

# Curriculum Vitae

Therese Biedl

David R. Cheriton School of Computer Science, University of Waterloo

## 1 Personal Data

### 1.1 Education

Doctor of Philosophy, 1997, Rutgers University  
Ph.D. student 1993-1997, supervised by Endre Boros.

Diploma (Master's Equivalent) in Mathematics, 1996, Technical University Berlin.  
Diploma student 1989-1993 (full-time), 1993-1996 (part-time), supervised by Rolf Möhring.

### 1.2 Employment

- Full professor (50% fractional load), David R. Cheriton School of Computer Science, University of Waterloo, July 2015–current.
- Associate professor (mostly at 50% fractional load, some maternity leave, some full-time), David R. Cheriton School of Computer Science, University of Waterloo, March 2003–June 2015.
- Assistant professor (full-time), School of Computer Science, University of Waterloo, July 1999–March 2003
- Research assistant professor (full-time), Department of Computer Science, University of Waterloo, January 1999–June 1999.
- Postdoctoral Fellow, School of Computer Science, McGill University, Montreal, Quebec, Canada. September 1997–December 1998
- Research Staff Member, Tom Sawyer Software, Berkeley, California, USA. June 1995–November 1995 (full-time), May 1996–June 1997 (part-time).
- Teaching Assistant and Grader, School of Business, Rutgers University, New Jersey, USA. Winter 1996 and Winter 1997 (part-time).
- Scientific Assistant, Zentralblatt für Mathematik, Berlin, Germany. March 1990–June 1992 (part-time).

### 1.3 Awards and honours received

- Outstanding performance award, University of Waterloo, 2017, 2013, 2010, 2005
- Best paper award at ISAAC'16 for paper C.15 listed below.
- 2015 NSERC Discovery Accelerator Supplement
- Best paper award at ISAAC'11 for paper C.52 listed below.
- Ross & Muriel Cheriton Fellowship, David R. Cheriton School of Computer Science, University of Waterloo, 2011–2014.
- Excellence Fellowship, Rutgers University, 1993–1995.
- Scholar of Studienstiftung des Deutschen Volkes (German National Academic Foundation), Germany, 1991–1995.

## 2 Research and scholarship

### 2.1 Research interests

I am interested in developing algorithms for geometric problems, in particular for graph drawing, planar graphs, and computational geometry.

### 2.2 Publications

#### 2.2.1 Articles submitted

- S.1. T. Biedl, V. Irvine, and C. Kaplan. Quasi-periodic bobbin lace patterns. Submitted to *Journal of Mathematics and the Arts*. Submitted in June 2019 with 20 pages.
- S.2. T. Biedl and S. Mehrabi. On orthogonally guarding orthogonal polygons with bounded treewidth. Submitted to *Algorithmica*. Submitted in December 2017 with 26 pages.
- S.3. T. Biedl, E. Chambers, D. Eppstein, A. Mesmay, and T. Ophelders. Homotopy height, grid-minor height and graph-drawing height. Submitted to GD'19 in June 2019 with 25 pages.
- S.4. T. Biedl, S. Chaplick, J. Fiala, M. Kaufmann, F. Montecchiani, M. Nllenburg, and C. Raftopoulou. On layered fan-planar graph drawings. Submitted to GD'19 in June 2019 with 25 pages.
- S.5. T. Biedl, S. Felsner, H. Meijer, and A. Wolff. Line and plane cover numbers revisited. Submitted to GD'19 in June 2019 with 9 pages.

#### 2.2.2 Articles in refereed journals

- J.1. J. Batzill and T. Biedl. Order-preserving drawings of trees with approximately optimal height (and small width). *Journal of Graph Algorithms and Applications*, 2019. Submitted in September 2016 with 15 pages. Accepted pending minor revisions in May 2019.

