



MATHEMATICAL INSTITUTE
SLOVAK ACADEMY OF SCIENCES

DCFS 2019

**21st IFIP WG 1.02 INTERNATIONAL
CONFERENCE ON DESCRIPTIONAL
COMPLEXITY OF FORMAL SYSTEMS**

JULY 17–19, 2019, KOŠICE, SLOVAKIA

Program of the conference

**DCFS
2019**
**SLOVAKIA
KOŠICE**

Tuesday, July 16, 2019

17:00 – 22:00	Welcome reception at Hotel TeleDom
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Wednesday, July 17, 2019

7:30 – 7:55

Registration

7:55 – 8:00

Opening

8:00 – 9:00

Session chair: Jarkko Kari

GIOVANNI PIGHIZZINI (INVITED TALK)

Limited automata: Properties, complexity and variants

9:00 – 9:30

Coffee break

9:30 – 10:00

Session chair: Martin Kutrib

YO-SUB HAN, SANG-KI KO, AND KAI SALOMAA

Limited nondeterminism of input-driven pushdown automata: Decidability and complexity

10:00 – 10:30

GIOVANNI PIGHIZZINI AND LUCA PRIGIONIERO

Pushdown automata and constant height: Decidability and bounds

10:30 – 11:00

PETRA WOLF

On the decidability of finding a positive ILP-instance in a regular set of ILP-instances

11:30 – 13:00

Lunch in Hotel TeleDom

13:30 – 14:30

Session chair: Henning Fernau

RUDOLF FREUND (INVITED TALK)

A general framework for sequential grammars with control mechanisms

14:30 – 15:00

Coffee break

15:00 – 15:30

Session chair: Rudolf Freund

HENNING FERNAU, LAKSHMANAN KUPPUSAMY, AND INDHUMATHI RAMAN

Descriptive complexity of matrix simple semi-conditional grammars

15:30 – 16:00

MATHIEU HOYRUP, CRISTÓBAL ROJAS, VICTOR SELIVANOV, AND DONALD STULL

Computability on quasi-Polish spaces

16:00 – 16:30

MIZUHITO OGAWA AND VICTOR SELIVANOV

On classes of regular languages related to monotone well quasiorders

17:00 – 18:30

Guided tour in the city center

Thursday, July 18, 2019

8:00 – 9:00	Session chair: Alexander Okhotin JARKKO KARI (INVITED TALK) Low-complexity tilings of the plane
9:00 – 9:30	Coffee break
9:30 – 10:00	Session chair: Nelma Moreira TOMOYUKI YAMAKAMI How does adiabatic quantum computation fit into quantum automata theory?
10:00 – 10:30	SIMON BEIER AND MARKUS HOLZER Nondeterministic right one-way jumping finite automata
10:30 – 11:00	HENNING FERNAU AND MARTIN VU Regulated tree automata
11:30 – 18:30	Conference trip, including <ul style="list-style-type: none">• 13:00 lunch in Hotel Hrádok• 14:30 visit to the Ochtinská Aragonite Cave• 16:00 visit to the Manor House in Betliar
19:00	Conference dinner in Hotel TeleDom



Ochtinská Aragonite Cave



Manor House in Betliar

Friday, July 19, 2019

8:00 – 9:00	<p>Session chair: Juraj Šebej</p> <p>BENEDEK NAGY (INVITED TALK) Union-freeness, deterministic union-freeness and union-complexity</p>
9:00 – 9:30	Coffee break
9:30 – 10:00	<p>Session chair: Giovanni Pighizzini</p> <p>MARTIN KUTRIB, ANDREAS MALCHER, CARLO MEREGHETTI, AND BEATRICE PALANO Descriptive complexity of iterated uniform finite state transducers</p>
10:00 – 10:30	<p>KITTI GELE AND SZABOLCS IVÁN The syntactic complexity of semi-flower languages</p>
10:30 – 11:00	<p>DANIEL GABRIC, ŠTĚPÁN HOLUB, AND JEFFREY SHALLIT Generalized de Bruijn words and the state complexity of conjugate sets</p>
11:00 – 11:30	<p>Business meeting including the presentation of DCFS 2020 in Vienna, Austria</p>
12:00 – 13:30	Lunch break
14:00 – 14:30	<p>Session chair: Michal Hospodár</p> <p>LILA KARI AND TIMOTHY NG State complexity of simple splicing</p>
14:30 – 15:00	<p>CHRIS KEELER AND KAI SALOMAA Nondeterminism growth and state complexity</p>
15:00 – 15:30	<p>ALEXANDER OKHOTIN AND ELIZAVETA SAZHNEVA State complexity of GF(2)-concatenation and GF(2)-inverse on unary languages</p>
15:30 – 16:00	Coffee break
16:00 – 16:30	<p>Session chair: Galina Jirásková</p> <p>JANUSZ BRZOZOWSKI, SYLVIE DAVIES, AND ABHISHEK MADAN State complexity of single-word pattern matching in regular languages</p>
16:30 – 17:00	<p>SYLVIE DAVIES AND MICHAL HOSPODÁR Square, power, positive closure, and complementation on star-free languages</p>
17:00 – 17:30	<p>GALINA JIRÁSKOVÁ AND IVANA KRAJŇÁKOVÁ NFA-to-DFA trade-off for regular operations</p>
17:30	Closing of DCFS 2019