

# List of Publications

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## [JOUR] **International Journals**

- [JOUR-30] S. W. Bae, J.-F. Baffier, J. Chun, P. Eades, K. Eickmeyer, L. Grilli, S.-H. Hong, M. Korman, F. Montecchiani, I. Rutter, C. D. Tóth, “Gap-planar Graphs”. *Theoretical Computer Science*, Published online (2018).
- [JOUR-29] T. Biedl, T. M. Chan, S. Lee, S. Mehrabi, F. Montecchiani and H. Vosoughpour. “Guarding Orthogonal Art Galleries with Sliding  $k$ -Transmitters: Hardness and Approximation”. *Algorithmica*, Published online (2018).
- [JOUR-28] T. Biedl, , G. Liotta, F. Montecchiani. “Embedding-Preserving Rectangle Visibility Representations of Nonplanar Graphs” *Discrete & Computational Geometry*, Published online (2017).
- [JOUR-27] A. Arleo, W. Didimo, G. Liotta, F. Montecchiani. “Profiling distributed graph processing systems through visual analytics”. *Future Generation Computer Systems*, 87: 43–57 (2018).
- [JOUR-26] E. Di Giacomo, W. Didimo, W. S. Evans, G. Liotta, H. Meijer, F. Montecchiani, S. K. Wismath. “Ortho-polygon Visibility Representations of Embedded Graphs” *Algorithmica*, 80(8): 2345–2383 (2018).
- [JOUR-25] W. Didimo, L. Giamminonni, G. Liotta, F. Montecchiani and D. Pagliuca. “A visual analytics system to support tax evasion discovery”. *Decision Support Systems*, 110: 71–83 (2018).
- [JOUR-24] A. Arleo, C. Binucci, E. Di Giacomo, W. S. Evans, L. Grilli, G. Liotta, H. Meijer, F. Montecchiani, S. Whitesides, S. K. Wismath, “Visibility Representations of Boxes in 2.5 Dimensions” *Computational Geometry*, 72: 19–33 (2018).

- [JOUR-23] W. Didimo, E. M. Kornaropoulos, F. Montecchiani, I. G. Tollis, “A Visualization Framework and User Studies for Overloaded Orthogonal Drawings” *Computer Graphics Forum*, 37(1): 288–300 (2018).
- [JOUR-22] E. Di Giacomo, G. Liotta, F. Montecchiani “Drawing subcubic planar graphs with four slopes and optimal angular resolution” *Theoretical Computer Science*, 714: 51–73 (2018).
- [JOUR-21] E. Di Giacomo, W. Didimo, W. S. Evans, G. Liotta, H. Meijer, F. Montecchiani, S. K. Wismath “New Results on Edge Partitions of 1-plane Graphs” *Theoretical Computer Science*, 713: 78–84 (2018).
- [JOUR-20] T. Bruckdorfer, S. Cornelsen, C. Gutwenger, M. Kaufmann, F. Montecchiani, M. Nöllenburg, A. Wolff, “Progress on Partial Edge Drawings” *Journal of Graph Algorithms and Applications*, 21(4): 757–786 (2017).
- [JOUR-19] S. G. Kobourov, G. Liotta, F. Montecchiani. “An annotated bibliography on 1-planarity” *Computer Science Review*, 25: 49–67 (2017).
- [JOUR-18] M. Bekos, W. Didimo, G. Liotta, S. Mehrabi, F. Montecchiani. “On RAC Drawings of 1-Planar Graphs” *Theoretical Computer Science*, 689: 48–57 (2017).
- [JOUR-17] C. Binucci, F. De Luca, E. Di Giacomo, G. Liotta, F. Montecchiani. “Designing the Content Analyzer of a Travel Recommender System” *Expert Systems with Applications*, 87: 199–208 (2017).
- [JOUR-16] P. Angelini, M. A. Bekos, F. De Luca, W. Didimo, M. Kaufmann, S. Kobourov, F. Montecchiani, C. N. Raftopoulou, V. Roselli, A. Symvonis. “Vertex-Coloring with Defects”. *Journal of Graph Algorithms and Applications (Special Issue on Selected Papers from the 10<sup>th</sup> International Conference and Workshops on Algorithms and Computation, WALCOM 2016)*, 21(3): 313–340 (2017).
- [JOUR-15] E. Di Giacomo, W. Didimo, G. Liotta and F. Montecchiani. “Area-thickness Trade-offs for Straight-line Drawings of Planar Graphs”. *The Computer Journal*, 60(1): 135–142 (2017).
- [JOUR-14] C. Binucci, M. Chimani, W. Didimo, M. Gronemann, K. Klein, J. Kratochvil, F. Montecchiani and I.G. Tollis, “2-Layer Fan-planarity: From Caterpillar to Stegosaurus”. *Journal of Graph Algorithms and Applications (Special Issue on Selected Papers from the 23<sup>st</sup> International Symposium on Graph Drawing, GD 2015)*, 21(1): 81–102 (2017).
- [JOUR-13] W. J. Lenhart, G. Liotta and F. Montecchiani. “On Partitioning the Edges of 1-Plane Graphs”. *Theoretical Computer Science*, 662: 59–65 (2017).

