



IWOCA 2016

27th International Workshop on Combinatorial Algorithms

Helsinki, Finland, August 17–19, 2016

Preliminary program

August 17 (Wednesday)

8:30-8:55	Registration
8:55-9:00	Welcome
09:00-09:50	<i>Invited talk:</i> Leslie Ann Goldberg Approximately counting list H-colourings (Chair: Simon Puglisi)
9:50-10:40	Session 1: Computational complexity (Chair: Leslie Ann Goldberg)
	<i>Guillaume Ducoffe, Sylvain Legay and Nicolas Nisse.</i> On the complexity of computing the tree-breadth
	<i>Martin Böhm and Pavel Veselý.</i> Online Chromatic Number is PSPACE-Complete
10:40-11:00	Coffee break
11:00-12:40	Session 2: Computational geometry (Chair: Lene Monrad Favrholdt)
	<i>Radoslav Fulek.</i> Bounded embeddings of graphs in the plane
	<i>Stefan Funke, Filip Krumpal and Sabine Storandt.</i> Crushing Disks Efficiently
	<i>Prosenjit Bose, Jean-Lou De Carufel, Alina Shaikhov and Michiel Smid.</i> Essential Constraints of Edge-Constrained Proximity Graphs
<i>Ahmad Biniaz, Prosenjit Bose, Anil Maheshwari and Michiel Smid.</i> Plane Bichromatic Trees of Low Degree	
12:40-14:20	Lunch break

	Session 3: Networks (Chair: Alexandru Tomescu)
14:20-16:00	<i>Alessio Conte, Roberto Grossi, Andrea Marino, Romeo Rizzi and Luca Versari.</i> Directing Road Networks by Listing Strong Orientations
	<i>Gennaro Cordasco, Luisa Gargano, Adele Rescigno and Ugo Vaccaro.</i> Evangelism in Social Networks
	<i>Gianlorenzo D'Angelo, Mattia D'Emidio and Daniele Frigioni.</i> Distance Queries in Large-Scale Fully Dynamic Complex Networks
	<i>Yuya Higashikawa, Siu-Wing Cheng, Tsunehiko Kameda, Naoki Katoh and Shun Saburi.</i> Minimax Regret 1-Median Problem in Dynamic Path Networks

16:00-16:20	Coffee break
-------------	--------------

	Session 4: Enumeration (Chair: Peter Damaschke)
16:20-17:35	<i>Tiziana Calamoneri, Mattia Gastaldello, Arnaud Mary, Marie-France Sagot and Blerina Sinimeri.</i> On Maximal Chain Subgraphs and Covers of Bipartite Graphs
	<i>Max Alekseyev.</i> Weighted de Bruijn Graphs for the Menage Problem and Its Generalizations
	<i>Haruka Mizuta, Takehiro Ito and Xiao Zhou.</i> Reconfiguration of Steiner Trees in an Unweighted Graph

August 18 (Thursday)

09:00-10:40	Session 1: Online algorithms (Chair: Golnaz Badkobeh)
	<i>Joan Boyar, Lene M. Favrholdt, Christian Kudahl and Jesper W. Mikkelsen.</i> Weighted Online Problems with Advice
	<i>Yuta Fujishige, Michitaro Nakamura, Shunsuke Inenaga, Hideo Bannai and Masayuki Takeda.</i> Finding gapped palindromes online
	<i>Jhoirene Clemente, Christian Kudahl, Dennis Komm and Juraj Hromkovič.</i> Advice Complexity of the Online Search Problem
	<i>Takuya Takagi, Shunsuke Inenaga, Kunihiko Sadakane and Hiroki Arimura.</i> Packed Compact Tries: A Fast and Efficient Data Structure for Online String Processing

10:40-11:00	Coffee break
-------------	--------------

11:00-12:40	Session 2: Algorithmic graph theory (Chair: Martin Fürer)
	<i>Hassan Aboueisha, Shahid Hussain, Vadim Lozin, Jerome Monnot, Bernard Ries and Viktor Zamaraev.</i> A boundary property for upper domination
	<i>Cristina Bazgan, Ljiljana Brankovic, Katrin Casel, Henning Fernau, Klaus Jansen, Kim-Manuel Klein, Michael Lampis, Mathieu Liedloff, Jerome Monnot and Vangelis Paschos.</i> Upper Domination: Complexity and Approximation
	<i>Konrad Kazimierz Dabrowski, Vadim Lozin and Daniel Paulusma.</i> Well-quasi-ordering versus clique-width: new results on bigenic classes
	<i>Xujin Chen, Zhuo Diao, Xiaodong Hu and Zhongzheng Tang.</i> Sufficient Conditions for Tuza's Conjecture on Packing and Covering Triangles

