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**Special Issue of Selected Papers from the
23rd International Symposium on
Graph Drawing and Network Visualization
(GD 2015)**

Guest Editors' Foreword

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This special issue of the Journal of Graph Algorithms and Applications is dedicated to some of the best papers from the 23rd International Symposium on Graph Drawing and Network Visualization, which was held in Los Angeles, September 24–26, 2015, hosted by the California State University at Northridge. The authors of seven of the best papers of the symposium were invited to submit a revised and extended version of their work to this special issue. The submitted papers went through the standard reviewing process of the journal and were accepted after further revisions. They reflect a broad range of topics covered in the Graph Drawing and Network Visualization community both from the applied and theoretical fields.

- Kerren and Zimmer present OnGraX, a web-based network visualization environment which supports distributed, synchronous and asynchronous collaboration. In addition to standard collaboration features like event tracking or synchronization, the system provides a rich set of visualization and interaction techniques for better navigation and overview of the input network.
- Eades, Hong, Nguyen and Klein propose a new family of quality metrics for graph drawing, especially meant to be used with large graph layouts. The authors illustrate the proposed metrics with examples and apply them to data from previous experiments, leading to the suggestion that the new metrics are effective.
- Crnovrsanin, Chu, and Ma investigate the problem of online visualization of dynamic graphs, i.e., visualization of graphs that evolve over time without information about the future evolution. An incremental version of the FM3 algorithm is presented with a refinement scheme, with the aim of avoiding some critical aspects of other existing techniques.
- Binucci, Chimani, Didimo, Gronemann, Klein, Kratochvíl, Montecchiani and Tollis investigate 2-layer fan planar drawings, i.e., drawings of graphs where each vertex is drawn as a point on one of two distinct horizontal lines and no edge is crossed by two independent edges. The authors characterize 2-layer fan-planar drawable graphs and describe a linear-time testing and embedding algorithm for biconnected graphs. They also study the relationship between 2-layer fan-planar graphs and 2-layer right-angle crossing graphs.
- Auber, Bonichon, Dorbec and Pennarun define and study a new type of graph drawing called “rook-drawing”. A rook-drawing of a graph G is a grid drawing of G such that no x - or y -coordinate is shared by two distinct vertices. The authors describe algorithms to compute planar straight-line rook-drawings of outerplanar graphs and polyline planar rook-drawings of plane graphs with at most $n - 3$ bent edges. They also characterize the maximal planar graphs admitting a planar straight-line rook-drawing.
- Dujmović revisits techniques of two previous papers for the problem of untangling planar graphs and shows how they can be used to derive new

results for other graph drawing problems including column planarity, universal point subsets, and partial simultaneous geometric embeddings (with or without mappings). Some of these results answer open problems posed in previous papers.

- Fulek, Pelsmajer and Schaefer establish a weak variant of the Hanani-Tutte theorem for radial planarity. They show that a leveled graph is radial planar if and only if it admits a radial drawing where each pair of edges crosses an even number of times. This result continues a recent line of research that established Hanani-Tutte style characterizations for several variants of planarity.

We thank the authors for contributing their high-quality papers, the referees for their valuable work, and the staff of the Journal of Graph Algorithms and Applications for making this special issue possible.