- [JOUR-12] A. Arleo, W. Didimo, G. Liotta and F. Montecchiani. “Large Graph Visualizations Using a Distributed Computing Platform”. *Information Sciences*, 381: 124-141 (2017).
- [JOUR-11] W. S. Evans, G. Liotta and F. Montecchiani. “Simultaneous Visibility Representations of Plane *st*-graphs Using L-shapes”. *Theoretical Computer Science*, 645: 100–111 (2016).
- [JOUR-10] F. J. Brandenburg, W. Didimo, W. S. Evans, P. Kindermann, G. Liotta and F. Montecchiani, “Recognizing and Drawing IC-planar Graphs”. *Theoretical Computer Science*, 636: 1–16 (2016).
- [JOUR-09] G. Liotta, F. Montecchiani, “L-Visibility Drawings of IC-planar Graphs”. *Information Processing Letters*, 116(3): 217-222 (2016).
- [JOUR-08] E. Di Giacomo, G. Liotta, F. Montecchiani, “Drawing Outer 1-planar graphs with few slopes”. *Journal of Graph Algorithms and Applications (Special Issue on Selected Papers from the 22<sup>st</sup> International Symposium on Graph Drawing, GD 2014)*, 19(2): 707-741 (2015).
- [JOUR-07] P. Angelini, C. Binucci, G. Da Lozzo, W. Didimo, L. Grilli, F. Montecchiani, M. Patrignani, I. G. Tollis “Algorithms and Bounds for Drawing Non-planar Graphs with Crossing-free Subgraphs”. *Computational Geometry*, 50: 34-48 (2015).
- [JOUR-06] C. Binucci, E. Di Giacomo, W. Didimo, F. Montecchiani, M. Patrignani, A. Symvonis, I. G. Tollis, “Fan-planarity: Properties and complexity”. *Theoretical Computer Science*, 589 (0): 76-86 (2015).
- [JOUR-05] E. Di Giacomo, W. Didimo, G. Liotta, F. Montecchiani, I. G. Tollis, “Techniques for Edge Stratification of Complex Graph Drawings”. *Journal of Visual Languages and Computing*, 25(4): 433-451 (2014).
- [JOUR-04] W. Didimo, G. Liotta, F. Montecchiani, “Network visualization for financial crime detection”. *Journal of Visual Languages and Computing*, 25(4): 533-543 (2014).
- [JOUR-03] T. Bruckdorfer, M. Kaufmann, F. Montecchiani, “1-Bend Orthogonal Partial Edge Drawing”. *Journal of Graph Algorithms and Applications*, 18(1): 111-131 (2014).
- [JOUR-02] W. Didimo, F. Montecchiani, “Fast Layout Computation of Clustered Networks: Algorithmic Advances and Experimental Analysis”. *Information Sciences*, 260: 185-199 (2014).
- [JOUR-01] E. Di Giacomo, W. Didimo, G. Liotta, F. Montecchiani, “Area requirement of graph drawings with few crossings per edge”. *Computational Geometry*, 46(8):

909-916 (2013). This paper was recognized as one of the 5 most highly cited papers published in *Computational Geometry* during 2014, 2015 and up until June 2016.

