

Non-Classical Models of Automata and Applications IX

Preface

The Workshop on Non-Classical Models of Automata and Applications (NCMA) is an annual gathering of researchers in the field of automata and formal languages theory. The main subject of these workshops is investigating various non-classical and classical automata models as theoretical concepts and as formal models for applications in diverse areas. This volume contains extended versions of seven papers that were originally presented at the Ninth Workshop on Non-Classical Models of Automata and Applications (NCMA 2017) held on August 17–18, 2017, in Prague, Czech Republic.

The series of workshops started in 2009 as a satellite event of the International Symposium on Fundamentals of Computation Theory (FCT 2009) in Wrocław, Poland. The next two workshops NCMA 2010 in Jena, Germany, and NCMA 2017 in Milano, Italy, were also co-located together with other conferences. However, since 2012 the series continued as independent workshops: NCMA 2012 in Fribourg, Switzerland, NCMA 2013 in Umeå, Sweden, NCMA 2014 in Kassel, Germany, NCMA 2015 in Porto, Portugal, and NCMA 2016 in Debrecen, Hungary.

NCMA 2017 consisted of invited lectures, regular papers, and short contributions. Jiří Wiedermann from the Academy of Sciences of the Czech Republic, Prague, Czech Republic, gave the first invited lecture “Non-Classical Turing Machines: Extending the Notion of Computation” co-authored by Jan van Leeuwen from the Department of Information and Computing Science, Utrecht University, the Netherlands. Bianca Truthe from the Institute of Computer Science, Justus-Liebig-Universität Giessen, Germany, presented the second invited lecture “Hierarchies of Language Families of Contextual Grammars”.

Besides the two invited lectures, the Program Committee of NCMA 2017 selected 14 regular papers and five short contributions for presentation at the workshop. Each submitted paper was reviewed by three members of the Program Committee or their subreviewers. The Program Committee of NCMA 2017 had the following members:

Johanna Björklund, Umeå University, Sweden,
Sabine Broda, University of Porto, Portugal,
Rudolf Freund, TU Wien, Austria,
Yo-Sub Han, Yonsei University, Seoul, Korea,
Mika Hirvensalo, University of Turku, Finland,
Galina Jirásková, Slovak Academy of Sciences, Košice, Slovakia,

Andreas Malcher, University of Giessen, Germany,
 Tomáš Masopust, TU Dresden, Germany,
 František Mráz, Charles University, Prague, Czech Republic, co-chair,
 Benedek Nagy, Eastern Mediterranean University, Famagusta, Cyprus,
 Friedrich Otto, University of Kassel, Germany,
 Giovanni Pighizzini, University of Milan, Italy,
 Igor Potapov, University of Liverpool, UK,
 Daniel Průša, Czech Technical University in Prague, Czech Republic, co-chair,
 Özlem Salehi, Boğaziçi University in Istanbul, Turkey,
 Markus L. Schmid, Trier University, Germany,
 György Vaszil, University of Debrecen, Hungary.

The workshop was organized by the Faculty of Mathematics and Physics of Charles University in Prague and supported by the Czech Science Foundation (grant projects No. 15-04960S and P46). A significant contribution was provided by the Institute of Computer Languages of the TU Wien in the form of covering the production costs of the proceedings and the collection of short papers.

The papers comprised in this volume build on the invited lecture by Bianca Truthe and six regular papers presented at NCMA 2017. All these papers contain new material not included in their respective version found in the proceedings of NCMA 2017. The papers nicely illustrate how broad the field of automata theory is now. Non-classical models studied in the papers comprise self-verifying pushdown and queue automata, two-sided strictly locally testable languages, insertion systems, weighted and unweighted restarting automata, non-self-embedding grammars, and contextual grammars.

We thank all authors for their contributions and all reviewers for their help, without which we would not have completed this issue. We would also like to express our thanks to Damian Niwiński, the Editor-in-Chief of *Fundamenta Informaticae*, and to the editorial staff for their support.

Special issue editors

Mika Hirvensalo
mikhirve@utu.fi

František Mráz
frantisek.mraz@mff.cuni.cz

Daniel Průša
prusa@fel.cvut.cz