

STACS 2018 Program

Wednesday, February 28

14:00-15:00 Registration (S3-037)

15:00-18:00 Chair: Brigitte Vallée (S3-044)

Tutorial Bruno Salvy. *Recursive Combinatorial Structures: Enumeration, Probabilistic Analysis and Random Generation*

19:00-22:00 Welcome reception (Dôme, town center)

Thursday, March 1

8:30-9:00 Registration and Coffee (S3-037)

9:00-9:15 Welcome (S3-049)

9:15-10:15 Chair: Martin Dietzfelbinger (S3-049)

Plenary talk (I) Meena Mahajan. *Lower bound techniques for QBF proof systems*

10:15-10:30 Coffee break (S3-037)

10:30-11:45 Parallel sessions (1A and 1B)

Session 1A: Chair: Christophe Paul (S3-044)

- ❑ Clément Carbonnel, David A. Cohen, Martin C. Cooper and Stanislav Živný. *On Singleton Arc Consistency for CSPs Defined by Monotone Patterns*
- ❑ Hiroshi Hirai, Yuni Iwamasa, Kazuo Murota and Stanislav Živný. *Beyond JWP: A tractable class of binary VCSPs via M-convex intersection*
- ❑ Isolde Adler and Frederik Harwath. *Property Testing for Bounded Degree Databases*

Session 1B Chair: Gilles Schaeffer (S3-045)

- ❑ Yoichi Iwata, Tomoaki Ogasawara and Naoto Ohsaka. *On the Power of Tree-Depth for Fully Polynomial FPT Algorithms*
- ❑ Barbara Geissmann, Stefano Leucci, Chih-Hung Liu and Paolo Penna. *Optimal dislocation with persistent errors in subquadratic time*
- ❑ Davide Bilò, Keerti Choudhary, Luciano Gualà, Stefano Leucci, Merav Parter and Guido Proietti. *Efficient Oracles and Routing Schemes for Replacement Paths*

11:45-12:00 Coffee break (S3-037)

12:00-13:15 Parallel sessions (2A and 2B)

Session 2A Chair: Arne Meier (S3-044)

- ❑ André Nies and Frank Stephan. *Closure of resource-bounded randomness notions under polynomial time permutations*
- ❑ Laurent Bienvenu and Rod Downey. *On low for speed oracles*
- ❑ John M. Hitchcock and Hadi Shafei. *Nonuniform Reductions and NP-Completeness*

Session 2B Chair: Thomas Schwentick (S3-045)

- ❑ Robert Ganian, Fabian Klute and Sebastian Ordyniak. *On Structural Parameterizations of the Bounded-Degree Vertex Deletion Problem*
- ❑ Hans Simon. *On the Containment Problem for Linear Sets*
- ❑ Debarati Das, Michal Koucký and Mike Saks. *Lower bounds for Combinatorial Algorithms for Boolean Matrix Multiplication*

13:15-14:45 Lunch (S3-037)

14:45-16:00 Parallel sessions (3A and 3B)

Session 3A Chair: Loïck Lhote (S3-044)

- ❑ Pavel Dvořák, Andreas Emil Feldmann, Dušan Knop, Tomáš Masařík, Tomáš Toufar and Pavel Veselý. *Parameterized Approximation Schemes for Steiner Trees with Small Number of Steiner Vertices*
- ❑ Max Bannach and Till Tantau. *Computing Hitting Set Kernels By AC^0 -Circuits*
- ❑ Eduard Eiben, Mithilesh Kumar, Amer Mouawad, Fahad Panolan and Sebastian Siebertz. *Lossy Kernels for Connected Dominating Set*

Session 3B Chair: Andreas Maletti (S3-045)

- ❑ Bernadette Charron-Bost and Shlomo Moran. *The Firing Squad Problem Revisited*
- ❑ Marek Szykula. *Improving the upper bound on the length of the shortest reset words*
- ❑ Moses Ganardi, Danny Huc, Daniel König, Markus Lohrey and Konstantinos Mamouras. *Automata theory on sliding windows*

16:00-16:15 Coffee break (S3-037)

16:15-17:30 Parallel sessions (4A and 4B)

Session 4A Chair: Damien Pous (S3-044)

- ❑ Sven Jäger and Martin Skutella. *Generalizing the Kawaguchi-Kyan bound to stochastic parallel machine scheduling*
- ❑ Anna Adamaszek, Antonios Antoniadis, Amit Kumar and Tobias Mömke. *Approximating Airports and Railways*
- ❑ Gokalp Demirci, Henry Hoffmann and David Kim. *Approximation Algorithms for Scheduling with Resource and Precedence Constraints*

Session 4B Chair: Julien Courtiel (S3-045)

- ❑ Aayush Rajasekaran, Tim Smith and Jeffrey Shallit. *Sums of Palindromes: an Approach via Automata*
- ❑ Filip Mazowiecki and Cristian Riveros. *Pumping lemmas for weighted automata*
- ❑ Denis Kuperberg and Anirban Majumdar. *Width of Non-deterministic Automata*

18:30-20:00 Walking city tour of Caen with a guide

Free evening

Friday, March 2

8:30-9:00 Coffee (S3-037)

9:00-10:00 Chair: Etienne Grandjean (S3-049)

Plenary talk (II) Damien Pous. *On the positive calculus of relations with transitive closure*

10:00-10:15 Coffee break (S3-037)

10:15-11:30 Parallel sessions (5A and 5B)

Session 5A Chair: Véronique Terrier (S3-044)

- ❑ Masashi Kiyomi, Hirotaka Ono, Yota Otachi, Pascal Schweitzer and Jun Tarui. *Space-Efficient Algorithms for Longest Increasing Subsequence*
- ❑ Dmitry Kosolobov. *Relations Between Greedy and Bit-Optimal LZ77 Encodings*

