

## REPORT ON DCFS 2019

### 21st IFIP WG 1.02 International Conference on Descriptive Complexity of Formal Systems Košice, Slovakia, July 17 – 19, 2019

Andreas Malcher  
Universität Giessen, Germany

The annual conference on descriptive complexity of formal systems gathers scientists from many different fields in computer science and aims to provide an opportunity to get in contact with researchers interested in descriptive complexity and its applications. DCFS 2019, the 21st conference in this series, was held at Hotel TeleDom in Košice, Slovakia, from July 17 to 19, 2019. It was jointly organized by the Košice branch of the Mathematical Institute of the Slovak Academy of Sciences, by the Slovak Artificial Intelligence Society (SAIS), and by the IFIP Working Group 1.02 on Descriptive Complexity, and Peter Gurský, Michal Hospodár, Jozef Jirásek, Galina Jirásková, Ivana Krajňáková, Peter Mlynárčik, Viktor Olejár, Matúš Palmovský, and Juraj Šebej constituted the organizing team.

The scientific program consisted of four invited talks and 18 talks of accepted papers which had been chosen by the Program Committee from 25 submissions on the basis of at least three reviews for each submission. The detailed program can be found on the website <http://im.saske.sk/dcfs2019/>.

The proceedings, edited by Michal Hospodár, Galina Jirásková, and Stavros Konstantinidis, contain all invited talks and contributions, and have been published by Springer as volume 11612 in the series *Lecture Notes in Computer Science (LNCS)*. Full versions of selected papers will be published in a special issue of *Information and Computation*.

The invited talks covered several interesting topics and were given (in order of appearance) by

- Giovanni Pighizzini (Milan, Italy) on “Limited Automata: Properties, Complexity and Variants”
- Rudolf Freund (Vienna, Austria) on “A General Framework for Sequential Grammars with Control Mechanisms”
- Jarkko Kari (Turku, Finland) on “Low-Complexity Tilings of the Plane”
- Benedek Nagy (Famagusta, Northern Cyprus) on “Union-Freeness, Deterministic Union-Freeness and Union-Complexity”



DCFS 2019 group photo — in front of the Ochtinská Aragonite Cave.

The Business Meeting of the IFIP Working Group 1.02 on Descriptive Complexity was headed by Martin Kutrib and took place on July 19th, after the last talk of the second session. In the business meeting, Martin gave briefly an overview on the IFIP organization, the working group and its activities in the last year. Then, he informed the participants about three new members of the Working Group and he welcomed Beatrice Palano, Christos Kapoutsis, and Ian McQuillan. At the end of the meeting, Martin gave over to Rudi Freund who presented the conference site where DCFS 2020 will take place. DCFS 2020 will be organized in Vienna, Austria and is planned from August 24 to 26, 2020, and will be part of the “Summer of Formal Languages” in Vienna that comprises next year’s editions of the conferences CMC, MCU, NCMA, and UCNC.

The social program started on the eve of the conference with a welcome reception at Hotel TeleDom, the venue of the conference, and was continued with a guided city tour on July 17th which took us to the historic center of Košice and, in particular, to the impressive 14th century Gothic *St. Elisabeth Cathedral*. The social program was complemented on July 18th with an excursion by bus to the nearby mountains where we could visit the *Ochtinská Aragonite Cave* which is one of only three aragonite caves all over the world. Probably all participants have seen such spectacular aragonite filling for the first time in their life. The excursion continued with a guided tour through the *Manor House* in Betliar which gave us a very good impression on how the nobility lived in the 19th century. Finally, in the evening, after coming back by bus, we met for a wonderful conference dinner at the Hotel TeleDom in Košice where we had again the opportunity to enjoy the Slovakian cookery.

Thank you to the organizers for their excellent work and all participants for the nice and successful conference. Welcome to DCFS 2020 in Vienna, Austria!