Optimal Discrete Structures and Algorithms

Universität Rostock, September 04 – 06, 2006

Schedule ♦ Abstracts ♦ Mailing List

Optimal Discrete Structures and Algorithms

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Extended Organizing Committee

A. Brandstädt	K. Engel	H.-D. Gronau	V.B. Le
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E. de Ridder	N. de Ridder	A. Straßburg	R. Fengler
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Dear participants,

welcome to

Optimal Discrete Structures and Algorithms 2006

in Rostock. After ODSA 1997, ODSA 2000 and the German Congress of Mathematicians 2003 (with special emphasize of our ODSA profile), this is the next conference of our ODSA series. We wish and hope that the conference atmosphere stimulates fruitful discussions of specialists in different areas of research which should be the starting point of deeper interactions between these areas from Discrete Mathematics, Mathematical Optimization, and Theoretical Computer Science.

For us it is very helpful that ODSA is sponsored by the Deutsche Forschungsgemeinschaft, the Ministry of Science, Education, and Culture of Mecklenburg–Vorpommern and the University of Rostock, as well as the Institute of Combinatorics and its Applications. We assume that we may express our thanks to these institutions also on behalf of all participants. Last but not least, we would like to thank all colleagues and students at the Institutes of Mathematics and Computer Science of the University of Rostock who were involved in the organization of this conference.

We wish you nice talks, interesting new results, close cooperation for the future, a successful refereeing process for the conference paper and best Baltic–weather during your stay in Rostock.

Andreas Brandstädt
Konrad Engel
Hans–Dietrich Gronau
Van Bang Le

Plenary Talks

Colbourn, Charles J.	Detecting and Locating Interaction Faults
Golumbic, Martin Charles	Twenty Years of EPT Graphs: From Haifa to Rostock
Gottlob, Georg	Second-Order Logic over Finite Structures – Report on a Research Programme
Hamacher, Horst W.	Consecutive Ones Decomposition of Integer Matrices and Applications
Katona, Gyula O.H.	Forbidden inclusion patterns in families of subsets
Sarrafzadeh, Majid	General Delay Budgeting on Directed Acyclic Graphs with Applications in CAD

Section Talks

Andres, Stephan Dominique	The incidence game chromatic number
Aslanyan, Levon	Numerical characterisation of n-cube subset partitioning
Ben-Ameur, Walid	New bounds for the maximum cut problem
Bey, Christian	Minimum volume of lattice polytopes with given number of interior points
Borisovsky, Pavel A.	A comparative study of some evolutionary algorithms
Bouchemakh, Isma	Independence set of maximum weight in the order-interval hypergraph of the interval order
Bouroubi, Sadek	On the poset of partitions of an integer
Bui-Xuan, Binh-Minh	On Modular Decomposition Concepts: the case for Homogeneous Relations
Cieslik, Dietmar	Connecting Networks of Minimal Cost
Engel, Konrad	Optimal matrix-segmentation by rectangles
Eschen, Elaine	Finding Triangles in Restricted Classes of Graphs
Foldes, Stephan	On maximal instantaneous codes
Gimadi, Edward	NP-hardness and approximation algorithms for solving Euclidean problem of finding a maximum total weight subset of vectors
Gimadi, Edward	Asymptotically optimal approach for solving some hard discrete optimization problems
Glazkov, Yury	Approximation algorithms for 2-Peripathetic Salesman Problem with edge weights 1 and 2
Göring, Frank	The rotational Dimension of a graph
Gropp, Harald	Nonisomorphic configurations n_k
Grüttmüller, Martin	Enumeration of Super-simple Cyclic Block Designs of Small Order
Imreh, Csanád	On-line scheduling with general machine cost functions
Iwasa, Masaru	Approximation Algorithms for the Single Allocation Problem in Hub-and-Spoke Networks

Section Talks (continued)