## [CONF] **International Conferences**

- [CONF-45] P. Bose, P. Carmi, V. Dujmovic, S. Mehrabi, F. Montecchiani, P. Morin, L. F. Schultz Xavier da Silveira., “Geodesic Obstacle Representation of Graphs”. In *45<sup>th</sup> International Colloquium on Automata, Languages, and Programming (ICALP 2018)*, Accepted, 2018.
- [CONF-44] M. Bekos, E. Di Giacomo, W. Didimo, G. Liotta, F. Montecchiani, C. Raftopoulou, “Edge Partitions of Optimal 2-plane and 3-plane Graphs”. In *44<sup>th</sup> International Workshop on Graph-Theoretic Concepts in Computer Science (WG 2018)*, Accepted, 2018.
- [CONF-43] M. Kaufmann, J. Kratochvil, F. Lipp, F. Montecchiani, C. N. Raftopoulou, P. Valtr, “Bounded Stub Resolution for Some Maximal 1-Planar Graphs”. In *4<sup>th</sup> International Conference on Algorithms and Discrete Applied Mathematics (CALDAM 2018)*, volume 10743 of LNCS, pp. 214-220. Springer, 2018.
- [CONF-42] A. Arleo, W. Didimo, G. Liotta and F. Montecchiani, “GiViP: A Visual Profiler for Distributed Graph Processing Systems”. In *26<sup>th</sup> International Symposium on Graph Drawing & Network Visualization (GD 2017)*, volume 10692 of LNCS, pp. 256-271. Springer, 2017.
- [CONF-41] S. W. Bae, J.-F. Baffier, J. Chun, P. Eades, K. Eickmeyer, L. Grilli, S.-H. Hong, M. Korman, F. Montecchiani, I. Rutter, C. D. Tóth, “Gap-planar Graphs”. In *26<sup>th</sup> International Symposium on Graph Drawing & Network Visualization (GD 2017)*, volume 10692 of LNCS, pp. 531-545. Springer, 2017.
- [CONF-40] P. Angelini, M. A. Bekos, M. Kaufmann and F. Montecchiani, “3D Visibility Representation of 1-planar Graphs”. In *26<sup>th</sup> International Symposium on Graph Drawing & Network Visualization (GD 2017)*, volume 10692 of LNCS, pp. 102-109. Springer, 2017.
- [CONF-39] P. Angelini, M. A. Bekos, F. J. Brandenburg, G. Da Lozzo, G. Di Battista, W. Didimo, G. Liotta, F. Montecchiani and I. Rutter, “On the Relationship between  $k$ -Planar and  $k$ -Quasi Planar Graphs”. In *43<sup>rd</sup> International Workshop on Graph-Theoretic Concepts in Computer Science (WG 2017)*, volume 10520 of LNCS, pp. 59-74. Springer, 2017.
- [CONF-38] P. Angelini, M. A. Bekos, F. J. Brandenburg, G. Da Lozzo, G. Di Battista, W. Didimo, G. Liotta, F. Montecchiani and I. Rutter, “On the Relationship between  $k$ -Planar and  $k$ -Quasi Planar Graphs”. In *33<sup>rd</sup> European Workshop on Computational Geometry (EuroCG 2017)*, 2017.

