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Rogério Reis (Eds.)

Descriptive Complexity of Formal Systems

14th International Workshop, DCFS 2012
Braga, Portugal, July 23-25, 2012
Proceedings

Volume Editors

Martin Kutrib

Universität Giessen, Institut für Informatik
Arndtstraße 2, 35392 Giessen, Germany
E-mail: kutrib@informatik.uni-giessen.de

Nelma Moreira

Universidade do Porto, Faculdade de Ciências
Departamento de Ciência de Computadores
Rua do Campo Alegre 1021/1055, 4169-007 Porto, Portugal
E-mail: nam@dcc.fc.up.pt

Rogério Reis

Universidade do Porto, Faculdade de Ciências
Departamento de Ciência de Computadores
Rua do Campo Alegre 1021/1055, 4169-007 Porto, Portugal
E-mail: rvr@dcc.fc.up.pt

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Preface

The 14th International Workshop on Descriptive Complexity of Formal Systems (DCFS 2012) was held in Braga, Portugal, during July 23–25, 2012, and was jointly organized by Universidade do Porto, Universidade do Minho, and Universidade da Beira Interior. Braga is known as the “Portuguese Rome” for its concentration of religious architecture, roman remains, beautiful churches, and museums.

The DCFS workshop is the successor workshop and the merger of two related workshops, Descriptive Complexity of Automata, Grammars and Related Structures (DCAGRS) and Formal Descriptions and Software Reliability (FDSR). The DCAGRS workshop took place in Magdeburg, Germany (1999), London, Ontario, Canada (2000), and Vienna, Austria (2001), while the FDSR workshop took place in Paderborn, Germany (1998), Boca Raton, Florida, USA (1999), and San Jose, California, USA (2000). The DCFS workshop has previously been held in London, Ontario, Canada (2002), Budapest, Hungary (2003), London, Ontario, Canada (2004), Como, Italy (2005), Las Cruces, New Mexico, USA (2006), Nový Smokovec, Slovakia (2007), Charlottetown, Prince Edward Island, Canada (2008), Magdeburg, Germany (2009), Saskatoon, Saskatchewan, Canada (2010), and Giessen/Limburg, Germany (2011).

This volume of *Lecture Notes in Computer Science* contains the invited contributions and the accepted papers presented at DCFS 2012. Special thanks go to the invited speakers for accepting our invitation and presenting their recent results at DCFS 2012:

- Christos Kapoutsis (LIAFA, Paris)
- Dexter Kozen (Cornell University, USA)
- André Platzer (Carnegie Mellon University, USA)
- Pedro Silva (Universidade do Porto, Portugal)

There were 33 papers submitted to DCFS 2012 by a total of 65 authors from 17 different countries, from all over the world—Canada, Czech Republic, Estonia, Finland, Germany, India, Italy, Japan, Republic of Korea, Poland, Romania, Russian Federation, Slovakia, South Africa, Spain, UK, and USA. From these submissions, on the basis of three referee reports each, the Program Committee selected 20 papers—the submission and refereeing process was supported by the EasyChair conference management system. We warmly thank the members of the Program Committee for their excellent work in making this selection. Moreover, we also thank the additional external reviewers for their careful evaluation. All these efforts were the basis for the success of the workshop.

We are grateful to all the members of the Organizing Committee for their commitment in the preparation of the scientific sessions and social events. A special thanks goes to José Pedro Rodrigues for his help in the graphic design of all the conference materials. We express our gratitude to the staff of the

Department of Informatics of the University of Minho and of the D. Diogo de Sousa Museum of Archaeology, for their support during the conference. Thanks also go to Ivone Amorim, Rizó Israfov, Eva Maia, Davide Nabais, David Pereira, and Alexandra Silva.

We wish to thank the workshop sponsors: Universidade do Porto, Universidade do Minho, Universidade da Beira Interior, Centro de Matemática da Universidade do Porto, Município de Guimarães - Guimarães 2012, Multicert, and Critical Software.

We would also like to thank the staff of the Computer Science Editorial Department at Springer, for their efficient collaboration in making this volume available before the conference. Their timely instructions were very helpful for our preparation for this volume.

Finally, we would like to thank all the participants for attending the DCFS workshop. We hope that this year's workshop has stimulated new research and scientific co-operations in the field of descriptive complexity, as in previous years. Hope to see you at DCFS in 2013!

July 2012

Martin Kutrib
Nelma Moreira
Rogério Reis

Organization

DCFS 2012 was jointly organized by Universidade do Porto, Universidade do Minho, and Universidade da Beira Interior. The conference took place at the D. Diogo de Sousa Museum of Archaeology, Braga.

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