technical expertise in the refereeing and discussion process, thus making a major contribution to the successful production of the present volume. My thanks also go to Don Sanella, who was in charge of the ETAPS organization, for his many practical suggestions on how to improve procedures and for his strict but necessary demands that deadlines be met.

Last but not least, I wish to thank all those who submitted papers for the conference. Even if your paper was not accepted this time, I would like to express my appreciation for the time and effort you invested and hope to be able to welcome you to the conference in Amsterdam all the same.

Finally, a last word of thanks to the team at Springer-Verlag for their excellent work and cooperation in preparing the present volume. I hope you will all enjoy reading it!

Berlin, January 1999

Stefan Jähnichen
CC Program Committee Chairman

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