- [CONF-37] P. Angelini, M. A. Bekos, G. Liotta and F. Montecchiani, “A Universal Slope Set for 1-Bend Planar Drawings”. *33<sup>rd</sup> International Symposium on Computational Geometry (SoCG 2017)*, LIPIcs, pp. 9:1–9:16. Schloss Dagstuhl - Leibniz-Zentrum fuer Informatik, 2017.
- [CONF-36] T. Biedl, T. M. Chan, S. Lee, S. Mehrabi, F. Montecchiani and H. Vosoughpour, “On Guarding Orthogonal Polygons with Sliding Cameras”. *11<sup>th</sup> International Conference and Workshop on Algorithms and Computation (WALCOM 2017)*, volume 10167 of LNCS, pp. 54-65. Springer, 2017.
- [CONF-35] E. Di Giacomo, W. Didimo, W. S. Evans, G. Liotta, H. Meijer, F. Montecchiani, S. K. Wismath, “Ortho-polygon Visibility Representations of Embedded Graphs”. *24<sup>th</sup> International Symposium on Graph Drawing & Network Visualization (GD 2016)*, volume 9801 of LNCS, pp. 280-294. Springer, 2016.
- [CONF-34] A. Arleo, C. Binucci, E. Di Giacomo, W. S. Evans, L. Grilli, G. Liotta, H. Meijer, F. Montecchiani, S. Whitesides, S. K. Wismath, “Visibility Representations of Boxes in 2.5 Dimensions”. *24<sup>th</sup> International Symposium on Graph Drawing & Network Visualization (GD 2016)*, volume 9801 of LNCS, pp. 251-265. Springer, 2016.
- [CONF-33] A. Arleo, W. Didimo, G. Liotta, F. Montecchiani, “A Distributed Multilevel Force-directed Algorithm”. *24<sup>th</sup> International Symposium on Graph Drawing & Network Visualization (GD 2016)*, volume 9801 of LNCS, pp. 3-17. Springer, 2016.
- [CONF-32] C. Binucci, M. Chimani, W. Didimo, G. Liotta, F. Montecchiani, “Placing Arrows in Directed Graph Drawings”. *24<sup>th</sup> International Symposium on Graph Drawing & Network Visualization (GD 2016)*, volume 9801 of LNCS, pp. 44-51. Springer, 2016.
- [CONF-31] W. Didimo, G. Liotta, S. Mehrabi, F. Montecchiani, “1-Bend RAC Drawings of 1-Planar Graphs”. *24<sup>th</sup> International Symposium on Graph Drawing & Network Visualization (GD 2016)*, volume 9801 of LNCS, pp. 335-343. Springer, 2016.
- [CONF-30] E. Di Giacomo, G. Liotta, F. Montecchiani, “1-Bend Upward Planar Drawings of SP-digraphs”. *24<sup>th</sup> International Symposium on Graph Drawing & Network Visualization (GD 2016)*, volume 9801 of LNCS, pp. 123-130. Springer, 2016.
- [CONF-29] Carla Binucci, Giuseppe Liotta, Fabrizio Montecchiani, and Alessandra Tappini. “Partial Edge Drawing: Homogeneity is more Important than Crossings and Ink”. *7<sup>th</sup> International Conference on Information, Intelligence, Systems and Applications (IISA 2016)*, pp. 1-6. IEEE, 2016.