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- J.2. T. Biedl, A. Biniiaz, R. Cummings, A. Lubiw, F. Manea, D. Nowotka, and J. Shallit. Roller-coasters and caterpillars. *SIAM J. Discrete Math*, 2019. In press. Accepted in February 2019 with 20 pages.
- J.3. T. Biedl, M. Chimani, M. Derka, and P. Mutzel. Crossing numbers for graphs with bounded pathwidth. *Algorithmica*, 2019. Submitted in February 2018 with 32 pages. Accepted pending revisions in June 2019.
- J.4. T. Biedl, A. Biniiaz, S. Mehrabi, and M. Smid. Packing boundary-anchored rectangles. *Computational Geometry: Theory and Applications*, 2019. In press. Accepted in November 2018 with 13 pages.
- J.5. T. Biedl, T. Chan, S. Lee, S. Mehrabi, F. Montecchiani, H. Vosoughpour, and Z. Yu. On guarding orthogonal polygons with sliding cameras. *Algorithmica*, 81(1):69–97, 2019.
- J.6. T. Biedl. Segment representations with small resolution. *Information Processing Letters*, 2018. Submitted in December 2018 with 8 pages. Accepted pending revisions in May 2019.
- J.7. T. Biedl, F. Montecchiani, and G. Liotta. Embedding-preserving rectangle visibility representations of nonplanar graphs. *Discrete & Computational Geometry*, 60(2):345–380, 2018.
- J.8. T. Biedl and C. Pennarun. Non-aligned drawings of planar graphs. *Journal of Graph Algorithms and Applications*, 21(5):915–937, 2017.
- J.9. T. Biedl. Ideal drawings of rooted trees with approximately optimal width. *Journal of Graph Algorithms and Applications*, 21(4):631–648, 2017.
- J.10. T. Biedl, S. Huber, and P. Palfrader. Planar matchings for weighted straight skeletons. *Intl. J. Comput. Geometry Appl.*, 26(3 & 4):221–229, 2016.
- J.11. T. Biedl and M. Derka. The  $(3, 1)$ -canonical order. *Journal of Graph Algorithms and Applications*, 20(2):347–362, 2016.
- J.12. T. Biedl and M. Derka. 1-string  $B_2$ -VPG-representations of planar graphs. *Journal on Computational Geometry*, 7(2), 2016.
- J.13. T. Biedl, M. Held, S. Huber, D. Kaaser, and P. Palfrader. A simple algorithm for computing positively weighted straight skeletons of monotone polygons. *Information Processing Letters*, 115(2):243–247, 2015.
- J.14. T. Biedl. On triangulating  $k$ -outerplanar graphs. *Discrete Applied Mathematics*, 181:275–279, 2015.
- J.15. T. Biedl, M. Held, S. Huber, D. Kaaser, and P. Palfrader. Weighted straight skeletons in the plane. *Computational Geometry: Theory and Applications*, 48(2):120–133, 2015.
- J.16. T. Biedl and L.E. Ruiz Velázquez. Orthogonal cartograms with few corners per face. *Computational Geometry: Theory and Applications*, 47:282–294, 2014.
- J.17. T. Biedl and M. Vatshelle. The point-set embeddability problem for plane graphs. *International Journal of Computational Geometry and Applications*, 23(4-5):357–395, 2013.
- J.18. Md. J. Alam, T. Biedl, S. Felsner, A. Gerasch, M. Kaufmann, and S. G. Kobourov. Linear-time algorithms for hole-free rectilinear proportional contact graph representations. *Algorithmica*, 67(1):3–22, 2013.
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- J.19. T. Biedl and L.E. Ruiz Velázquez. Drawing planar 3-trees with given face areas. *Computational Geometry: Theory and Applications*, 46(3):276–285, 2013.
- J.20. T. Biedl, S. Durocher, C. Engelbeen, S. Fiorini, and M. Young. Faster optimal algorithms for segment minimization with small maximal value. *Discrete Applied Mathematics*, 161(3):317–329, 2013.