- ❑ Michael Luttenberger, Raphaela Palenta and Helmut Seidl. *Computing the longest common prefix of a context-free language in polynomial time*

Session 5B Chair: Christophe Dürr (S3-045)

- ❑ Roei Tell. *Lower Bounds on Black-Box Reductions of Hitting to Density Estimation*
- ❑ Andris Ambainis, Mārtiņš Kokainis, Krišjānis Prūsis and Jevgēnijs Vihrovs. *All Classical Adversary Methods are Equivalent for Total Functions*
- ❑ Yasuhiro Takahashi and Seiichiro Tani. *Power of Uninitialized Qubits in Shallow Quantum Circuits*

11:30-11:45 Coffee break (S3-037)

11:45-13:00 Parallel sessions (6A and 6B)

Session 6A Chair: Gerhard Woeginger (S3-044)

- ❑ Garance Gourdel, Tomasz Kociumaka, Jakub Radoszewski, Wojciech Rytter, Arseny Shur and Tomasz Waleń. *String Periods in the Order-Preserving Model*
- ❑ Raphael Clifford, Allan Grönlund, Kasper Green Larsen and Tatiana Starikovskaya. *Upper and lower bounds for dynamic data structures on strings*
- ❑ Taku Onodera and Tetsuo Shibuya. *Succinct Oblivious RAM*

Session 6B Chair: Henning Fernau (S3-045)

- ❑ Michael Blondin, Javier Esparza and Stefan Jaax. *Large Flocks of Small Birds: On the Minimal Size of Population Protocols*
- ❑ Christoph Berkholz. *The Relation between Polynomial Calculus, Sherali-Adams, and Sum-of-Squares Proofs*
- ❑ Lukas Fleischer and Manfred Kufleitner. *The Intersection Problem for Finite Monoids*

13:00-14:15 Lunch (S3-037)

14:15-15:30 Parallel sessions (7A and 7B)

Session 7A Chair: Meena Mahajan (S3-044)

- ❑ Olaf Beyersdorff and Joshua Blinkhorn. *Genuine Lower Bounds for QBF Expansion*
- ❑ Eduard Eiben, Robert Ganian and Sebastian Ordyniak. *Small Resolution Proofs for QBF using Dependency Treewidth*
- ❑ Chris Köcher. *Rational, Recognizable, and Aperiodic Sets in the Partially Lossy Queue Monoid*

Session 7B Chair: Bruno Salvy (S3-045)

- ❑ Rémy Belmonte, Michael Lampis and Valia Mitsou. *Parameterized (Approximate) Defective Coloring*
- ❑ László Egri, Dániel Marx and Paweł Rzażewski. *Finding list homomorphisms from bounded-treewidth graphs to reflexive graphs: a complete complexity characterization*
- ❑ Akanksha Agrawal, Daniel Lokshantov, Pranabendu Misra, Saket Saurabh and Meirav Zehavi. *Erdős-Polya Property of Obstructions to Interval Graphs*

15:30 Departure (by bus) for Bayeux tapestry excursion

16:30-18:30 Bayeux tapestry visit

19:30 Conference dinner (at Château de Creully)

Saturday, March 3

8:30-9:00 Coffee (S3-037)

9:00-10:00 Chair: Rolf Niedermeier (S3-049)

Plenary talk (III) Gerhard Woeginger. *The open shop scheduling problem*

10:00-10:15 Coffee break (S3-037)

10:15-11:30 Parallel sessions (8A and 8B)

Session 8A Chair: Dietrich Kuske (S3-044)

- ❑ Benedikt Bollig, Marie Fortin and Paul Gastin. *Communicating Finite-State Machines and Two-Variable Logic*
- ❑ Paweł Parys. *Recursion Schemes and the WMSO+U Logic*
- ❑ Patrick Gardy, Patricia Bouyer and Nicolas Markey. *Dependences in Strategy Logic*

Session 8B Chair: Ali Akhavi (S3-045)

- ❑ Suryajith Chillara, Nutan Limaye and Srikanth Srinivasan. *Small-depth Multilinear Formula Lower Bounds for Iterated Matrix Multiplication, with Applications*
- ❑ Erik D. Demaine, Sarah Eisenstat and Mikhail Rudoy. *Solving the Rubik's Cube Optimally is NP-complete*
- ❑ Moses Ganardi, Daniel König, Markus Lohrey and Georg Zetsche. *Knapsack problems for wreath products*

11:30-11:45 Coffee break (S3-037)

11:45-13:00 Parallel sessions (9A and 9B)

Session 9A Chair: Brigitte Vallée (S3-044)

- ❑ Marco Bressan, Enoch Peserico and Luca Pretto. *On approximating the stationary distribution of time-reversible Markov chains*
- ❑ George Giakkoupis and Philipp Woelfel. *An Improved Bound for Random Binary Search Trees with Concurrent Insertions*
- ❑ Davide Bilò and Pascal Lenzner. *On the Tree Conjecture for the Network Creation Game*

Session 9B Chair: Till Tantau (S3-045)

- ❑ Barnaby Martin, Daniël Paulusma and Benoît Larose. *Surjective H-Colouring over Reflexive Digraphs*
- ❑ Lars Jaffke, O-Joung Kwon and Jan Arne Telle. *A unified polynomial-time algorithm for Feedback Vertex Set on graphs of bounded mim-width*
- ❑ Serge Gaspers, Shenwei Huang and Daniël Paulusma. *Colouring Square-Free Graphs without Long Induced Paths*

13:00-14:15 Light meal (S3-037)