- [CONF-28] T. C. Biedl, G. Liotta and F. Montecchiani, “On Visibility Representations of Non-planar Graphs”. *32<sup>nd</sup> International Symposium on Computational Geometry (SoCG 2016)*, LIPIcs, pp. 19:1–19:16. Schloss Dagstuhl - Leibniz-Zentrum fuer Informatik, 2016.
- [CONF-27] E. Di Giacomo, G. Liotta, F. Montecchiani, “1-bend Upward Planar Drawings of SP-digraphs with the Optimal Number of Slopes”. In *32<sup>th</sup> European Workshop on Computational Geometry (EuroCG 2016)*, 2016.
- [CONF-26] C. Binucci, M. Chimani, W. Didimo, M. Gronemann, K. Klein, J. Kratochvil, F. Montecchiani and I.G. Tollis, “2-Layer Fan-planarity: From Caterpillar to Stegosaurus”. *23<sup>rd</sup> International Symposium on Graph Drawing (GD 2015)*, volume 9411 of LNCS, pp. 281-294. Springer, 2015.
- [CONF-25] F. J. Brandenburg, W. Didimo, W. S. Evans, P. Kindermann, G. Liotta and F. Montecchiani, “Recognizing and Drawing IC-planar Graphs”. *23<sup>rd</sup> International Symposium on Graph Drawing (GD 2015)*, volume 9411 of LNCS, pp. 295-308. Springer, 2015.
- [CONF-24] A. Arleo, W. Didimo, G. Liotta, F. Montecchiani, “A Million Edge Drawing for a Fistful of Dollars”. *23<sup>rd</sup> International Symposium on Graph Drawing (GD 2015)*, volume 9411 of LNCS, pp. 44-51. Springer, 2015.
- [CONF-23] W. Didimo, F. Giacchè, F. Montecchiani, “Kojaph: Visual Definition and Exploration of Patterns in Graph Databases”. *23<sup>rd</sup> International Symposium on Graph Drawing (GD 2015)*, volume 9411 of LNCS, pp. 272-278. Springer, 2015.
- [CONF-22] G. Liotta, F. Montecchiani, “L-Visibility Drawings of IC-Planar Graphs”. *23<sup>rd</sup> International Symposium on Graph Drawing (GD 2015)*, volume 9411 of LNCS, pp. 545-547. Springer, 2015.
- [CONF-21] C. Binucci, F. De Luca, E. Di Giacomo, G. Liotta and F. Montecchiani. “VisFLOWer: Visual Analysis of Touristic Flows”. *6<sup>th</sup> International Conference on Information, Intelligence, Systems and Applications (IISA 2015)*, pp. 1-6. IEEE, 2015.
- [CONF-20] E. Di Giacomo, W. Didimo, G. Liotta and F. Montecchiani. “Network Visualization Retargeting”. *6<sup>th</sup> International Conference on Information, Intelligence, Systems and Applications (IISA 2015)*, pp. 1-6. IEEE, 2015.
- [CONF-19] W. S. Evans, G. Liotta and F. Montecchiani. “Simultaneous Visibility Representations of Plane *st*-graphs Using L-shapes”. *41<sup>st</sup> International Workshop on Graph Theoretic Concepts in Computer Science (WG 2015)*, volume 9224 of LNCS, pp. 252-265. Springer, 2015.
- [CONF-18] W. Didimo, F. Montecchiani, E. Pallas and I. G. Tollis. “A User Study on the Visualization of Directed Graphs”. *22<sup>nd</sup> International Symposium on Graph Drawing (GD 2014)*, volume 8871 of LNCS, pp. 507-508. Springer, 2014.