- J.21. Md. J. Alam, T. Biedl, S. Felsner, M. Kaufmann, S. G. Kobourov, and T. Ueckerdt. Computing cartograms with optimal complexity. *Discrete & Computational Geometry*, 50(3):784–810, 2013.
- J.22. T. Biedl, A. Lubiw, M. Petrick, and M. J. Spriggs. Morphing orthogonal planar graph drawings. *ACM Transactions on Algorithms*, 9(4):29, 2013.
- J.23. T. Biedl, Md. T. Irfan, J. Iwerks, J. Kim, and J. S. B. Mitchell. The art gallery theorem for polyominoes. *Discrete & Computational Geometry*, 48(3):711–720, 2012.
- J.24. Md. J. Alam, T. Biedl, S. Felsner, M. Kaufmann, and S.G. Kobourov. Proportional contact graph representations. *Journal on Graph Algorithms and Application*, 16(3):701–728, 2012.
- J.25. T. Biedl, M. Hasan, and A. López-Ortiz. Efficient view point selection for silhouettes of polyhedra. *Computational Geometry: Theory and Applications*, 44(8):399–408, 2011.
- J.26. T. Biedl and B. Genç. Reconstructing orthogonal polyhedra from putative vertex sets. *Computational Geometry: Theory and Applications*, 44(8):409–417, 2011.
- J.27. T. Biedl. Small drawings of outerplanar graphs, series-parallel graphs, and other planar graphs. *Discrete and Computational Geometry*, 45(1):141–160, 2011.
- J.28. T. Biedl, M. Hasan, and A. López-Ortiz. Reconstructing convex polygons and polyhedra from edge and face counts in orthogonal projections. *International Journal of Computational Geometry and Applications*, 21(2):215–239, 2011.
- J.29. T. Biedl and B. Genç. Stoker’s theorem for orthogonal polyhedra. *International Journal of Computational Geometry and Applications*, 21(4):383–391, 2011.
- J.30. T. Biedl, S. Durocher, H. Hoos, S. Luang, J. Saia, and M. Young. A note on improving the performance of approximation algorithms for radiation therapy. *Information Processing Letters*, 111(7):326–333, 2011.
- J.31. T. Biedl, S. Durocher, and J. Snoeyink. Reconstructing polygons from scanner data. *Theoretical Computer Science*, 412(32):4161–4172, 2011.
- J.32. T. Biedl, A. Golynski, A.M. Hamel, A. López-Ortiz, and J.I. Munro. Sorting with networks of data structures. *Discrete Applied Mathematics*, 158(15):1579–1586, 2010.
- J.33. A. Bains and T. Biedl. Reconstructing hv-convex multi-coloured polyominoes. *Theoretical Computer Science*, 411(34-36):3123–3128, 2010.
- J.34. T. Biedl and M. Stern. Edge-intersection graphs of  $k$ -bend paths in grids. *Discrete Mathematics and Theoretical Computer Science*, 12(1):1–12, 2010.
- J.35. T. Biedl, A. Lubiw, and M. Spriggs. Morphing polyhedra with parallel faces: Counterexamples. *Computational Geometry: Theory and Applications*, 42(5):395–402, 2009.
- J.36. T. Biedl, F.J. Brandenburg, and X. Deng. Crossings and permutations. *Discrete Mathematics*, 309(7):1813–1823, 2009.
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- J.37. T. Biedl. Polygons needing many flips. *Discrete and Computational Geometry*, 35(1):131–141, 2006.
- J.38. T. Biedl, T. Thiele, and D. Wood. Three-dimensional orthogonal graph drawing with optimal volume. *Algorithmica*, 44(3):233–255, 2006.
- J.39. T. Biedl, A. Lubiw, and J. Sun. When can a net fold to a polyhedron? *Computational Geometry: Theory and Applications*, 31(3):207–218, 2005.
- J.40. T. Biedl and T. Chan. A note on 3D orthogonal graph drawing. *Discrete Applied Mathematics*, 148:189–193, 2005.
- J.41. T. Biedl and D. Wilkinson. Bounded-degree independent sets in planar graphs. *Theory of Computing Systems*, 38(3):253–278, 2005.
