

Tuesday, September 21, 2010

8:30-9:00 Welcome / coffee / breakfast

9:00-10:30 Data mining Tobias Kötter, Uwe Nagel

This workshop will provide a short introduction to theory and practice of data mining. Participants will learn about basic data mining approaches, and their application to graphs. Concepts will be exemplified using a data analytics tool, KNIME, developed at the University Konstanz.

10:30-11:00 Coffee break

11:00-12:30 Biological networks Falk Schreiber

This is an introduction to the analysis and visualization of biological processes and networks; basic methods for their analysis and visualization such as network centralities and motifs; the Systems Biology Graphical Notation (SBGN); and SBGN-ED, a tool for editing, validating and translating of SBGN maps.

12:30-14:00 Lunch

14:00-15:30 Social networks Ulrik Brandes

This is an introduction to the theory and methodology of social network analysis. Participants will learn about substantive interests in the social sciences, and acquire a new view of the role, challenges, and possible benefits of visualization in these domains.

15:30-16:00 Coffee break

16:00-17:30 Guided tours

Guided tours to special devices in the Department of Computer and Information Science; one to see a painting robot arm, the other to a large-scale display and interaction devices.

18:00 Reception

serving **Blues Crumbs** in K9 Paulskirche city center, see next page

Maps & Addresses:

Tuesday, September 21, 18:00 Reception

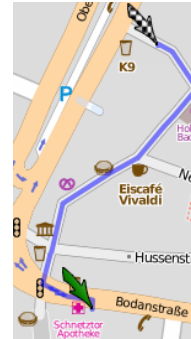
serving **Blues Crumbs**

K9 Paulskirche
Hieronymusgasse 3
78462 Konstanz

bus lines:
1, 2, 3, 9AB, 12, 14

nearest bus stop:
Schnetztor

www.k9-kulturzentrum.de



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Thursday, September 23, 19:00 Conference Dinner

Die Bleiche, Bleicherstraße 8, 78467 Konstanz

18:25: Shuttle bus from the main entrance at the university (bus stop line 9AB) to Die Bleiche

18:40: Shuttle bus from Bodanplatz (bus stop lines 1, 2, 3, 9AB, 12, 14) to Die Bleiche

18:45: Shuttle bus from Sternenplatz (bus stop line 6, direction out of town) to Die Bleiche

23:30: Shuttle bus from Die Bleiche to Sternenplatz and Bodanplatz

www.stromeyer-die-bleiche.de/restaurant.html

All sessions take place in room A703.

Graph Drawing Challenge takes place in room A704.

Sponsors:



