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# Theoretical Computer Science

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## Preface

The complexity of finite descriptions of infinite objects is the main subject of investigation of *descriptive complexity*, one of the traditional areas of computer science. Because of the wide interest and the many research activities in this field, in 1997 the International Federation for Information Processing (IFIP) founded the Working Group 1.2 (WG 1.2) on Descriptive Complexity. Since then, IFIP WG 1.2 has been promoting a series of workshops related to this field.

Descriptive Complexity of Automata, Grammars and Related Systems (DCAGRS) was held in Magdeburg, Germany (1999), London, Ontario, Canada (2000), and Vienna, Austria (2001). Formal Descriptions and Software Reliability (FDSR) was held in Paderborn, Germany (1998), Boca Raton, Florida, USA (1999), and San Jose, California, USA (2000). They were followed by the Descriptive Complexity of Formal Systems (DCFS) workshop, which is the successor and the merger of these two workshops. The first edition of DCFS was held in London, Ontario (2002) and it was followed by workshops in Budapest, Hungary (2003), London, Ontario, Canada (2004), Como, Italy (2005), Las Cruces, New Mexico, USA (2006), and Nový Smokovec, High Tatras, Slovakia (2007).

In 2008, Descriptive Complexity of Formal Systems (DCFS 2008) was held in Charlottetown, Prince Edward Island, Canada, July 16–18. More information can be found on the conference website <http://www.csit.upei.ca/dcfs2008/>.

All previous DCAGRS, FDSR and DCFS workshops were jointly organized by the Working Group 1.2 on Descriptive Complexity of the International Federation for Information Processing (IFIP) and the hosting institutions. Following the tradition, DCFS 2008 was jointly organized by the Department of Computer Science and Information Technology of University of Prince Edward Island and IFIP WG 1.2.

After a careful refereeing process, four invited papers and 17 submitted papers were presented at DCFS 2008. This volume includes 10 papers (selected from among the 17 accepted papers), in revised or extended form, after a standard refereeing process.

We would like to kindly thank the members of the Program Committee and the reviewers for their contribution in the selection process and for their careful evaluation.

We express our gratitude to the sponsors of the workshop: the Department of Computer Science and Information Technology, the Office of the President, the Office of Research and Development, the Dean of Science of University of Prince Edward Island, and the Province of Prince Edward Island represented by the Prince Edward Island Business Development Inc.

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*co-chairs of the workshop, editors*

Cezar Câmpeanu

*Department of Computer Science and Information Technology,  
University of Prince Edward Island,*

*550 University Avenue, Charlottetown, PE, Canada C1A 4P3*

*E-mail address: [ccampeanu@upei.ca](mailto:ccampeanu@upei.ca).*

Giovanni Pighizzini\*

*Dipartimento di Informatica e Comunicazione,*

*Università degli Studi di Milano,*

*via Comelico 39, 20135 Milano, Italy*

*E-mail address: [pighizzini@disco.unimi.it](mailto:pighizzini@disco.unimi.it).*

\* Corresponding editor. Tel.: +39 02 50 31 63 03; fax: +39 02 50 31 63 04.