

## REPORT ON DCFS 2018

### 20th IFIP WG 1.02 International Conference on Descriptive Complexity of Formal Systems Halifax, Nova Scotia, Canada, July 25 – 27, 2018

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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 2018, the 20th conference in this series, was held at the campus of *St. Mary's University* in Halifax, Canada, from July 25 to 27, 2018. It was jointly organized by the IFIP Working Group 1.02 on Descriptive Complexity and by the Department of Mathematics and Computing Science at Saint Mary's University in Halifax, and Shawna McGowan, Stavros Konstantinidis, Paul Muir, and Juraj Šebej constituted the organizing committee.

The scientific program consisted of three invited talks and 19 talks of accepted papers which had been chosen by the Program Committee from 24 submissions on the basis of three reviews for each submission. The detailed program can be found on the website <http://cs.smu.ca/~dcfs2018>.

The proceedings, edited by Stavros Konstantinidis and Giovanni Pighizzini, contain all invited talks and contributions, and have been published by Springer as volume 10952 in the series *Lecture Notes in Computer Science (LNCS)*. Full versions of selected papers will be published in a special issue of *Theoretical Computer Science*.

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

- Peter Selinger (Halifax, Canada) on “Efficient Synthesis of Quantum Circuits by Number Theoretic Methods”
- Jacques Sakarovitch (Paris, France) on “The Complexity of Carry Propagation for Successor Functions”
- Ludwig Staiger (Halle, Germany) on “Finite Automata and Randomness”

In addition, Jacques Sakarovitch commemorated and honored the late *Maurice Nivat* in a special session of the conference.



DCFS 2018 group photo — Sobey Building at Saint Mary's University

The Business Meeting of the IFIP Working Group 1.02 on Descriptive Complexity was headed by Martin Kutrib and took place on July 25th, after the last talk of the day. 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 a change in the Steering Committee. First, he thanked Jürgen Dassow, who retired from the committee, for his long-standing commitment to the working group and, in particular, to the Steering Committee. Martin then welcomed Stavros Konstantinidis as new member of the Steering Committee. At the end of the meeting, Martin gave over to Galina Jirásková who presented the conference site where DCFS 2019 will take place. DCFS 2019 will be in Košice, Slovakia and is planned from July 17th to July 19th, 2019, just before CIAA 2019 which will take place in Košice as well.

The social program of the conference started on July 26th with an excursion by bus to the nearby town of Lunenburg, which is a UNESCO World Heritage Site. We took a guided tour through the center of Lunenburg with many interesting details given by the guide. After the tour, we visited the *Fisheries Museum of the Atlantic* in Lunenburg and learned a lot about the rich fishing heritage of Nova Scotia. Finally, in the evening, after coming back by bus, we met for a wonderful conference dinner at the Restaurant Le Bistro in Halifax where we had the

opportunity to enjoy a superb mix of French and Canadian cuisine.

Thank you to the organizers for their excellent work and all participants for the nice and successful workshop. Welcome to DCFS 2019 in Košice, Slovakia!