



# Program of GD 2012

20<sup>th</sup> International Symposium on

## Graph Drawing

September 19-21, 2012 - Redmond, Washington, USA

(<http://www.gd2012.org/>)



### Gold Sponsor



### Silver Sponsors

**Microsoft**



### Bronze Sponsor



**Tuesday, September 18, 2012**

18:30 – 22:00 Welcome Reception (*Spitfire, 15251 NE 40<sup>th</sup> St, Redmond, WA 98052*)

## Wednesday, September 19, 2012

8:50 – 9:00    Opening

### 9:00 – 10:40    Session 1 – Chair: Alexander Wolff

9:00 – 9:20	Counting Plane Graphs: Cross-Graph Charging Schemes <i>M. Sharir and A. Sheffer</i>	<b>T1</b>
9:20 – 9:40	Planar Preprocessing for Spring Embedders <i>J. J. Fowler and S. G. Kobourov</i>	<b>T2</b>
9:40 – 10:00	Disconnectivity and Relative Positions in Simultaneous Embeddings <i>T. Bläsius and I. Rutter</i>	<b>T1</b>
10:00 – 10:20	StreamEB: Stream Edge Bundling <i>Q. Nguyen, P. Eades, and S.-H. Hong</i>	<b>T2</b>
10:20 – 10:40	Graph Drawing in the Cloud: Privately Visualizing Relational Data Using Small Working Storage <i>M. T. Goodrich, O. Ohrimenko, and R. Tamassia</i>	<b>T1</b>

10:40 – 11:10    Coffee break

### 11:10 – 12:30    Session 2 – Chair: Seok-Hee Hong

11:10 – 11:30	Graph Drawing by Classical Multidimensional Scaling: New Perspectives <i>M. Klimenta and U. Brandes</i>	<b>T1</b>
11:30 – 11:50	Force-Directed Graph Drawing Using Social Gravity and Scaling <i>M. J. Bannister, D. Eppstein, M. T. Goodrich, and L. Trott</i>	<b>T2</b>
11:50 – 12:10	Progress on Partial Edge Drawings <i>T. Bruckdorfer, S. Cornelsen, C. Gutwenger, M. Kaufmann, F. Montecchiani, M. Nöllenburg, and A. Wolff</i>	<b>T1</b>
12:10 – 12:30	Implementing a Partitioned 2-Page Book Embedding Testing Algorithm <i>P. Angelini, M. Di Bartolomeo, and G. Di Battista</i>	<b>T1</b>

12:30 – 14:00    Lunch

### 14:00 – 15:00    Invited Talk – Chair: Ioannis G. Tollis

Interactive Network Exploration to Derive Insights: Filtering, Clustering, Grouping, and Simplification  
*Ben Shneiderman (University of Maryland) - Joint work with Cody Dunne*

**T1** – Track 1: Combinatorial and algorithmic aspects

**T2** – Track 2: Visualization systems and interfaces

15:00 – 15:30 Coffee break

15:30 – 17:10 Session 3 – Chair: Stephen G. Kobourov		
<i>Sponsored by Tom Sawyer Software</i>		
15:30 – 15:50	Shrinking the Search Space for Clustered Planarity <i>K. Klein and M. Chimani</i>	<b>T1</b>
15:50 – 16:10	Drawing Clustered Graphs as Topographic Maps <i>M. Gronemann and M. Jünger</i>	<b>T2</b>
16:10 – 16:30	Open Rectangle-of-Influence Drawings of Non-Triangulated Planar Graphs <i>S. Alamdari and T. Biedl</i>	<b>T1</b>
16:30 – 16:50	The Approximate Rectangle of Influence Drawability Problem <i>E. Di Giacomo, G. Liotta, and H. Meijer</i>	<b>T1</b>
16:50 – 17:10 (best paper)	Visualizing Streaming Text Data with Dynamic Graphs and Maps <i>E. R. Gansner, Y. Hu, and S. North</i>	<b>T2</b>

17:10 – 17:30 Poster Presentations

17:30 – 19:00 Graph Drawing Contest

## Thursday, September 20, 2012

9:00 – 10:40 Session 4 – Chair: Daniel Archambault		
9:00 – 9:20 (best paper)	Planar Lombardi Drawings for Subcubic Graphs <i>D. Eppstein</i>	<b>T1</b>
9:20 – 9:40	On The Usability of Lombardi Graph Drawings <i>H. Purchase, J. Hamer, M. Nöllenburg, and S. G. Kobourov</i>	<b>T2</b>
9:40 – 10:00	Circle-Representations of Simple 4-Regular Planar Graphs <i>M. A. Bekos and C. Raftopoulou</i>	<b>T1</b>
10:00 – 10:20	Smooth Orthogonal Layouts <i>M. A. Bekos, S. G. Kobourov, M. Kaufmann, and A. Symvonis</i>	<b>T1</b>
10:20 – 10:40	Drawing Metro Maps using Bézier Curves <i>M. Fink, H. Haverkort, M. Nöllenburg, M. Roberts, J. Schuhmann, and A. Wolff</i>	<b>T2</b>

**T1** – Track 1: Combinatorial and algorithmic aspects

**T2** – Track 2: Visualization systems and interfaces

10:40 – 11:10 Coffee break

**11:10 – 12:30 Session 5 – Chair: Nathalie Henry Riche**

11:10 – 11:30 Toward a Theory of Planarity: Hanani-Tutte and Planarity Variants **T1**  
*M. Schaefer*

11:30 – 11:50 Mental Map Preservation Helps User Orientation in Dynamic Graphs **T2**  
*D. Archambault and H. Purchase*