- [CONF-17] A. Arleo, F. De Luca, G. Liotta, F. Montecchiani and I. G. Tollis. “Graph-Book: Making Graph Paging Real”. *22<sup>nd</sup> International Symposium on Graph Drawing (GD 2014)*, volume 8871 of LNCS, pp. 509-510. Springer, 2014.
- [CONF-16] C. Binucci, E. Di Giacomo, W. Didimo, F. Montecchiani, M. Patrignani and I. G. Tollis, “Fan-planar Graphs: Combinatorial Properties and Complexity Results”. *22<sup>nd</sup> International Symposium on Graph Drawing (GD 2014)*, volume 8871 of LNCS, pp. 186-197. Springer, 2014.
- [CONF-15] E. Di Giacomo, G. Liotta, F. Montecchiani, “Drawing Outer 1-planar graphs with few slopes”. *22<sup>nd</sup> International Symposium on Graph Drawing (GD 2014)*, volume 8871 of LNCS, pp. 174-185. Springer, 2014.
- [CONF-14] E. Di Giacomo, W. Didimo, M. Kaufmann, G. Liotta, F. Montecchiani, “Upward-rightward planar drawings”. *5<sup>th</sup> International Conference on Information, Intelligence, Systems and Applications (IISA 2014)*, pp. 145-150. IEEE, 2014.
- [CONF-13] W. Didimo, F. Montecchiani, E. Pallas, I. G. Tollis, “How to visualize directed graphs: A user study”. *5<sup>th</sup> International Conference on Information, Intelligence, Systems and Applications (IISA 2014)*, pp. 152-157. IEEE, 2014.
- [CONF-12] E. Di Giacomo, G. Liotta, F. Montecchiani, “The Planar Slope Number of Subcubic Graphs”. *11<sup>th</sup> Latin American Theoretical INformatics Symposium (LATIN 2014)*, volume 8392 of LNCS, pp. 132-143. Springer, 2014.
- [CONF-11] P. Angelini, C. Binucci, G. Da Lozzo, W. Didimo, L. Grilli, F. Montecchiani, M. Patrignani, I. G. Tollis, “Drawings of Non-planar Graphs with Crossing-free Subgraphs”. *21<sup>th</sup> International Symposium on Graph Drawing (GD 2013)*, volume 8242 of LNCS, pp. 292-303. Springer, 2013.
- [CONF-10] E. Di Giacomo, W. Didimo, G. Liotta, F. Montecchiani, I. G. Tollis, “Exploring Complex Drawings via Edge Stratification”. *21<sup>th</sup> International Symposium on Graph Drawing (GD 2013)*, volume 8242 of LNCS, pp. 304-315. Springer, 2013.
- [CONF-09] H.-M. Chang, A.-S. Chiang, W. Didimo, C.-Y. Lin, G. Liotta, F. Montecchiani, “On the robustness of the Drosophila Neural Network”. *the IEEE 2<sup>nd</sup> International Workshop on Network Science (NSW 2013)*, pp. 168-171. IEEE, 2013.
- [CONF-08] C. Binucci, W. Didimo, G. Liotta, F. Montecchiani, M. Sartore, “TRART: A system to support territorial policies”. In *Workshop Proc. of the 9<sup>th</sup> International Conference on Intelligent Environments*, volume 17 of Ambient Intelligence and Smart Environments, pp. 629-634. IOS Press, 2013.

- [CONF-07] E. Di Giacomo, W. Didimo, G. Liotta, F. Montecchiani, “Area requirement of graph drawings with few crossings per edge”. In *29<sup>th</sup> European Workshop on Computational Geometry (EuroCG 2013)*, pp. 135-138, 2013.
- [CONF-06] T. Bruckdorfer, S. Cornelsen, C. Gutwenger, M. Kaufmann, F. Montecchiani, M. Nöllenburg, A. Wolff, “Progress on Partial Edge Drawings”. *20<sup>th</sup> International Symposium on Graph Drawing (GD 2012)*, volume 7704 of LNCS, pp. 67-78. Springer, 2013.
- [CONF-05] E. Di Giacomo, W. Didimo, G. Liotta, F. Montecchiani, “ $h$ -quasi planar Drawings of Bounded Treewidth Graphs in Linear Area”. *13<sup>th</sup> Italian Conference on Theoretical Computer Science (ICTCS 2012)*, pp. 106-109, 2012.
- [CONF-04] E. Di Giacomo, W. Didimo, G. Liotta, F. Montecchiani, “ $h$ -quasi planar Drawings of Bounded Treewidth Graphs in Linear Area”. *38<sup>th</sup> International Workshop on Graph Theoretic Concepts in Computer Science (WG 2012)*, volume 7551 of LNCS, pp. 91-102. Springer, 2012.
- [CONF-03] W. Didimo, F. Montecchiani, “Fast Layout Computation of Hierarchically Clustered Networks: Algorithmic Advances and Experimental Analysis”. *16<sup>th</sup> International Conference Information Visualization (IV 2012)*, pp. 18-23. IEEE, 2012.
- [CONF-02] W. Didimo, G. Liotta, F. Montecchiani, “Vis4AUI: Visual Analysis of Banking Activity Networks”. *7<sup>th</sup> International Joint Conferences on Computer Vision, Imaging and Computer Graphics Theory And Applications (VISIGRAPP 2012)*, pp. 799-802. SciTePress, 2012.
- [CONF-01] W. Didimo, G. Liotta, F. Montecchiani, P. Palladino, “An Advanced Network Visualization System for Financial Crime Detection”. *4<sup>th</sup> IEEE Pacific Visualization Symposium (PACIFICVIS 2011)*, pp. 203-210. IEEE, 2011.