- J.42. T. Biedl, T. Chan, Y. Ganjali, Md. Taghi Hajiaghayi, and D. Wood. Balanced vertex-orderings of graphs. *Discrete Applied Mathematics*, 148(1):27–48, 2005.
- J.43. T. Biedl, E. Demaine, C. Duncan, R. Fleischer, and S. Kobourov. Tight bounds on maximal and maximum matching. *Discrete Mathematics*, 285(1-3):7–15, 2004.
- J.44. T. Biedl, T. Chan, E. Demaine, R. Fleischer, M. Golin, J. King, and I. Munro. Fun-sort – or the chaos of unordered binary search. *Discrete Applied Mathematics*, 144(3):231–236, 2004.
- J.45. T. Biedl, B. Brejová, E. Demaine, A. Hamel, A. López-Ortiz, and T. Vinař. Finding hidden independent sets in interval graphs. *Theoretical Computer Science*, 310(1-3):287–307, 2004.
- J.46. T. Biedl, J. Buss, E. Demaine, M. Demaine, P. Nijjar, and T. Vinař. Palindrome recognition using a multidimensional tape. *Theoretical Computer Science*, 302:475–480, 2003.
- J.47. T. Biedl, T. Chan, and A. López-Ortiz. Drawing  $K_{2,n}$ : a lower bound. *Information Processing Letters*, 85(6):303–305, 2003.
- J.48. P. Agarwal, T. Biedl, S. Lazard, S. Robbins, S. Suri, and S. Whitesides. Curvature constrained shortest paths inside a convex polygon. *SIAM Journal on Computing*, 13(6):1814–1851, 2002.
- J.49. T. Biedl, E. Čenek, T. Chan, E. Demaine, M. Demaine, R. Fleischer, and M. Wang. Balanced  $k$ -colorings. *Discrete Mathematics*, 254(1-3):19–32, 2002.
- J.50. T. Biedl, E. Demaine, M. Demaine, S. Lazard, A. Lubiw, J. O’Rourke, S. Robbins, I. Streinu, G. Toussaint, and S. Whitesides. On reconfiguring tree linkages: Trees can lock. *Discrete Applied Mathematics*, 117:293–297, 2002.
- J.51. T. Biedl, E. Demaine, M. Demaine, R. Fleischer, L. Jacobsen, and I. Munro. The complexity of Clickomania. In R.J. Nowakowski, editor, *More Games of No Chance*, pages 389–404. Cambridge University Press, 2002.
- J.52. T. Biedl, E. Demaine, M. Demaine, S. Lazard, A. Lubiw, J. O’Rourke, M. Overmars, S. Robbins, I. Streinu, G. Toussaint, and S. Whitesides. Locked and unlocked polygonal chains in 3D. *Discrete and Computational Geometry*, 26(3):269–281, 2001.
- J.53. T. Biedl. The DFS-heuristic for orthogonal graph drawing. *Computational Geometry: Theory and Applications*, 18:167–188, 2001.
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- J.54. T. Biedl. 1-bend 3-D orthogonal drawings: two open problems solved. *Journal of Graph Algorithms and Applications*, 5(3):1–15, 2001.
- J.55. T. Biedl, P. Bose, E. Demaine, and A. Lubiw. Efficient algorithms for Petersen’s theorem. *J. Algorithms*, 38(1):110–134, 2001.
- J.56. T. Biedl, B. Madden, and I. Tollis. The three-phase method: A unified approach to orthogonal graph drawing. *International Journal of Computational Geometry and Applications*, 10(6):553–580, 2000.
- J.57. T. Biedl, T. Shermer, S. Whitesides, and S. Wismath. Bounds for orthogonal 3-D graph drawing. *Journal of Graph Algorithms and Applications*, 3(4):63–79, 1999.
- J.58. T. Biedl. New lower bounds for orthogonal graph drawings. *Journal of Graph Algorithms and Applications*, 2(7):1–31, 1998.
- J.59. T. Biedl. Relating bends and size in orthogonal graph drawings. *Information Processing Letters*, 65(2):111–115, 1998.
- J.60. T. Biedl and G. Kant. A better heuristic for orthogonal graph drawings. *Computational Geometry: Theory and Applications*, 9:159–180, 1998.
- J.61. T. Biedl, G. Kant, and M. Kaufmann. On triangulating planar graphs under the four-connectivity constraint. *Algorithmica*, 19(4):427–446, 1997.

