

## Program STACS 2011

Thursday 10th, 2011															
8:00-8:45	Registration (Foyer)														
<b>8:45-9:00</b>	<b>Opening (E23)</b>														
9:00-10:00	Susanne Albers <b>Energy-Efficient Algorithms (E23)</b>														
<b>Coffee Break</b>															
	<table border="0" style="width: 100%;"> <thead> <tr> <th style="width: 50%; background-color: #cccccc;"><b>Session 2A (E23)</b> <i>Distributed and Fault-Tolerant Computing</i> <i>Chair: Benjamin Doerr</i></th> <th style="width: 50%; background-color: #cccccc;"><b>Session 2B (E04/05)</b> <i>Data Words and Data Trees</i> <i>Chair: Thomas Wilke</i></th> </tr> </thead> <tbody> <tr> <td>10:20-10:45</td> <td>           Saverio Caminiti, Irene Finocchi, and Emanuele G. Fusco  <b>Local dependency dynamic programming in the presence of memory faults</b> </td> </tr> <tr> <td>10:45-11:10</td> <td>           Luc Segoufin and Szymon Toruńczyk  <b>Automata based verification over linearly ordered data domains</b> </td> </tr> <tr> <td>10:45-11:10</td> <td>           George Giakkoupis  <b>Tight bounds for rumor spreading in graphs of a given conductance</b> </td> </tr> <tr> <td>11:10-11:35</td> <td>           Diego Figueira and Luc Segoufin  <b>Bottom-up automata on data trees and vertical XPath</b> </td> </tr> <tr> <td>11:10-11:35</td> <td>           Liah Kor, Amos Korman, and David Peleg  <b>Tight Bounds For Distributed MST Verification</b> </td> </tr> <tr> <td></td> <td>           Mikolaj Bojańczyk  <b>Data Monoids</b> </td> </tr> </tbody> </table>	<b>Session 2A (E23)</b> <i>Distributed and Fault-Tolerant Computing</i> <i>Chair: Benjamin Doerr</i>	<b>Session 2B (E04/05)</b> <i>Data Words and Data Trees</i> <i>Chair: Thomas Wilke</i>	10:20-10:45	Saverio Caminiti, Irene Finocchi, and Emanuele G. Fusco <b>Local dependency dynamic programming in the presence of memory faults</b>	10:45-11:10	Luc Segoufin and Szymon Toruńczyk <b>Automata based verification over linearly ordered data domains</b>	10:45-11:10	George Giakkoupis <b>Tight bounds for rumor spreading in graphs of a given conductance</b>	11:10-11:35	Diego Figueira and Luc Segoufin <b>Bottom-up automata on data trees and vertical XPath</b>	11:10-11:35	Liah Kor, Amos Korman, and David Peleg <b>Tight Bounds For Distributed MST Verification</b>		Mikolaj Bojańczyk <b>Data Monoids</b>
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	<b>Session 3A (E23)</b> <i>Cuts and Flows</i> <i>Chair: Etienne Grandjean</i>	<b>Session 3B (E04/05)</b> <i>Computational Geometry</i> <i>Chair: Christian Knauer</i>
11:50-12:15	Haim Kaplan and Yahav Nussbaum <b>Minimum s-t cut in undirected planar graphs when the source and the sink are close</b>	Jiun-Jie Wang and Xin He <b>Compact Visibility Representation of Plane Graphs</b>
12:15-12:40	Petr Kolman and Christian Scheideler <b>Towards Duality of Multicommodity Multiroute Cuts and Flows: Multilevel Ball-Growing</b>	J�r�mie Chalopin, Shantanu Das, Yann Disser, Mat�š Mihal�k, and Peter Widmayer <b>Telling convex from reflex allows to map a polygon</b>
<b>Lunch Break</b>		
	<b>Session 4A (E23)</b> <i>Kernelization</i>  <i>Chair: Rolf Niedermeier</i>	<b>Session 4B (E04/05)</b> <i>Morphisms, Words, Bio Computing</i>  <i>Chair: Sven Rahmann</i>
2:30-2:55 pm	Hans L. Bodlaender, Bart M.P. Jansen, and Stefan Kratsch <b>Cross-Composition: A New Technique for Kernelization Lower Bounds</b>	Erik D. Demaine, Matthew J. Patitz, Robert T. Schweller, and Scott M. Summers <b>Self-Assembly of Arbitrary Shapes Using RNase Enzymes: Meeting the Kolmogorov Bound With Small Scale Factor</b>
2:55-3:20	Bart M.P. Jansen and Hans L. Bodlaender <b>Vertex Cover Kernelization Revisited: Upper and Lower Bounds for a Refined Parameter</b>	Dominik D. Freydenberger, Hossein Nevisi, and Daniel Reidenbach <b>Weakly Unambiguous Morphisms</b>
3:20-3:45	Fedor V. Fomin, Daniel Lokshantov, Neeldhara Misra, Geevarghese Philip, and Saket Saurabh <b>Hitting forbidden minors: Approximation and Kernelization</b>	Francine Blanchet-Sadri and John Lensmire <b>On Minimal Sturmian Partial Words</b>

