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Preface

The *Eighth Workshop on Non-Classical Models of Automata and Applications (NCMA* has been organized to provide an opportunity for researchers who work on different aspe non-classical and classical models of automata and grammars to exchange and develop ideas. Many non-classical models of automata and grammar-like structures are the n objects of theoretical computer science. They are studied from different points of v various areas, both as theoretical concepts and as formal models for applications. The pu of the NCMA workshop series is to promote a deeper and interdisciplinary coverage particular area and in this way to foster new insights and substantial progress in con science as a whole.

The first workshop on Non-Classical Models of Automata and Applications, NCMA 200 held in Wroclaw, Poland, in 2009 as a satellite event of the 17th International Symp on Fundamentals of Computation Theory (FCT 2009). It was sponsored by the AutoM project of the European Science Foundation (ESF). The second workshop, NCMA 201 held in Jena, Germany, as an associated workshop of the 11th International Confere Membrane Computing (CMC 11); the third workshop, NCMA 2011, was organized at th versity of Milan, Italy, in close proximity to the 15th Conference on Developments in Lar Theory (DLT 2011). In contrast to the previous workshops, the next NCMA workshop organized as stand-alone events; NCMA 2012 was held in Fribourg, Switzerland, in A 2012, NCMA 2013 took place in Umeå, Sweden, in August 2013, NCMA 2014 was h Kassel, Germany, in July 2014, and NCMA 2015 took place in Porto, Portugal, August September 1st, 2015.

Now the Eighth Workshop on Non-Classical Models of Automata and Applications (N 2016) is held in Debrecen, Hungary, in the period of August 29th – 30th, 2016. It is organi the Department of Computer Science of the Faculty of Informatics at the University of Deb We expect NCMA 2016 to be again a scientifically valuable event with interesting present exciting results, and stimulating discussions. We hope that the friendly atmosphere a nice surroundings will also help to make this workshop a worthwhile event that will lead insights and possibly new cooperations.

The program of NCMA 2016 contains four invited presentations given by

- Rudolf Freund (TU Wien, Austria):
  P Automata.
- Zoltán Fülöp (University of Szeged, Hungary):
  Weighted Tree Automata and their Characterization by Logic,
- Victor Mitrana (University of Bucharest, Romania & Polytechnic University of Madrid, Spain):
  Networks of Picture Processors.
- Igor Potapov (University of Liverpool, UK):
  Pattern Formations with Broadcasting Automata Model.

We thank them for accepting our invitation and for presenting their recent results.

For NCMA 2016, we received 21 submissions by a total of 39 authors, from 18 different countries. On the basis of at least three referees' reports each, the Program Committee selected 15 contributions for presentation at NCMA 2016 and for inclusion in the workshop proceedings.

We thank the members of the Program Committee for their excellent work in making this selection:

- Suna Bensch (Umeå University, Sweden)
- Henning Bordihn (University of Potsdam, Germany), co-chair
- Erzsébet Csuhaj-Varjú (Eötvös Loránd University, Budapest, Hungary)
- Alberto Dennunzio (University of Milano-Bicocca, Italy)
- Rudolf Freund (TU Wien, Austria)
- Violetta Lonati (University of Milan, Italy)
- Christos Kapoutsis (Carnegie Mellon University, Doha, Qatar)
- Andreas Maletti (University of Stuttgart, Germany)
- Alexander Meduna (Brno University of Technology, Czech Republic)
- Victor Mitrana (University of Bucharest, Romania & Polytechnic University of Madrid, Spain)
- Nelma Moreira (University of Porto, Portugal)
- František Mráz (Charles University in Prague, Czech Republic)
- Benedek Nagy (University of Debrecen, Hungary & Eastern Mediterranean University, Famagusta, Cyprus), co-chair
- Linqiang Pan (Huazhong University of Science and Technology, Wuhan, China)
- Giovanni Pighizzini (University of Milan, Italy)
- Rogério Reis (University of Porto, Portugal)
- Bianca Truthe (University of Giessen, Germany)
- György Vaszil (University of Debrecen, Hungary), co-chair

We also thank the external reviewers for helping in the evaluation process:

- Dávid Angyal (University of Debrecen, Hungary)
- Marcella Anselmo (University of Salerno, Italy)
- Henrik Björklund (Umeå University, Sweden)
- Johanna Björklund (Umeå University, Sweden)
- Alexandre Blondin Massé (University of Quebec at Montreal, Canada)
- Sabine Broda (University of Porto, Portugal)
- Cezar Câmpeanu (University of Prince Edward Island, Canada)
- Sébastien Labbé (University of Liége, Belgium)
- Giovanna Lavado (University of Milan, Italy)
- Luca Manzoni (University of Milano-Bicocca, Italy)
- Martin Plátek (Charles University in Prague, Czech Republic)
- Daniel Průša (Czech Technical University in Prague, Czech Republic)
- Eric Rémila (University of Lyon, France)
- Niklas Zechner (Umeå University, Sweden)
- Thomas Zeugmann (Hokkaido University, Japan)

In addition to the four invited talks and the 15 regular contributions, NCMA 2016 also fe seven short presentations to emphasize its workshop character, each of them also having evaluated by at least two members of the program committee. Extended abstracts of the papers presented at NCMA 2016 appear in a separate volume.

This volume contains the invited presentations and the regular contributions. A special is RAIRO–Theoretical Informatics and Applications dedicated to NCMA 2016 will also be after the workshop, and it will contain full versions of selected papers, which will under standard refereeing process of the journal.

We are grateful to the Department of Computer Science and the Faculty of Informatics University of Debrecen for the local organization and for the financial support of NCMA and we would also like to thank the Institute of Computer Languages of the TU Wi covering the production costs of the proceedings and this collection of short papers. Mo we thank the members of the Organizing Committee, Ildikó Cserhátiné Vecsei and E Kása, for their efforts in the preparation of the workshop as well as Sergiu Ivanov for h in editing this volume.

August 2016

Rudolf Freund, Wien
Henning Bordihn, Potsdam
Benedek Nagy, Debrecen and Fama
György Vaszil, Debrecen

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