# Meeting on Algorithm Engineering and Experiments 2012

(ALENEX12)

Kyoto, Japan 16 January 2012

ISBN: 978-1-61839-624-2

#### Printed from e-media with permission by:

Curran Associates, Inc. 57 Morehouse Lane Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2012) by SIAM: Society for Industrial and Applied Mathematics All rights reserved.

Printed by Curran Associates, Inc. (2012)

For permission requests, please contact SIAM: Society for Industrial and Applied Mathematics at the address below.

SIAM 3600 Market Street, 6th Floor Philadelphia, PA 19104-2688 USA

Phone: (215) 382-9800 Fax: (215) 386-7999

siambooks@siam.org

#### Additional copies of this publication are available from:

Curran Associates, Inc. 57 Morehouse Lane Red Hook, NY 12571 USA

Phone: 845-758-0400 Fax: 845-758-2634

Email: curran@proceedings.com Web: www.proceedings.com

## **ALENEX12 Table of Contents**

## **January 16, 2012**

### The Westin Miyako, Kyoto, Japan

1 Experiments on Density-Constrained Graph Clustering

Robert Görke, Andrea Schumm and Dorothea Wagner

16 <u>Distributed Evolutionary Graph Partitioning</u>

Peter Sanders and Christian Schulz

30 Exact Combinatorial Branch-and-Bound for Graph Bisection

Daniel Delling, Andrew Goldberg, Ilya Razenshteyn and Renato Werneck

45 Leveling the Grid

Sabine Cornelsen, Andreas Karrenbauer and Shujun Li

55 Evaluation of an MSO-Solver

Alexander Langer, Felix Reidl, Peter Rossmanith and Somnath Sikdar

Problem Based Benchmarks

ALENEX Invited Plenary Speaker: Guy E. Blelloch, Carnegie Mellon University, USA

64 The Complexity of Partial Orders

ANALCO Invited Plenary Speaker: J. Ian Munro, University of Waterloo, Canada

65 Fast Compressed Tries through Path Decompositions

Giuseppe Ottaviano and Roberto Grossi

75 Solving the Minimum String Cover Problem

Stefan Canzar, Tobias Marschall, Sven Rahmann and Chris Schwiegelshohn

84 Computing a Consensus of Multilabeled Trees

Katharina T. Huber, Vincent Moulton, Andreas Spillner, Sabine Storandt and Radoslaw Suchecki

93 Clique Cover on Sparse Networks

Mathieu Blanchette, Ethan Kim and Adrian Vetta

103 An Experimental and Analytical Study of Order Constraints for Single Machine Scheduling with Quadratic Cost

Wiebke Höhn and Tobias Jacobs

118 User-Constrained Multi-Modal Route Planning

Julian Dibbelt, Thomas Pajor and Dorothea Wagner

130 Round-Based Public Transit Routing

Daniel Delling, Thomas Pajor and Renato Werneck

141 Transit Nodes - Lower Bounds and Refined Construction

Jochen Eisner and Stefan Funke

150 Robust Mobile Route Planning with Limited Connectivity

Daniel Delling, Moritz Kobitzsch, Dennis Luxen and Renato Werneck

160 Hierarchical Heavy Hitters with the Space Saving Algorithm

Justin Thaler, Michael Mitzenmacher and Thomas Steinke