Coffee Break

	<b>Session 5A (E23)</b> <i>SAT &amp; CSP</i> <i>Chair: Till Tantau</i>	<b>Session 5B (E04/05)</b> <i>Cellular Automata</i> <i>Chair: Christian Hoffrutt</i>
4:00-4:25	Timon Hertli, Robin Moser, and Dominik Scheder <b>Improving PPSZ for 3-SAT using Critical Variables</b>	Alex Borello, Gaétan Richard, and Véronique Terrier <b>A speed-up of oblivious multi-head finite automata by cellular automata</b>
4:25-4:50	Heng Guo, Sangxia Huang, Pinyan Lu, and Mingji Xia <b>The Complexity of Weighted Boolean #CSP Modulo k</b>	Nazim Fatès <b>Stochastic Cellular Automata Solve the Density Classification Problem with an Arbitrary Precision</b>
4:50-5:15	Martin Dyer and David Richerby <b>The #CSP Dichotomy is Decidable</b>	Ana Bušić, Jean Mairesse, and Irène Marcovici <b>Probabilistic cellular automata, invariant measures and perfect sampling</b>
5:15	<b>Currywurst snack</b>	
6:00	Bus departure to the Zollern Colliery and to the football stadium of Borussia Dortmund (meeting point in front of the conference building)	

### Friday 11th, 2011

9:00-10:00 Georg Gottlob  
**Structural Decomposition Methods, and What They are Good For (E23)**

#### Coffee Break

	<b>Session 7A (E23)</b> <i>Clustering and Learning</i> <i>Chair: Benjamin Doerr</i>	<b>Session 7B (E04/05)</b> <i>Logic</i> <i>Chair: Pascal Weil</i>
10:20-10:45	Marcel R. Ackermann, Johannes Blömer, Daniel Kuntze, and Christian Sohler <b>Analysis of Agglomerative Clustering</b>	Balder ten Cate and Luc Segoufin <b>Unary negation</b>
10:45-11:10	John Case and Timo Kötzing <b>Measuring Learning Complexity with Criteria Epitomizers</b>	Jakub Kallas, Manfred Kufleitner, and Alexander Lauser <b>First-order Fragments with Successor over Infinite Words</b>
11:10-11:35	Howard Karloff, Flip Korn, Konstantin Makarychev, and Yuval Rabani <b>On Parsimonious Explanations For 2-D Tree- and Linearly-Ordered Data</b>	Martin Mundhenk and Felix Weiß <b>The model checking problem for propositional intuitionistic logic with one variable is AC<sup>1</sup>-complete</b>

#### Coffee Break

	<b>Session 8A (E23)</b> <i>Scheduling 1</i> <i>Chair: Christoph Dürr</i>	<b>Session 8B (E04/05)</b> <i>Graph Decomposition</i> <i>Chair: Dietmar Berwanger</i>
11:50-12:15	Alejandro López-Ortiz and Claude-Guy Quimper <b>A Fast Algorithm for Multi-Machine Scheduling Problems with Jobs of Equal Processing Times</b>	Robert Ganian, Petr Hliněný and Jan Obdržálek <b>Clique-width: When Hard Does Not Mean Impossible</b>
12:15-12:40	Sze-Hang Chan, Tak-Wah Lam, and Lap-Kei Lee <b>Scheduling for Weighted Flow Time and Energy with Rejection Penalty</b>	Dariusz Dereniowski <b>From Pathwidth to Connected Pathwidth</b>

#### Lunch Break

	<b>Session 9A (E23)</b> <i>Streaming</i> <i>Chair: Christian Sohler</i>	<b>Session 9B (E04/05)</b> <i>Recursion Theory</i> <i>Chair: Georg Gottlob</i>
2:30- 2:55 <i>pm</i>	Andrew McGregor, Atri Rudra, and Steve Uurtamo <b>Polynomial Fitting of Data Streams with Applications to Codeword Testing</b>	Laurent Bienvenu, Wolfgang Merkle, and André Nies <b>Solovay functions and K-triviality</b>
2:55- 3:20	Jonathan A. Kelner and Alex Levin <b>Spectral Sparsification in the Semi-Streaming Setting</b>	Andrey Yu. Romyantsev <b>Everywhere complex sequences and the probabilistic method</b>

