

**Eleventh Workshop on
Non-Classical Models of
Automata and Applications
(NCMA 2019)**

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Rudolf Freund, Markus Holzer, and José M. Sempere

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Preface

The *Eleventh Workshop on Non-Classical Models of Automata and Applications (NCMA 2019)* was held in Valencia, Spain, on July 2nd and 3rd, 2019. The NCMA workshop series was established in 2009 as an annual forum for researchers working on different aspects of non-classical and classical models of automata and grammars. The purpose of the NCMA workshop series is to provide an opportunity to exchange and develop novel ideas, and to stimulate research on non-classical and classical models of automata and grammar-like structures. Many models of automata and grammars are studied from different points of view in various areas, both as theoretical concepts and as formal models for applications. The goal of the NCMA workshop series is to motivate a deeper coverage of this particular area and in this way to foster new insights and substantial progress in computer science as a whole.

The previous workshops took place in the following places:

2009 Wrocław, Poland,
2010 Jena, Germany,
2011 Milano, Italy,
2012 Fribourg, Switzerland,
2013 Umeå, Sweden,
2014 Kassel, Germany,
2015 Porto, Portugal,
2016 Debrecen, Hungary,
2017 Praha, Czech Republic, and
2018 Košice, Slovakia.

The Eleventh Workshop on Non-Classical Models of Automata and Applications (NCMA 2019) was organized at the Universitat Politècnica de València. Its scientific program consisted of two invited lectures, eleven regular contributions, and three short presentations.

At NCMA 2019 there were two invited lectures:

- Victor Mitrană (National Institute for Research and Development of Biological Science, Bucharest, Romania, and Departamento de Sistemas Informáticos, Universidad Politécnica de Madrid, Spain):
DNA self-assembly by hairpin
- Agustín Riscos-Núñez (Research Group on Natural Computing, Department of Computer Science and Artificial Intelligence, Universidad de Sevilla, Spain):
Complexity classes in Membrane Computing: P-conjecture and related issues.

We thank Victor Mitrana and Agustín Riscos-Núñez for accepting our invitation and for presenting their recent results.

For NCMA 2019, we received submissions by a total of 42 authors from 13 different countries. On the basis of at least three referees' reports each, the Program Committee selected 11 contributions for presentation at NCMA 2019 and for inclusion in the workshop proceedings.

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

- Erzsébet Csuha-j-Varjú (Eötvös Loránd University, Budapest, Hungary),
- Henning Fernau (Trier University, Germany),
- Markus Holzer (University of Giessen, Germany), co-chair,
- Bruno Guillon (INRIA Lille, France),
- Galina Jirásková (Slovak Academy of Sciences, Košice, Slovakia),
- Lila Kari (University of Waterloo, Canada),
- Zbyněk Křivka (Brno University of Technology, Czech Republic),
- Alberto Leporati (Università degli Studi di Milano Bicocca, Italy),
- Andreas Malcher (University of Giessen, Germany),
- Brink van der Merve (University of Stellenbosch, South Africa),
- Benedek Nagy (Eastern Mediterranean University, Famagusta, North Cyprus),
- Friedrich Otto (University of Kassel, Germany),
- Cem Say (Boğazici University of Istanbul, Turkey),
- José M. Sempere (Universitat Politècnica de València, Spain), co-chair,
- Petr Sosík (Silesian University, Opava, Czech Republic)
- Bianca Truthe (University of Giessen, Germany),
- György Vaszil (University of Debrecen, Hungary).

We also thank the following colleagues for helping in the evaluation process by providing external reviews:

- Simon Beier (University of Giessen, Germany),
- Suna Bensch (University of Umeå, Sweden),
- Artur Jeż (University of Wrocław, Poland),
- Jozef Jirásek (University of Saskatchewan, Saskatoon, Canada),
- Radim Kocman (Brno University of Technology, Czech Republic),
- Damián López (Universitat Politècnica de València, Spain),
- Luca Prigioniero (Università degli Studi di Milano, Italy).

In addition to the invited talks and regular contributions, NCMA 2019 also featured three short presentations to emphasize its workshop character, each of them also having been evaluated by at least two members of the Program Committee.

This volume contains the two invited presentations and the eleven regular contributions. Extended abstracts of the short papers presented at NCMA 2019 appear separately.

A special issue of a renowned scientific journal dedicated to NCMA 2019 will also be edited after the workshop, and it will contain extended versions of selected papers, which will undergo the standard refereeing process of the journal.

The local organizing committee is grateful to the Universitat Politècnica de València as well as to the Escuela Técnica Superior de Ingeniería Informática (ETSINF) and the Departamento de Sistemas Informáticos y Computación (DSIC) for the financial support of NCMA 2019.

June 2019

Rudolf Freund, Wien
Markus Holzer, Giessen
José M. Sempere, Valencia

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