



29th International Symposium on Graph Drawing and Network Visualization

September 14-17, 2021, Tübingen, Germany

Tuesday 14.09.2021

18.00 - 20.00 Get Together

The welcome reception (get together) will take place at the Museum, which is located next to the old botanical garden of Tübingen at Wilhelmstrasse 3, 72070 Tübingen.

Wednesday 15.09.2021

8:45 - 9:00 Covid Rapid Tests

9.00 opening

09.10 - 10.10 Crossing Minimization and Beyond-Planarity

(chair: Fabrizio Montecchiani)

09.10 - 09.30 Steven Chaplick, [Fabian Klute](#), Irene Parada, Jonathan Rollin and Torsten Ueckerdt
Edge-Minimum Saturated k -Planar Drawings (Best Paper Track 1)

09.30 - 09.50 [Henry Förster](#), Michael Kaufmann and Chrysanthi Raftopoulou
Recognizing and Embedding Simple Optimal 2-Planar Graphs

09.50 - 10.10 Markus Chimani, [Max Ilsen](#) and Tilo Wiedera
Star-Struck by Fixed Embeddings: Modern Crossing Number Heuristics

10.10 - 11.00 Coffee break

11.00 - 12.00 Geometric Constraints

(chair: Martin Nöllenburg; sponsor: yWorks)

11.00 - 11.20 [Jonathan Klawitter](#) and Johannes Zink
Upward Planar Drawings with Three and More Slopes

11.20 - 11.40 [Carlos Alegria](#), Manuel Borrasso, Giordano Da Lozzo, Giuseppe Di Battista, Fabrizio Frati and Maurizio Patrignani
Planar Straight-line Realizations of 2-Trees with Prescribed Edge Lengths

11.40 - 11.55 Patrizio Angelini, Philipp Kindermann, Andre Löffler, [Lena Schlipf](#) and Antonios Symvonis
One-Bend Drawings of Outerplanar Graphs Inside Simple Polygons (short paper)

12.00 - 13.30 Lunch break

13.30 - 14.30 Topological and upward drawings

(chair: Giordano Da Lozzo)

13.30 - 13.50 Carla Binucci, Emilio Di Giacomo, Giuseppe Liotta and Alessandra Tappini

Quasi-upward Planar Drawings with Minimum Curve Complexity

13.50 - 14.10 Václav Blažej, Michal Opler, Matas Šileikis and Pavel Valtr

Non-homotopic Loops with a Bounded Number of Pairwise Intersections

14.10 - 14.30 Boris Klemz, Kristin Knorr, Meghana M. Reddy and Felix Schröder

Simplifying Non-Simple Fan-Planar Drawings

14.30 - 15.30 Coffee break + poster exhibition

15.30 - 16.30 Remote Session 1

(chair: Falk Schreiber)

15.30 - 15.50 David Eppstein

Limitations on Realistic Hyperbolic Graph Drawing

15.50 - 16.10 Jeff Erickson and Patrick Lin

Planar and Toroidal Morphs Made Easier

16.10 - 16.30 Marcus Schaefer

RAC-drawability is ER-complete

16.30 - 17.00 Coffee break + poster exhibition

17.00 - 19.00 Contest

Thursday 16.09.2021

8:45 - 9:00 Covid Rapid Tests

09.00 - 10.00 Invited talk 1 by Kim Marriott, Node-Link Diagrams: Are they useful?
(chair: Helen Purchase; sponsor: yWorks)

10.00 - 10.30 Coffee break

10.30 - 12.00 Linear layouts

(chair: Henry Förster; sponsor: Tom Sawyer Software)

10.30 - 10.50 Stefan Felsner, Torsten Ueckerdt and Kaja Wille

On the Queue-Number of Partial Orders

10.50 - 11.10 Stefan Felsner, Laura Merker, Torsten Ueckerdt and Pavel Valtr

Linear Layouts of Complete Graphs

11.10 - 11.30 Michael Bekos, Martin Gronemann and Chrysanthi Raftopoulou

On the Queue Number of Planar Graphs

11.30 - 11.45 Heuchan Lim and Stephen Kobourov

Visualizing The Intermediate Representation of Just-in-Time Compilers (short paper)

12.00 - 14.00 Lunch break

14.00 - 15.00 Contact and visibility representations

(chair: Philipp Kindermann; sponsor: yWorks)

14.00 - 14.20 Therese Biedl, Giuseppe Liotta, Jayson Lynch and Fabrizio Montecchiani

Optimal-area visibility representations of outer-1-plane graphs

14.20 - 14.40 Sujoy Bhore, Maarten Löffler, Soeren Nickel and Martin Nöllenburg

Unit Disk Representations of Embedded Trees, Outerplanar and Multi-Legged Graphs

14.40 - 14.55 Martin Nöllenburg, Anaïs Villedieu and Jules Wulms

Layered Area-Proportional Rectangle Contact Representation (short paper)

15.00 - 15.30 Coffee break

15.30 - 16.30 Remote Session 2

(chair: Daniel Archambault)

15.30 - 15.45 Ahmad Biniaz

A short proof of the non-biplanarity of K_9 (short paper)

15.45 - 16.00 Jacob Fox, Janos Pach and Andrew Suk

On the number of edges of separated multigraphs (short paper)

16.00 - 16.20 Sujoy Bhore, Giordano Da Lozzo, Fabrizio Montecchiani and Martin Nöllenburg

On the Upward Book Thickness Problem: Combinatorial and Complexity Results

17.30 - 19.00 Guided tour

19.00 - 22.00 Conference dinner

Conference dinner will take place at Liquid Kelter restaurant (<https://www.liquid-kelter.de/>), which is located in the old town at Schmiedtorstrasse 17, 72070 Tübingen.

Friday 17.09.2021

8:45 - 9:00 Covid Rapid Tests

09.00 - 10.00 Invited talk 2 by Meirav Zehavi, Parameterized Complexity in Graph Drawing
(chair: Ignaz Rutter)

10.00 - 10.30 Coffee break

10.30 - 12.00 Geometric Aspects in Graph Drawing
(chair: Irene Parada; sponsor: yWorks)

10.30 - 10.50 Sarah Carmesin and André Schulz

Arrangements of orthogonal circles with many intersections

10.50 - 11.10 Giuseppe Di Battista and Fabrizio Frati

From Tutte to Floater and Gotsman: On the Resolution of Planar Straight-line Drawings and Morphs

11.10 - 11.30 Mees van de Kerkhof, Irina Kostitsyna and Maarten Löffler

Embedding Ray Intersection Graphs and Global Curve Simplification

11.30 - 11.50 Emilio Di Giacomo, Walter Didimo, Fabrizio Montecchiani and Alessandra Tappini

A User Study on Hybrid Graph Visualizations (Best Paper Track 2)

12.00 - 13.30 Lunch break

13.30 - 14.15 AI applications
(chair: Tamara Mchedlidze)

13.30 - 13.50 Loann Giovannangeli, Frederic Lalanne, David Auber, Romain Giot and Romain Bourqui
Drawing Networks with Deep Neural Network, (DNN)²

13.50 - 14.10 Tomáš Čížek and Martin Balko

Implementation of Sprouts: a graph drawing game

14.10 - 14.30 Short coffee break

14.30 - 15.30 Business meeting + Closing remarks

