

17th Symposium on Experimental Algorithms

SEA 2018, June 27–29, 2018, L'Aquila, Italy

Edited by

Gianlorenzo D'Angelo



Editor

Gianlorenzo D'Angelo
Gran Sasso Science Institute (GSSI)
L'Aquila, Italy
gianlorenzo.dangelo@gssi.it

ACM Classification 2012

Theory of computation → Design and analysis of algorithms

ISBN 978-3-95977-070-5

Published online and open access by

Schloss Dagstuhl – Leibniz-Zentrum für Informatik GmbH, Dagstuhl Publishing, Saarbrücken/Wadern, Germany. Online available at <http://www.dagstuhl.de/dagpub/978-3-95977-070-5>.

Publication date

June, 2018

Bibliographic information published by the Deutsche Nationalbibliothek

The Deutsche Nationalbibliothek lists this publication in the Deutsche Nationalbibliografie; detailed bibliographic data are available in the Internet at <http://dnb.d-nb.de>.

License

This work is licensed under a Creative Commons Attribution 3.0 Unported license (CC-BY 3.0): <http://creativecommons.org/licenses/by/3.0/legalcode>.



In brief, this license authorizes each and everybody to share (to copy, distribute and transmit) the work under the following conditions, without impairing or restricting the authors' moral rights:

- Attribution: The work must be attributed to its authors.

The copyright is retained by the corresponding authors.

Digital Object Identifier: 10.4230/LIPIcs.SEA.2018

■ Contents

Preface	
<i>Gianlorenzo D'Angelo</i>	0:ix
Regular Papers	
Network Flow-Based Refinement for Multilevel Hypergraph Partitioning	
<i>Tobias Heuer, Peter Sanders, and Sebastian Schlag</i>	1:1–1:20
Aggregative Coarsening for Multilevel Hypergraph Partitioning	
<i>Ruslan Shaydulin and Ilya Safro</i>	2:1–2:15
Memetic Graph Clustering	
<i>Sonja Biedermann, Monika Henzinger, Christian Schulz, and Bernhard Schuster</i> .	3:1–3:15
ILP-based Local Search for Graph Partitioning	
<i>Alexandra Henzinger, Alexander Noe, and Christian Schulz</i>	4:1–4:15
Decision Diagrams for Solving a Job Scheduling Problem Under Precedence Constraints	
<i>Kosuke Matsumoto, Kohei Hatano, and Eiji Takimoto</i>	5:1–5:12
Speeding up Dualization in the Fredman-Khachiyan Algorithm B	
<i>Nafiseh Sedaghat, Tamon Stephen, and Leonid Chindelevitch</i>	6:1–6:13
An Ambiguous Coding Scheme for Selective Encryption of High Entropy Volumes	
<i>M. Oğuzhan Külekci</i>	7:1–7:13
A $\frac{3}{2}$ -Approximation Algorithm for the Student-Project Allocation Problem	
<i>Frances Cooper and David Manlove</i>	8:1–8:13
How Good Are Popular Matchings?	
<i>Krishnapriya A M, Meghana Nasre, Prajakta Nimbhorkar, and Amit Rawat</i>	9:1–9:14
Evaluating and Tuning n -fold Integer Programming	
<i>Kateřina Altmanova, Duřan Knop, and Martin Koutecky</i>	10:1–10:14
A Computational Investigation on the Strength of Dantzig-Wolfe Reformulations	
<i>Michael Bastubbe, Marco E. Lubbecke, and Jonas T. Witt</i>	11:1–11:12
Experimental Evaluation of Parameterized Algorithms for Feedback Vertex Set	
<i>Krzysztof Kiljan and Marcin Pilipczuk</i>	12:1–12:12
An Efficient Local Search for the Minimum Independent Dominating Set Problem	
<i>Kazuya Haraguchi</i>	13:1–13:13
Empirical Evaluation of Approximation Algorithms for Generalized Graph Coloring and Uniform Quasi-Wideness	
<i>Wojciech Nadara, Marcin Pilipczuk, Roman Rabinovich, Felix Reidl, and Sebastian Siebertz</i>	14:1–14:16



Multi-Level Steiner Trees <i>Reyan Ahmed, Patrizio Angelini, Faryad Darabi Sahneh, Alon Efrat, David Glickenstein, Martin Gronemann, Niklas Heinsohn, Stephen G. Kobourov, Richard Spence, Joseph Watkins, and Alexander Wolff</i>	15:1–15:14
Dictionary Matching in Elastic-Degenerate Texts with Applications in Searching VCF Files On-line <i>Solon P. Pissis and Ahmad Retha</i>	16:1–16:14
Fast matching statistics in small space <i>Djamal Belazzougui, Fabio Cunial, and Olgert Denas</i>	17:1–17:14
Practical lower and upper bounds for the Shortest Linear Superstring <i>Bastien Cazaux, Samuel Juhel, and Eric Rivals</i>	18:1–18:14
Experimental Study of Compressed Stack Algorithms in Limited Memory Environments <i>Jean-François Baffier, Yago Diez, and Matias Korman</i>	19:1–19:13
Restructuring Expression Dags for Efficient Parallelization <i>Martin Wilhelm</i>	20:1–20:13
Enumerating Graph Partitions Without Too Small Connected Components Using Zero-suppressed Binary and Ternary Decision Diagrams <i>Yu Nakahata, Jun Kawahara, and Shoji Kasahara</i>	21:1–21:13
Exact Algorithms for the Maximum Planar Subgraph Problem: New Models and Experiments <i>Markus Chimani, Ivo Hedtke, and Tilo Wiedera</i>	22:1–22:14
A Linear-Time Algorithm for Finding Induced Planar Subgraphs <i>Shixun Huang, Zhifeng Bao, J. Shane Culpepper, Ping Zhang, and Bang Zhang</i> ..	23:1–23:15
Fast Spherical Drawing of Triangulations: An Experimental Study of Graph Drawing Tools <i>Luca Castelli Aleardi, Gaspard Denis, and Éric Fusy</i>	24:1–24:14
Fleet Management for Autonomous Vehicles Using Multicommodity Coupled Flows in Time-Expanded Networks <i>Sahar Bsaybes, Alain Quilliot, and Annegret K. Wagler</i>	25:1–25:14
The Steiner Multi Cycle Problem with Applications to a Collaborative Truckload Problem <i>Vinicius N. G. Pereira, Mário César San Felice, Pedro Henrique D. B. Hokama, and Eduardo C. Xavier</i>	26:1–26:13
Real-Time Traffic Assignment Using Fast Queries in Customizable Contraction Hierarchies <i>Valentin Buchhold, Peter Sanders, and Dorothea Wagner</i>	27:1–27:15
Engineering Motif Search for Large Motifs <i>Petteri Kaski, Juho Lauri, and Suhas Thejaswi</i>	28:1–28:19
Finding Hamiltonian Cycle in Graphs of Bounded Treewidth: Experimental Evaluation <i>Michał Ziobro and Marcin Pilipczuk</i>	29:1–29:14

Isomorphism Test for Digraphs with Weighted Edges
Adolfo Piperno 30:1–30:13