

# Mathematical Foundations of Computer Science 2015

August 24-28 2015 – Milano (Italy)

## Program

<b>Monday 24</b>	
<b>Room A</b>	<b>Room B</b>
9:45	<b>Opening</b>
10:00	<b>Invited Talk: Yishay Mansour</b>
	<i>Robust Inference and Local algorithms</i>
11:00	<b>Coffee Break</b>
11:30	Arvind, Köbler, Rattan, Verbitsky <i>On Tinhofer's Linear Programming Approach to Isomorphism Testing</i>
	Hannula, Kontinen, Virtema, Vollmer <i>Complexity of Propositional Independence and Inclusion Logic</i>
11:55	Hartinger, Johnson, Milanič, Paulusma <i>The Price of Connectivity for Cycle Transversals</i>
	Pauly <i>Computability on the countable ordinals and the Hausdorff-Kuratowski theorem</i>
12:20	Braverman, Liu, Singh, Vinodchandran, Yang <i>New Bounds for the CLIQUE-GAP Problem using Graph Decomposition Theory</i>
	Hella, Kuusisto, Meier, Vollmer <i>Modal Inclusion Logic: Being Lax is Simpler than Being Strict</i>
12:45	<b>Lunch</b>
14:10	van Ee, Sitters <i>On the complexity of master problems</i>
	Perrot, Remila <i>Emergence on decreasing sandpile models</i>
14:35	Kosolobov <i>Faster lightweight Lempel-Ziv parsing</i>
	Durand, Romashchenko <i>Quasiperiodicity and non-computability in tilings</i>
15:00	Fournier, Limaye, Mahajan, Srinivasan <i>The shifted partial derivative complexity of Elementary Symmetric Polynomials</i>
	Hoffmann, Kleist, Miltzow <i>Upper and Lower Bounds on Long Dual Paths in Line Arrangements</i>
15:25	Hagerup <i>Easy Multiple-Precision Divisors and Word-RAM Constants</i>
	Schmid <i>Finding Consensus Strings With Small Length Difference Between Input and Solution Strings</i>
15:50	<b>Coffe break</b>
16:20	Mauro, Zavattaro <i>On the Complexity of Reconfiguration in Systems with Legacy Components</i>
	Ferraioli, Ventre <i>Metastability of Asymptotically Well-Behaved Potential Games</i>
16:45	Barcelo, Nugent, Pruhs, Scquizzato <i>Almost All Functions Require Exponential Energy</i>
	Abed, Caragiannis, Voudouris <i>Near-optimal asymmetric binary matrix partitions</i>
17:10	Arvind, Rattan, Joglekar <i>On the Complexity of Noncommutative Polynomial Factorization</i>
	Jakobsen <i>A numbers-on-foreheads game</i>
17:35	Barcelo, Kling, Nugent, Pruhs, Scquizzato <i>On the Complexity of Speed Scaling</i>
	Cord-Landwehr, Lenzner <i>Network Creation Games: Think Global - Act Local</i>
18:00	<b>Welcome Party</b>

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<b>Tuesday 25</b>		
	<b>Room A</b>	<b>Room B</b>
9:00	<b>Invited Talk: Anindya Banerjee</b>	
	<i>Modular Reasoning for Behavior-Preserving Data Structure Refactorings</i>	
10:00	<b>Coffee Break</b>	
10:30	Fafianie, Kratsch <i>A shortcut to (sun)flowers: Kernels in logarithmic space or linear time</i>	Dumitran, Manea <i>Longest Gapped Repeats and Palindromes</i>
10:55	Rahn, Schäfer <i>Efficient Equilibria in Polymatrix Coordination Games</i>	Berthé, Cesaratto, Rotondo, Vallée, Viola <i>Recurrence function on Sturmian words: a probabilistic study</i>
11:20	Gajarský, Lampis, Makino, Mitsou, Ordyniak <i>Parameterized Algorithms for Parity Games</i>	Regnault, Remila <i>Lost in Self-Stabilization</i>
11:45	Etscheid, Kratsch, Mnich, Röglin <i>Polynomial Kernels for Weighted Problems</i>	Abbes, Mairesse <i>Uniform generation in trace monoids</i>
12:20	<b>Lunch</b>	
13:30	Brandstädt, Dabrowski, Huang, Paulusma <i>Bounding the Clique-Width of H-free Chordal Graphs</i>	Crépeau, Kazmi <i>Oblivious Transfer from weakly Random Self-Reducible Public-Key Cryptosystem</i>
13:55	Belmonte, Fomin, Golovach, Ramanujan <i>Metric Dimension of Bounded Width Graphs</i>	Di Crescenzo, Coan, Kirsch <i>Efficient Computations over Encrypted Data Blocks</i>
14:20	McGregor, Tench, Vorotnikova, Vu <i>Densest Subgraph in Dynamic Graph Streams</i>	Schnoor, Woizekowski <i>Active Linking Attacks</i>
14:45	<b>Coffe break</b>	
15:10	Chen, Megow, Rischke, Stougie, Verschae <i>Optimal Algorithms and a PTAS for Cost-Aware Scheduling</i>	Berlinkov, Szykuła <i>Algebraic Synchronization Criterion and Computing Reset Words</i>
15:35	Mneimneh, Farhat <i>The Offline Carpool Problem Revisited</i>	Kisielewicz, Szykuła <i>Synchronizing Automata with Extremal Properties</i>
16:00	Baartse, Meer <i>An algebraic proof of the real number PCP theorem</i>	Cadilhac, Krebs, Ludwig, Paperman <i>A Circuit Complexity Approach to Transductions</i>
16:25	<b>Mini break</b>	
16:35	Chen <i>Satisfiability Algorithms and Lower Bounds for Boolean Formulas over Finite Bases</i>	Chumbalov, Romashchenko <i>Randomized Polynomial Time Protocol for Combinatorial Slepian-Wolf Problem</i>
17:00	Bulatov, Skvortsov <i>Phase transition for Local Search on planted SAT</i>	Case, Lutz <i>Mutual Dimension and Random Sequences</i>
17:20	Lagerkvist <i>Precise Upper and Lower Bounds for the Monotone Constraint Satisfaction Problem</i>	

