PREFACE

This volume contains the papers presented at the 21st International Conference on Rewriting Techniques and Applications (RTA 2010) which was held from July 11 to July 13, 2010, in Edinburgh, Scotland as part of the 5th International Federated Logic Conference (FLOC 2010), together with the International Joint Conference on Automated Reasoning (IJCAR 2010), the Conference on Automated Verification (CAV 2010), the IEEE Symposium on Logic in Computer Science (LICS 2010), the International Conference on Logic Programming (ICLP 2010), the Conference on Theory and Applications of Satisfiability Testing (SAT 2010), the Conference on Interactive Theorem Proving (ITP 2010) and the Computer Security Foundations Symposium (CSF 2010). Workshops associated with RTA 2010 were the 5th International Workshop on Higher-Order Rewriting (HOR 2010), the Annual Meeting of the IFIP Working Group 1.6 on Term Rewriting, the International Workshop on Strategies in Rewriting, Proving, and Programming (IWS 2010), the 24th International Workshop on Unification (UNIF 2010) and the 11th International Workshop on Termination (WST 2010).

RTA is the major forum for the presentation of research on all aspects of rewriting. Previous RTA conferences were held in Dijon (1985), Bordeaux (1987), Chapel Hill (1989), Como (1991), Montreal (1993), Kaiserslautern (1995), Rutgers (1996), Sitges (1997), Tsukuba (1998), Trento (1999), Norwich (2000), Utrecht (2001), Copenhagen (2002), Valencia (2003), Aachen (2004), Nara (2005), Seattle (2006), Paris (2007), Hagenberg (2008) and Brasilia (2009).

For RTA 2010, 23 regular research papers and three system descriptions were accepted out of 48 submissions. Each paper was reviewed by at least three members of the Program Committee, with the help of 76 external reviewers, and an electronic meeting of the Program Committee was held using Andrei Voronkov's EasyChair system, which was invaluable in the reviewing process, the electronic Program Committee meeting, and the preparation of the conference schedule, and this proceedings.

The Program Committee gave the award for Best Contribution to RTA 2010 to Patrick Bahr for two papers: "Partial Order Infinitary Term Rewriting and Bhm Trees" and " Abstract Models of Transfinite Reductions".

In addition to the contributed papers, the RTA program contained an invited talk by Mikolaj Bojanczyk on "Automata for Data Words and Data Trees" and by Vincent van Oostrom on "Realising Optimal Sharing". In addition, there were invited talks by David Harel, Gordon Plotkin, Georg Gottlob and J Strother Moore, jointly with ITP, LICS, RTA and SAT.

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Maybe people helped to make RTA 2010 a success. I would like to thank Zhiqiang Liu for helping with the proceedings and Ralph Eric McGregor for helping with the RTA webpage. FLOC was hosted by the School of Informatics at the University of Edinburgh, Scotland. Support by the conference sponsors – EPSRC, NSF, Microsoft Research, Association for Symbolic Logic, CADE Inc., Google, Hewlett-Packard, Intel – is gratefully acknowledged.

June 2010   Christopher Lynch