### 2.2.3 Articles in refereed conference proceedings

- C.1. T. Biedl, P. Bulatovic, V. Irvine, A. Lubiw, O. Merkel, and A. Murty Naredla. Reconstructing a polyhedron between polygons in parallel slices. In *CCCG 2019, to appear.*, 2019.
- C.2. T. Biedl, A. Biniiaz, and A. Lubiw. Minimum ply covering of points with discs and squares. In *CCCG 2019, to appear.*, 2019.
- C.3. T. Biedl and P. Kindermann. Finding Tutte paths in linear time. In *International Colloquium on Automata, Languages, and Programming (ICALP 2019)*, volume 132 of *LIPICs*, pages 23:1–23:14. Schloss Dagstuhl, 2019.
- C.4. T. Biedl, A. Biniiaz, V. Irvine, K. Jain, P. Kindermann, and A. Lubiw. Matching matchings and minimum blocking sets in  $\Theta_6$ -graphs. In *WG 2019, to appear.*, 2019.
- C.5. T. Biedl, A. Biniiaz, V. Irvine, P. Kindermann, A. Murty, and A. Turcotte. Integral unit bar visibility graphs. In *Canadian Conference on Computational Geometry (CCCG’18)*, pages 230–236, 2018. .
- C.6. T. Biedl, A. Biniiaz, and M. Derka. On the size of outer-string representations. In *Scandinavian Symposium and Workshops on Algorithms Theory (SWAT’18)*, volume 101 of *LIPICs*, pages 10:1–10:14. Schloss Dagstuhl, 2018.
- C.7. T. Biedl, A. Biniiaz, R. Cummings, A. Lubiw, F. Manea, D. Nowotka, and J. Shallit. Rollercoasters and caterpillars. In *International Colloquium on Automata, Languages and Programming (ICALP ’18)*, volume 107 of *LIPICs*, pages 18:1–18:15. Schloss Dagstuhl, 2018.
- C.8. T. Biedl, M. Derka, V. Irvine, A. Lubiw, D. Mondal, and A. Turcotte. Partitioning orthogonal histograms into rectangular boxes. In *Latin American Symposium on Theoretical Informatics (LATIN’18)*, volume 10807 of *LNCS*, pages 146–160. Springer, 2018.
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- C.9. T. Biedl, T. Chan, M. Derka, K. Jain, and A. Lubiw. Improved bounds for drawing trees on fixed points with L-shaped edges. In *Graph Drawing and Network Visualization (GD'17)*, volume 10692 of *LNCS*, pages 305–317. Springer, 2018.
- C.10. T. Biedl and V. Irvine. Drawing bobbin lace pattern graphs, or, finding fundamental cycles for a subclass of periodic graphs. In *Graph Drawing and Network Visualization (GD'17)*, volume 10692 of *LNCS*, pages 140–152. Springer, 2018.
- C.11. T. Biedl and D. Mondal. A note on plus-contacts, rectangular duals, and box-orthogonal drawings. In *Graph Drawing and Network Visualization (GD'17)*, volume 10692 of *LNCS*, pages 600–602. Springer, 2018. Poster with a short abstract.
- C.12. T. Biedl and D. Mondal. On upward drawings of trees on a given grid. In *Graph Drawing and Network Visualization (GD'17)*, volume 10692 of *LNCS*, pages 318–325. Springer, 2018.
- C.13. T. Biedl and S. Mehrabi. Grid-obstacle representations with connections to staircase guarding. In *Graph Drawing and Network Visualization (GD'17)*, volume 10692 of *LNCS*, pages 81–87. Springer, 2018.
- C.14. T. Biedl, M. Derka, V. Dujmović, and P. Morin. EPG-representations with small grid-size. In *Graph Drawing and Network Visualization (GD'17)*, volume 10692 of *LNCS*, pages 1–13. Springer, 2018.