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### Wednesday 26

#### Room A

9:00	<b>Anniversary Talk: Zoltan Esik</b> <i>Equational properties of fixed point operations in cartesian categories. An overview</i>
10:30	<b>Coffee Break</b>
11:00	<b>Presentation of the Best Paper Awards</b>
	Gawrychowski, Straszak <i>Strong inapproximability of the shortest reset word</i>
11:30	Zehavi <i>Maximum Minimal Vertex Cover Parameterized by Vertex Cover</i>
	<b>Social Activities</b>

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<b>Thursday 27</b>		
	<b>Room A</b>	<b>Room B</b>
9:00	<b>Invited Talk: Martin Kutrib</b>	
	<i>Reversible and Irreversible Computations of Deterministic Finite-State Devices</i>	
10:00	<b>Coffee Break</b>	
10:30	Bredariol Grilo, Kerenidis, Sikora <i>QMA with subset state witnesses</i>	Crespi Reghizzi, Lonati, Mandrioli, Pradella <i>Locally Chain-Parsable Languages</i>
10:55	Mandal, Pavan, Variyam <i>On Probabilistic Space-Bounded Machines with Multiple Access to Random Tape</i>	Latte, Niewerth <i>Definability by Weakly Deterministic Regular Expressions with Counters is Decidable</i>
11:20	Caferov, Kaya, O'Donnell, Say <i>Optimal Bounds for Estimating Entropy with PMF Queries</i>	Daviaud, Paperman <i>Classes of languages generated by the Kleene star of a word</i>
11:45	Bottesch, Gavinsky, Klauck <i>Equality, Revisited</i>	Gajardo, Ollinger, Torres <i>The transitivity problem of Turing machines</i>
12:20	<b>Lunch</b>	
13:30	García-Marco, Koiran, Tavenas <i>Log-concavity and lower bounds for arithmetic circuits</i>	Kiefer, Schweitzer, Selman <i>Graphs Identified by Logics with Counting</i>
13:55	Allender, Gál, Mertz <i>Dual VP Classes</i>	Aceto, Della Monica, Fabregas, Ingolfssdottir <i>When are prime formulae characteristic?</i>
14:20	Hahn, Krebs, Lange, Ludwig <i>Visibly Counter Languages and the Structure of NC1</i>	Mazowiecki, Ochremiak, Witkowski <i>Eliminating recursion from monadic datalog programs on trees</i>
14:45	König, Lohrey <i>Parallel Identity Testing for Skew Circuits with Big Powers and Applications</i>	Kaminski, Katoen <i>On the Hardness of Almost-Sure Termination</i>
15:10	<b>Coffe break</b>	
15:40	Mühlenthaler <i>Degree-constrained Subgraph Reconfiguration is in P</i>	Salamanca, Bonsangue, Rutten <i>Equations and Coequations for Weighted Automata</i>
16:05	Wu, Zhang <i>Efficient Algorithm for Computing All Low s-t Edge Connectivities in Directed Graphs</i>	Droste, Dück <i>Weighted Automata and Logics on Graphs</i>
16:30	Montanari, Penna <i>On Sampling Simple Paths in Planar Graphs According to Their Lengths</i>	Avni, Kupferman <i>Stochastization of Weighted Automata</i>
16:55	Babenko, Goldberg, Kaplan, Savchenko, Weller <i>On the Complexity of Hub Labeling</i>	Kraehmann, Schubert, Baier, Dubslaff <i>Ratio and Weight Quantiles</i>
<b>Social Dinner</b>		

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Friday 28	
Room A	Room B
9:00	<b>Invited Talk: Paolo Boldi</b> <i>Minimal and Monotone Minimal Perfect Hash Functions</i>
10:00	<b>Coffee Break</b>
10:30	Ganian, Kim, Szeider <i>Algorithmic Applications of Tree-Cut Width</i>
	Iacobelli, Tribastone, Vandin <i>Differential Bisimulation for a Markovian Process Algebra</i>
10:55	Philip, Rai, Saurabh <i>Generalized Pseudoforest Deletion: Algorithms and Uniform Kernel</i>
	Dima, Maubert, Pinchinat <i>Relating paths in transition systems: the fall of the modal <math>\mu</math>-calculus</i>
11:20	Zu, Zhang, Yu <i>Fast Dynamic Weight Matchings in Convex Bipartite Graphs</i>
	Boudou <i>Exponential-size Model Property for PDL with Separating Parallel Composition</i>
11:45	Baswana, Choudhary <i>On Dynamic DFS Tree in Directed Graphs</i>
	Grellois, Melliès <i>Finitary semantics of linear logic and higher-order model-checking</i>
12:10	<b>Closing</b>