11:50 – 12:10 Planar Graphs as VPG-Graphs **T1**  
*S. Chaplick and T. Ueckerdt*

12:10 – 12:30 Clustering, Visualizing, and Navigating for Large Dynamic Graphs **T2**  
*A. Sallaberry, C. Muelder, and K.-L. Ma*

12:30 – 14:00 Lunch

**14:00 – 15:00 Invited Talk – Chair: Anna Lubiw**

Flips  
*Prosenjit K. Bose (Carleton University)*

15:00 – 15:30 Coffee break

**15:30 – 17:10 Session 6 – Chair: David Eppstein**

15:30 – 15:50 DAGView: An Approach for Visualizing Large Graphs **T2**  
*E. M. Kornaropoulos and I. G. Tollis*

15:50 – 16:10 On Representing Graphs by Touching Cuboids **T1**  
*D. Bremner, W. Evans, F. Frati, L. Heyer, S. G. Kobourov, W. Lenhart, G. Liotta, D. Rappaport, and S. Whitesides*

16:10 – 16:30 Touching Triangle Representation for 3-Connected Planar Graphs **T1**  
*S. G. Kobourov, D. Mondal, and R. I. Nishat*

16:30 – 16:50 Proportional Contact Representations of 4-Connected Planar Graphs **T1**  
*Md. J. Alam and S. G. Kobourov*

16:50 – 17:10 Edge-Weighted Contact Representations of Planar Graphs **T1**  
*M. Nöllenburg, R. Prutkin, and I. Rutter*

**17:15 – 18:15 Business Meeting**

19:30 – 23:30 Conference Dinner (*Thai Kitchen, 14115 NE 20<sup>th</sup> St, Bellevue, WA 98007*)

**T1** – Track 1: Combinatorial and algorithmic aspects

**T2** – Track 2: Visualization systems and interfaces

## Friday, September 21, 2012

9:00 – 10:30 Session 7 – Chair: Michael Kaufmann		
9:00 – 9:20	Column-Based Graph Layouts <i>G. Betz, C. Doll, A. Gemsa, I. Rutter, and D. Wagner</i>	<b>T1</b>
9:20 – 9:40	Upward Planarity via SAT <i>M. Chimani and R. Zeranski</i>	<b>T1</b>
9:40 – 10:00	Self-Approaching Graphs <i>S. Alamdari, T. M. Chan, E. Grant, A. Lubiw, and V. Pathak</i>	<b>T1</b>
10:00 – 10:15	Time-Space Maps from Triangulations <i>S. Bies and M. J. van Kreveld</i>	<b>T2</b>
10:15 – 10:30	Homotopic C-Oriented Routing <i>K. Verbeek</i>	<b>T1</b>

10:30 – 11:00 Coffee Break

11:00 – 12:20 Session 8 – Chair: Markus Chimani		
11:00 – 11:20	Graph Drawing in TikZ <i>T. Tantau</i>	<b>T2</b>
11:20 – 11:40	Kinetic and Stationary Point-Set Embeddability for Plane Graphs <i>Z. Rahmati, S. Whitesides, and V. King</i>	<b>T1</b>
11:40 – 12:00	Point-Set Embeddability of 2-Colored Trees <i>F. Frati, M. Glisse, W. Lenhart, G. Liotta, T. Mchedlidze, and R. I. Nishat</i>	<b>T1</b>
12:00 – 12:20	Covering Paths for Planar Point Sets <i>A. Dumitrescu and C. D. Tóth</i>	<b>T1</b>

12:20 – 14:00 Lunch

**T1** – Track 1: Combinatorial and algorithmic aspects

**T2** – Track 2: Visualization systems and interfaces

14:00 – 15:30 Session 9 – Chair: Emden R. Gansner		
14:00 – 14:20	Optical Graph Recognition <i>C. Auer, C. Bachmaier, F. J. Brandenburg, A. Gleißner and J. Reislhuber</i>	<b>T2</b>
14:20 – 14:40	Grid Drawings and the Chromatic Number <i>M. Balko</i>	<b>T1</b>
14:40 – 15:00	On the Density of Maximal 1-Planar Graphs <i>F. J. Brandenburg, D. Eppstein, A. Gleißner, M. T. Goodrich, K. Hanauer, and J. Reislhuber</i>	<b>T1</b>
15:00 – 15:15	Testing Maximal 1-Planarity of Graphs with a Rotation System in Linear Time <i>P. Eades, S.-H. Hong, N. Katoh, G. Liotta, P. Schweitzer, and Y. Suzuki</i>	<b>T1</b>
15:15 – 15:30	Tangles and Degenerate Tangles <i>A. J. Ruiz-Vargas</i>	<b>T1</b>

15:30 – 16:00 Coffee Break

16:00 – 17:20 Session 10 – Chair: Marc J. van Kreveld		
16:00 – 16:20	Interactive Random Graph Generation with Evolutionary Algorithms <i>B. Bach, A. Spritzer, E. Lutton, and J.-D. Fekete</i>	<b>T2</b>
16:20 – 16:40	Density Theorems for Intersection Graphs of $t$ -Monotone Curves <i>A. Suk</i>	<b>T1</b>
16:40 – 17:00	The Visible Perimeter of an Arrangement of Disks <i>G. Nivasch, J. Pach, and G. Tardos</i>	<b>T1</b>
17:00 – 17:20	Canonical Ordering for Triangulations on the Cylinder, with Applications to Periodic Straight-Line Drawings <i>L. Castelli Aleardi, O. Devillers, and É. Fusy</i>	<b>T1</b>

17:20 – 17:25 Closing Remarks

**T1** – Track 1: Combinatorial and algorithmic aspects

**T2** – Track 2: Visualization systems and interfaces