**Coffee Break**

	<b>Session 10A (E23)</b> <i>Scheduling 2</i> <i>Chair: Susanne Albers</i>	<b>Session 10B (E04/05)</b> <i>Regular Expressions</i> <i>Chair: Véronique Cortier</i>
3:35- 4:00	Magnús M. Halldórsson, Boaz Patt-Shamir, and Dror Rawitz <b>Online Scheduling with Interval Conflicts</b>	Stefan Gulan <b>Graphs Encoded by Regular Expressions</b>
4:00- 4:25	Christian E.J. Eggermont, Alexander Schrijver, and Gerhard J. Woeginger <b>Analysis of multi-stage open shop processing systems</b>	Dominik D. Freydenberger <b>Extended Regular Expressions: Succinctness and Decidability</b>

**Coffee Break**

	<b>Session 11A (E23)</b> <i>Graph Algorithms</i> <i>Chair: Berthold Vöcking</i>	<b>Session 11B (E04/05)</b> <i>Algebra &amp; Complexity</i> <i>Chair: Christoph Dürr</i>
4:40-5:05	Maxim Babenko and Alexey Gusakov <b>New Exact and Approximation Algorithms for the Star Packing Problem in Undirected Graphs</b>	Bruno Grenet, Erich L. Kalthofen, Pascal Koiran, and Natacha Portier <b>Symmetric Determinantal Representation of Weakly-Skew Circuits</b>
5:05-5:30	Antonios Antoniadis, Falk Hüffner, Pascal Lenzner, Carsten Moldenhauer, and Alexander Souza <b>Balanced Interval Coloring</b>	Markus Bläser and Christian Engels <b>Randomness Efficient Testing of Sparse Black Box Identities of Unbounded Degree over the Reals</b>

7:00 **Reception** at the restaurant VIEW (7th floor)

7:30 **Conference dinner**

**Saturday 12th, 2011**

9:00- Véronique Cortier  
 10:00 **How to prove security of communication protocols? (E23)**

**Coffee Break**

<p><b>Session 13A (E23)</b>  <i>Complexity of Graph &amp; Group Problems</i>  <i>Chair: Sophie Tison</i></p>	<p><b>Session 13B (E04/05)</b>  <i>Verification</i>  <i>Chair: Pascal Weil</i></p>
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<p>10:20- Youming Qiao, Jayalal Sarma                  10:45 M.N., and Bangsheng Tang  <b>On Isomorphism Testing of Groups with Normal Hall Subgroups</b></p>	<p>Pawel Parys  <b>Collapse Operation Increases Expressive Power of Deterministic Higher Order Pushdown Automata</b></p>
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<p>10:45- Samir Datta, Raghav Kulkarni,                  11:10 Raghunath Tewari, and N.V. Vinodchandran  <b>Space Complexity of Perfect Matching in Bounded Genus Bipartite Graphs</b></p>	<p>Orna Kupferman, Yoad Lustig, Moshe Y. Vardi, and Mihalis Yannakakis  <b>Temporal Synthesis for Bounded Systems and Environments</b></p>
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<p>11:10- George B. Mertzios                  11:35 <b>The Recognition of Triangle Graphs</b></p>	<p>Denis Kuperberg  <b>Linear temporal logic for regular cost functions</b></p>
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**Coffee Break**

<p><b>Session 14A (E23)</b>  <i>Geometry and Complexity</i>  <i>Chair: Thomas Erlebach</i></p>	<p><b>Session 14B (E04/05)</b>  <i>Query Complexity</i>  <i>Chair: Thomas Schwentick</i></p>
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<p>11:50- Adrian Dumitrescu, André                  12:15 Schulz, Adam Scheffer, and Csaba D. Tóth  <b>Bounds on the maximum multiplicity of some common geometric graphs</b></p>	<p>Andrew M. Childs and Robin Kothari  <b>Quantum query complexity of minor-closed graph properties</b></p>
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<p>12:15- Christian Knauer, Hans Raj                  12:40 Tiwary, and Daniel Werner  <b>On the computational complexity of Ham-Sandwich cuts, Helly sets, and related problems</b></p>	<p>Anna Gál and Andrew Mills  <b>Three Query Locally Decodable Codes with Higher Correctness Require Exponential Length</b></p>
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**Snacks & Sandwiches**