DFG



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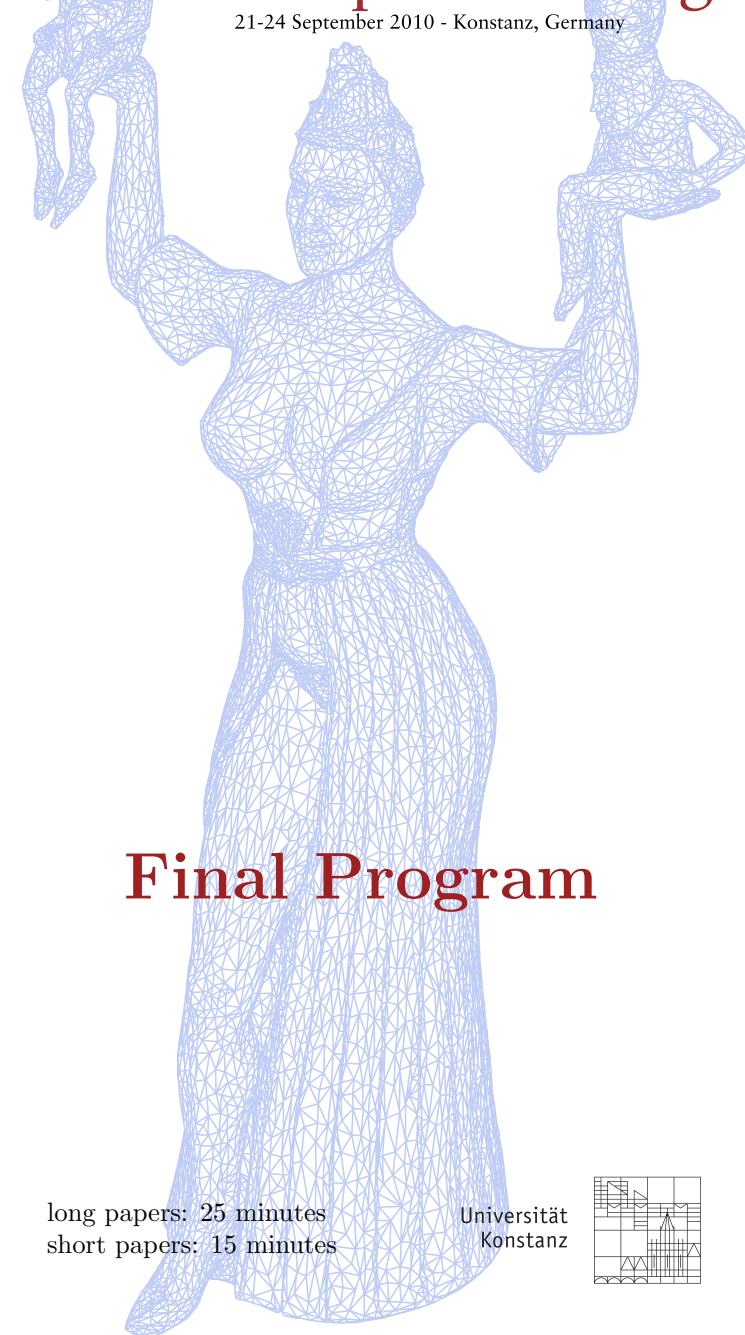
SIEMENS

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18th International Symposium

Graph Drawing

21-24 September 2010 - Konstanz, Germany



Final Program

long papers: 25 minutes
short papers: 15 minutes

Universität
Konstanz



Friday, September 24, 2010

9:00-10:30 Session H Chair: S. Kobourov
 R. I. Nishat, D. Mondal, Md. S. Rahman. Point-Set Embeddings of Plane 3-Trees.
 9:25 P. Angelini, F. Frati, M. Geyer, M. Kaufmann, T. Mchedlize, A. Symonis. Upward Geometric Graph Embeddings into Point Sets.
 9:50 P. Angelini, M. Geyer, M. Kaufmann, D. Neuwirth. On a Tree and a Path with no Geometric Simultaneous Embedding.
 10:15 M. van Garderen, G. Liotta, H. Meijer. Universal Pointsets for 2-coloured Trees.

10:30-11:00 Coffee break
11:00-12:15 Session I Chair: M. Kaufmann
 11:00 J. Mannuch, M. Patterson, S.-H. Poon, C. Thachuk. Complexity of Finding Non-Planar Rectilinear Drawings of Graphs.
 11:25 T. Blasius, M. Krug, I. Rutter, D. Wagner. Drawing Orthogonal Graphs with Flexibility Constraints.
 11:50 B. Keszegh, D. Pálvölgyi, J. Pach. Drawing planar graphs of bounded degree with few slopes.

12:15-14:00 Lunch
14:00-15:30 Session J Chair: S. Wismath
 14:00 C. Auer, C. Bachmaier, F. J. Brandenburg, W. Brunnner, A. Gleibner. Plane Drawings of Queue and Deque Graphs.
 14:25 R. J. Kang, T. Müller. Dot-product representations of planar graphs.
 14:50 E. Chambers, D. Eppstein, M. Goodrich, M. Löffler. Drawing Graphs in the Plane with a Prescribed Outer Face and Polynomial Area.
 15:15 F. Frati. Improved Lower Bounds on the Area Requirements of Series-Parallel Graphs.

15:30-16:00 Coffee break
16:00-17:15 Invited talk and farewell

Peter Eades. On the Future of Graph Drawing.