Kalinowski, Thomas	Optimization of Multi-Threshold Circuits
Keller, André A.	Matching Theory and Economic Model Building
Kolpakov, Alexander A.	Design of "Intelligent" Structures as a Discrete Optimal Problem
Kolpakov, Alexander G.	Optimal Algorithm for Solution of Discrete Convex Combinations Problem
Kuroki, Yusuke	Randomized Approximation Algorithm for a Geometrical Multidimensional Assignment Problem
Kurz, Sascha	Integral point sets over $\mathbb{Z}_{\mathbf{n}}^{\mathbf{m}}$
Laue, Reinhard	t-Wise Balanced Designs
Mancini, Federico	A completely dynamic algorithm for split graphs
Mitrana, Victor	On Some Algorithmic Problems Regarding the Hairpin Completion
Nguyen, Ngoc Tuy	Graph classes related to chordal graphs and chordal bipartite graphs
Oksanen, Kenneth	Searching for Selection Algorithms
Östergard, Patric R. J.	There are exactly five biplanes with $k = 11$
Panda, Bhawani Sankar	Tree 3-Spanner in 2-sep Chordal Graphs: Characterization, Recognition, and Construction.
Pfender, Florian	Visibility graphs of point sets in the plane
Prisner, Erich	Generalizing the Wolf-Goat-Cabbage Problem
Rautenbach, Dieter	Distance-Hereditary 5-Leaf Powers
Raynaud, Olivier	Twin Vertices in Hypergraphs
de Ridder, H.N.	On probe classes of graphs
de Ridder, Natalia	Automatic Deduction of Induced Subgraphs of Some Infinite Families of Graphs
Robledo, Franco	On the Generalized Steiner Problem with Network Reliability Conditions
Rykov, Ivan A.	Polynomial approximation algorithms for solving resource-constrained project scheduling problem
Skums, Pavel	Reconstruction of graphs with special homogeneous sets
Stern, Michal	On the Optimal Stars Clustering Tree Problem
Tang, Jianmin	Calculating the extremal number $\mathrm{ex}(v; \{C_3, C_4, \ldots, C_n\})$
Pyatkin, Artem V.	Incidentor coloring of weighted multigraphs
Wassermann, Alfred	Construction of self-orthogonal linear codes
Zito, Michele	Dominating sets of random recursive trees
Zverovich, Vadim	The Computer System GRAPHOGRAPH

Further Participants

Bayer, Daniel; Böhm, Matthias; Bouter, Mounir; Brandstädt, Andreas; Das, Anita; Dinnis, Matthias; Glebov, Roman; Gronau, Hans-Dietrich; Haanpää, Harri; Haufschild, Martin; Hundt, Christian; Klembt, Tilo; Labahn, Roger; Le, Van Bang; Limouzy, Vincent; Manea, Florin; Pott, Alexander; Saito, Hiroo; Sill, Frank; Straßburg, Andreas; Tariq, Mohammad; Torge, Antje;

Monday, September 4, 2006

Room 224

09.15 – 09.30 Opening

09.30 – 10.30 Gyula O.H. Katona
Forbidden inclusion patterns in families of subsets

10.30 – 11.00 Coffee break

11.00 – 12.00 Horst W. Hamacher
Consecutive Ones Decomposition of Integer Matrices and Applications