12:40-14:20	Lunch break
-------------	-------------

14:20-15:10	<i>Invited talk:</i> Giuseppe F. Italiano 2-Connectivity Problems in Directed Graphs (Chair: Esko Ukkonen)
-------------	---

15:10-16:00	Session 3: Dynamic programming (Chair: Shunsuke Inenaga)
	<i>Aravind N. R., Subrahmanyam Kalyanasundaram and Anjeneya Swami Kare.</i> Linear Time Algorithms for Happy Vertex Coloring Problems for Trees
	<i>Pawel Gawrychowski and Łukasz Zatorski.</i> Speeding up dynamic

	programming in the line-constrained k-median
16:00-16:20	Coffee break
16:20-17:10	Open problems session
18:00	Meet at excursion
20:00	Dinner at Walhalla on Suomenlinna
23:00	Transportation back to the city

August 19 (Friday)

09:00-10:40	Session 1: Combinatorial algorithms (Chair: Jukka Suomela)
	<i>Guillaume Blin, Marie Gasparoux, Sebastian Ordyniak and Alexandru Popa.</i> SOBRA - Shielding Optimization for BRACHYtherapy
	<i>Piotr Wojciechowski and K. Subramani.</i> A bit-scaling algorithm for integer feasibility in UTVPI constraints
	<i>Markus Chimani, Ivo Hedtke and Tilo Wiedera.</i> Limits of Greedy Approximation Algorithms for the Maximum Planar Subgraph Problem
	<i>Robert Benkoczi, Ram Dahal and Daya Gaur.</i> Exact Algorithms For Weighted Coloring In Special Classes of Tree and Cactus Graphs
10:40-11:00	Coffee break
11:00-12:40	Session 2: Graph algorithms (Chair: Luisa Gargano)
	<i>Petr Golovach, Dieter Kratsch, Daniel Paulusma and Anthony Stewart.</i> Finding Cactus Roots in Polynomial Time
	<i>Peter Damaschke.</i> Computing Giant Graph Diameters
	<i>Martin Fürer.</i> Faster Computation of Path-Width
	<i>Peter Damaschke.</i> The Solution Space of Sorting with Recurring Comparison Faults
12:40-14:20	Lunch break
14:20-15:10	Invited talk: Petteri Kaski Polynomial representations in algorithm design (Chair: Veli Mäkinen)
15:10-16:00	Session 3: Combinatorics (Chair: Petteri Kaski)
	<i>Adrian Dumitrescu, Ritankar Mandal and Csaba Toth.</i> Monotone paths in geometric triangulations <i>Andreas Baertschi, Barbara Geissmann, Daniel Graf, Tomas Hruz, Paolo Penna and Thomas Tschager.</i> On computing the total displacement number via weighted Motzkin paths
16:00-16:20	Coffee break

16:20-17:10	Session 4: Probabilistics (Chair: Juha Karkkainen)
	<i>Kaushik Sarkar, Charles J. Colbourn, Annalisa De Bonis and Ugo Vaccaro.</i> Partial Covering Arrays: Algorithms and Asymptotics
	<i>Moritz von Looz and Henning Meyerhenke.</i> Querying Probabilistic Neighborhoods in Spatial Data Sets Efficiently
17:10-17:15	Closing remarks



IWOCA 2016

27th International Workshop on Combinatorial Algorithms

Helsinki, Finland, August 17–19, 2016

Venue

IWOCA 2016 will be held at Athena Building, Siltavuorenpenger 3 A, Auditorium 107.

Strings Masters will be held at Minerva, Siltavuorenpenger 5 A.

Within the same university building (Minerva, Siltavuorenpenger 5 A) there is Unicafe Olivia. We have also highlighted other places where you can have lunch.

The conference excursion on Thursday at 18:00 starts on pier Kauppatori 4. See also.

The main conference venues are indicated with a red pin. The excursion starting point is the yellow pin. Some places where you can have lunch are marked with a green pin. The central railway station (Rautatietori) is marked with a blue pin.