Thursday, September 23, 2010

9:00-10:30 Session D Chair: P. Eades
 9:00 D. Archambault, H. C. Purchase, B. Pinaud. Difference Map Readability for Dynamic Graphs.
 9:25 K. Klein, G. Bartel, C. Gutwenger, P. Mutzel. An Experimental Evaluation of Multilevel Layout Methods.
 9:50 W. Didimo, G. Liotta, S. A. Romeo. Topology-driven Force-directed Algorithms.
 10:15 E. Argyriou, M. Bekos, A. Symonis. Maximizing the Total Resolution of Graphs.

10:30-11:00 Coffee break
11:00-12:15 Session E Chair: P. Healy
 11:00 L. Nachmanson, S. Pupyrev, M. Kaufmann. Improving Layered Graph Layouts with Edge Bundling.
 11:25 G. Gange, P. Stuckey, K. Marriott. Optimal k -level Planarization and Crossing Minimization.
 11:50 M. Chiamani, C. Gutwenger, P. Mutzel, M. Spönmann, H. M. Wong. Crossing Minimization and Layouts of Directed Hypergraphs with Port Constraints.

12:15-14:00 Lunch
14:00-15:30 Session F Chair: J. Kratochvíl
 14:00 D. Gonçalves, B. Leveque, A. Pinlou. Triangle contact representations and duality.
 14:25 E. Gansner, Y. Hu, S. Kobourov. On Touching Triangles.
 14:50 E. J. van Leeuwen, J. van Leeuwen. Convex Polygon Intersection Graphs.
 15:15 V. Dujmović, W. Evans, S. Kobourov, G. Liotta, C. Weibel, S. Wismath. On Graphs Supported by Line Sets.

15:30-16:00 Coffee break
16:00-17:15 Session G Chair: D. Eppstein

16:00 K. Buchin, B. Speckmann, S. Verdonschot. Optimizing Regular Edge Labelings.
 16:25 G. V. Quercini, M. Ancona. Confluent Drawing Algorithms using Rectangular Dualization.
 16:50 Y. Hu, S. Kobourov, S. Veeramoni. On Maximum Differential Graph Coloring.

19:00 Conference Dinner

Wednesday, September 22, 2010

9:00-10:30 Welcome and invited talk
 Ulrich Rüdiger, Rector of the University of Konstanz. Welcome Address.
Carsten Thomassen. Graph Decomposition.
 János Barát and I made the following conjecture: For every tree T , there is a natural number kt such that every kt -edge-connected graph of size divisible by $|E(T)|$ has an edge-decomposition into subgraphs each isomorphic to T . I have now verified the conjecture for an infinite family of trees.

10:30-11:00 Coffee break
11:00-12:15 Session A Chair: P. Mutzel
 11:00 P. Angelini, E. Colasante, G. Di Battista, F. Frati, M. Patrignani. Monotone Drawings of Graphs.
 11:25 C. Duncan, D. Eppstein, M. Goodrich, S. Kobourov, M. Nöllenburg. Lombardi Drawings of Graphs.
 11:50 D. Richter. How to draw a Fat-colored graph.



12:15-14:00 Lunch
14:00-15:30 Session B Chair: G. Liotta
 14:00 G. Da Lozzo, G. Di Battista, F. Ingrosso. Drawing Graphs on a Smartphone.
 14:25 E. Ackerman, R. Fulek, C. D. Tóth. On the size of graphs that admit polyline drawings with few bends and crossing angles.
 14:50 R. Fulek, J. Pach. A computational approach to Conway's thrackle conjecture.
 15:15 M. van Kreveld. The Quality Ratio of RAC Drawings and Planar Drawings of Planar Graphs.

15:30-16:00 Coffee break
16:00-17:15 Session C Chair: M. Patrignani

16:00 W. Brunner, M. Matzeder. Drawing Ordered $(k-1)$ -ary Trees on k -Grids.
 16:25 C. Duncan, D. Eppstein, M. Goodrich, S. Kobourov, M. Nöllenburg. Drawing Trees with Perfect Angular Resolution and Polynomial Area.
 16:50 D. Eppstein, M. Löffler, E. Mumford, M. Nöllenburg. Optimal 3D Angular Resolution for Low-Degree Graphs.

18:00 Graph Drawing Challenge