Time	Section A Room 224	Section B Room 124	Section C Room 126
13.30	Edward Gimadi NP-hardness and approximation algorithms for solving Euclidean problem of finding a maximum total weight subset of vectors	Erich Prisner Generalizing the Wolf-Goat-Cabbage Problem	Ngoc Tuy Nguyen Graph classes related to chordal graphs and chordal bipartite graphs
14.00	Ivan A. Rykov Polynomial approximation algorithms for solving resource-constrained project scheduling problem	Yusuke Kuroki Randomized Approximation Algorithm for a Geometrical Multidimensional Assignment Problem	Federico Mancini A completely dynamic algorithm for split graphs
14.30	Yury Glazkov Approximation algorithms for 2-Peripathetic Salesman Problem with edge weights 1 and 2	André A. Keller Matching Theory and Economic Model Building	Bhawani Sankar Panda Tree 3-Spanner in 2-sep Chordal Graphs: Characterization, Recognition, and Construction.
15.00	Coffee break		
15.30	Artem V. Pyatkin Incidentor coloring of weighted multigraphs	Masaru Iwasa Approximation Algorithms for the Single Allocation Problem in Hub-and-Spoke Networks	Elaine Eschen Finding Triangles in Restricted Classes of Graphs
16.00	Edward Gimadi Asymptotically optimal approach for solving some hard discrete optimization problems	Csanád Imreh On-line scheduling with general machine cost functions	Natalia de Ridder Automatic Deduction of Induced Subgraphs of Some Infinite Families of Graphs
16.30	Levon Aslanyan Numerical characterisation of n-cube subset partitioning	Christian Bey Minimum volume of lattice polytopes with given number of interior points	H.N. de Ridder On probe classes of graphs

Tuesday, September 5, 2006

Room 224

09.00 – 10.00 Majid Sarrafzadeh
General Delay Budgeting on Directed Acyclic Graphs with Applications in CAD

10.00 – 10.30 Coffee break

10.30 – 11.30 Georg Gottlob
Second-Order Logic over Finite Structures – Report on a Research Programme

Time	Section A Room 224	Section B Room 124	Section C Room 126
13.30	Patric R. J. Östergard There are exactly five biplanes with $k = 11$		Dieter Rautenbach Distance-Hereditary 5-Leaf Powers
14.00	Reinhard Laue t-Wise Balanced Designs	Victor Mitrana On Some Algorithmic Problems Regarding the Hairpin Completion	Olivier Raynaud Twin Vertices in Hypergraphs
14.30	Alfred Wassermann Construction of self-orthogonal linear codes	Jianmin Tang Calculating the extremal number $\mathrm{ex}(v; \{C_3, C_4, \ldots, C_n\})$	Binh-Minh Bui-Xuan On Modular Decomposition Concepts: the case for Homogeneous Relations
15.00	Coffee break		
15.30	Martin Grüttmüller Enumeration of Super-simple Cyclic Block Designs of Small Order	Walid Ben-Ameur New bounds for the maximum cut problem	Stephan Dominique Andres The incidence game chromatic number
16.00	Harald Gropp Nonisomorphic configurations n_k	Thomas Kalinowski Optimization of Multi-Threshold Circuits	Michal Stern On the Optimal Stars Clustering Tree Problem
16.30	Sascha Kurz Integral point sets over $\mathbb{Z}_{\mathbf{n}}^{\mathbf{m}}$	Konrad Engel Optimal matrix-segmentation by rectangles	Frank Göring The rotational Dimension of a graph

Wednesday, September 6, 2006

Room 224

09.00 – 10.00 Martin Charles Golumbic
Twenty Years of EPT Graphs: From Haifa to Rostock

10.00 – 10.30 Coffee break

10.30 – 11.30 Charles J. Colbourn
Detecting and Locating Interaction Faults

Time	Section A Room 224	Section B Room 124	Section C Room 126
13.30	Dietmar Cieslik Connecting Networks of Minimal Cost	Alexander A. Kolpakov Design of "Intelligent" Structures as a Discrete Optimal Problem	Pavel Skums Reconstruction of graphs with special homogeneous sets
14.00	Franco Robledo On the Generalized Steiner Problem with Network Reliability Conditions	Alexander G. Kolpakov Optimal Algorithm for Solution of Discrete Convex Combinations Problem	
14.30	Coffee break		
15.00	Stephan Foldes On maximal instantaneous codes	Pavel A. Borisovsky A comparative study of some evolutionary algorithms	Michele Zito Dominating sets of random recursive trees
15.30	Florian Pfender Visibility graphs of point sets in the plane	Kenneth Oksanen Searching for Selection Algorithms	Vadim Zverovich The Computer System GRAPHOGRAPH