Giuseppe Castagna (Ed.)

Programming Languages and Systems

18th European Symposium on Programming, ESOP 2009
Held as Part of the Joint European Conferences on Theory and Practice of Software, ETAPS 2009
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Proceedings

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ETAPS 2009 was the 12th 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 (CC, ESOP, FASE, FOSSACS, TACAS), 22 satellite workshops (ACCAT, ARSPA-WITS, Bytecode, COCV, COMPASS, FESCA, FlInCo, FORMED, GaLoP, GT-VMT, HFL, LDTA, MBT, MLQA, OpenCert, PLACES, QAPL, RC, SafeCert, TAASN, TERMGRAPH, and WING), four tutorials, and seven invited lectures (excluding those that were specific to the satellite events). The five main conferences received 532 submissions (including 30 tool demonstration papers), 141 of which were accepted (10 tool demos), giving an overall acceptance rate of about 26%, with most of the conferences at around 25%. 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 towards making 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 2009 was organised by the University of York 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)
and with support from ERCIM, Microsoft Research, Rolls-Royce, Transitive, and Yorkshire Forward.

The organising team comprised:

Chair: Gerald Luettgen
Secretariat: Ginny Wilson and Bob French
Finances: Alan Wood
Satellite Events: Jeremy Jacob and Simon O’Keefe
Publicity: Colin Runciman and Richard Paige
Website: Fiona Polack and Malihe Tabatabaie.

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

Vladimiro Sassone (Southampton, Chair), Luca de Alfaro (Santa Cruz), Roberto Amadio (Paris), Giuseppe Castagna (Paris), Marsha Chechik (Toronto), Sophia Drossopoulou (London), Hartmut Ehrig (Berlin), Javier Esparza (Munich), Jose Fiadeiro (Leicester), Andrew Gordon (MSR Cambridge), Rajiv Gupta (Arizona), Chris Hankin (London), Laurie Hendren (McGill), Mike Hinchey (NASA Goddard), Paola Inverardi (L’Aquila), Joost-Pieter Katoen (Aachen), Paul Klint (Amsterdam), Stefan Kowalewski (Aachen), Shriram Krishnamurthi (Brown), Kim Larsen (Aalborg), Gerald Luettgen (York), Rupak Majumdar (Los Angeles), Tiziana Margaria (Göttingen), Ugo Montanari (Pisa), Oege de Moor (Oxford), Luke Ong (Oxford), Catuscia Palamidessi (Paris), George Papadopoulos (Cyprus), Anna Philippou (Cyprus), David Rosenblum (London), Don Sannella (Edinburgh), João Saraiva (Minho), Michael Schwartzbach (Aarhus), Perdita Stevens (Edinburgh), Gabriel Taentzer (Marburg), Dániel Varró (Budapest), and Martin Wirsing (Munich).

I would like to express my sincere gratitude to all of these people and organisations, the Programme Committee Chairs and PC members of the ETAPS conferences, the organisers of the satellite events, the speakers themselves, the many reviewers, and Springer for agreeing to publish the ETAPS proceedings. Finally, I would like to thank the Organising Chair of ETAPS 2009, Gerald Luettgen, for arranging for us to hold ETAPS in the most beautiful city of York.

January 2009

Vladimiro Sassone, Chair
ETAPS Steering Committee
This volume contains 26 regular papers and two abstracts of invited talks presented at the 18th European Symposium on Programming held during March 25–27, 2009 in York (UK).

We received 130 abstracts and 98 full paper submissions. Some abstracts were never followed by a full paper because of the 15-page limit for submissions imposed by ETAPS to all member conferences. Many, myself included, believe that this limit strongly penalizes ESOP with respect to most programming language conferences (such as POPL, PLDI, PPoPP, PPDP, ICFP, OOPSLA, ECOOP). By a rough calculation, submissions to ECOOP and to 10-page ACM conferences have two-thirds more space than ESOP papers. The gap is much wider with 12-page ACM conference (ICFP, POPL, PPDP) or even 18-page ACM conferences such as OOPSLA. I personally know authors who did not submit to ESOP because of the page limit and then had their paper accepted in one of the other conferences mentioned above. The 15-page limit is inadequate for ESOP, not only relatively to other major conferences, but also in the absolute sense. This was felt by authors, reviewers, and Program Committee (PC) members. The most common, printable, adjective used to described this limit in the PC discussions was “absurd”: reviewers complained that some papers were butchered to fit in the allotted page count, and that they had to download full versions and read appendixes in order to be able to judge the work (as this was not uniformly the case, with some reviewers judging only the submitted version, it added a further degree of randomness to the decision process). The inadequacy was further confirmed by two questionnaires submitted to authors and PC members (and, rather surprisingly, dissatisfaction with the page limit was higher among the PC members). The consensus is that ESOP will not reach its full potential as long as such a limit is maintained, which is why several persons wrote to invite me to argue at the ETAPS Steering Committee meeting to relax this limit and/or to stop imposing the same limit to all ETAPS conferences.

Now for more mundane matters. This year competition was tough. We loosely applied the Identify the Champion selection strategy\(^1\) and 30 of the 98 submissions had at least one strong proponent, that is, one review with the highest possible score. Two papers were immediately rejected because of simultaneous submission to other conferences. In one case the authors explained that the double submission was due to reviews obtained during a rebuttal phase, which were so negative that they assumed it meant the paper was rejected. However, since they did not formally withdraw their submission from the first conference, it was considered as a double submission and the paper was rejected. In the second case

\(^1\) See http://www.iam.unibe.ch/ oscar/Champion/.
the authors justified their double submission by the fact they did not carefully read submission policies. For the remaining papers the discussion was organized in four phases: we first selected the clear accepts and clear rejects; then divided the remaining papers in thematic groups and performed a further selection on a per group basis; the remaining papers of different topics were then further classified according to individual PC members’ rankings, independently from their topics; finally, five last submissions were accepted in a final ballot requiring at least one-third of the PC members votes.

A novelty of this year’s ESOP was the introduction of a rebuttal phase. Authors were given a 60-hour period and 500 words to point out factual errors and answer direct questions from reviewers. Rebuttals went smoothly (apart from a single PC member who, despite several repeated reminders, uploaded all his reports eight hours after the start of the rebuttal phase) and, according to the questionnaires, they were unanimously appreciated by both authors and PC members. I admit that before this experience I believed that the only benefit of a rebuttal phase was to “put the pressure” on external reviewers so as to obtain more detailed reviews. However, and somewhat to my surprise, rebuttals turned out to be quite useful for decision making. In most cases in which rebuttals influenced the decision, they did so in a negative way, since they somehow confirmed or strengthened reviewers’ doubts. But in a few cases, they made reviewers change their assessments and the paper switched from rejection to acceptance.

I was truly impressed by the work done by the PC members and the 145 external reviewers: they prepared 313 reports and produced over 1100 comments in the subsequent discussion. The discussion took place electronically and was managed by EasyChair, a wonderful conference management system developed by Andrei Voronkov, which made this PC Chair’s life much easier. I am particularly grateful to the many external reviewers who, during the discussion phase and on short notice, accepted to prepare reports in a few days, thus giving a decisive help in deciding controversial papers. But above all I am grateful to the many authors that submitted a paper to ESOP, especially those that were not gratified by seeing their paper accepted: for them I do hope that the feedback they received from our reviews turned out to be useful to improve their work.

January 2009

Giuseppe Castagna
Organization

Program Chair

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