- C.15. T. Biedl, M. Chimani, M. Derka, and P. Mutzel. Crossing numbers for graphs with bounded pathwidth. In *International Symposium on Algorithms and Complexity (ISAAC'17)*, volume 92 of *LIPICs*, pages 13:1–13:13. Schloss Dagstuhl, 2017.
- C.16. T. Biedl, A. Biniiaz, S. Mehrabi, and M. Smid. Packing boundary-anchored rectangles. In *Canadian Conference on Computational Geometry (CCCG'17)*, pages 138–143, 2017.
- C.17. T. Biedl and S. Mehrabi. On guarding orthogonal polygons with bounded treewidth. In *Canadian Conference on Computational Geometry (CCCG'17)*, pages 150–155, 2017.
- C.18. T. Biedl. Upward order-preserving 8-grid drawings of binary trees. In *Canadian Conference on Computational Geometry (CCCG'17)*, pages 232–237, 2017.
- C.19. T. Biedl and M. Derka. Splitting  $B_2$ -VPG graphs into outer-string and co-comparability graphs. In *Algorithms and Data Structures Symposium (WADS'17)*, volume 10389 of *LNCS*, pages 157–168. Springer, 2017.
- C.20. T. Biedl and P. Demontigny. A 2-approximation for the height of maximal outerplanar graphs. In *Algorithms and Data Structures Symposium (WADS'17)*, volume 10389 of *LNCS*, pages 145–156. Springer, 2017.
- C.21. T. Biedl, T. Chan, S. Lee, S. Mehrabi, F. Montecchiani, and H. Vosoughpour. On guarding orthogonal polygons with sliding cameras. In *Workshop on Algorithms and Complexity (WALCOM'17)*, volume 10167 of *LNCS*, pages 54–65. Springer, 2017.
- C.22. T. Biedl and M. Derka. Order-preserving 1-string-representations of graphs. In *Intl. Conference on Current Trends in Theory and Practice of Computer Science (SOFSEM'17)*, volume 10139 of *LNCS*, pages 283–294. Springer, 2017.
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- C.23. T. Biedl and C. Pennarun. Non-aligned drawings of planar graphs. In *Graph Drawing and Network Visualization (GD'16)*, volume 9801 of *Lecture Notes in Computer Science*, pages 131–143. Springer, 2016.
- C.24. T. Biedl and S. Mehrabi. On  $r$ -guarding thin orthogonal polygons. In *27th International Symposium on Algorithms and Computation (ISAAC 2016)*, volume 64 of *LIPICs*, pages 17:1–17:13. Schloss Dagstuhl, 2016.
- C.25. T. Biedl, S. Mehrabi, A. Lubiw, and S. Verdonschot. Rectangle-of-influence triangulations. In *Canadian Conference on Computational Geometry (CCCG'16)*, pages 63–68, 2016.
- C.26. T. Biedl, C. Grimm, L. Palios, J. Shewchuck, and S. Verdonschot. Realizing farthest-Voronoi diagrams. In *Canadian Conference on Computational Geometry (CCCG'16)*, pages 237–243, 2016.
- C.27. T. Biedl, S. Mehrabi, and Z. Yu. Sliding  $k$ -transmitters: Hardness and approximations. In *Canadian Conference on Computational Geometry (CCCG'16)*, pages 63–68, 2016.
- C.28. T. Biedl, F. Montecchiani, and G. Liotta. On visibility representations of non-planar graphs. In *Symposium on Computational Geometry (SoCG 2016)*, volume 51 of *LIPICs*, pages 19:1–19:16. Schloss Dagstuhl, 2016.
- C.29. T. Biedl. Triangulating planar graphs while keeping the pathwidth small. In *Workshop on Graph-Theoretic Algorithms (WG'15)*, volume 9224 of *LNCS*, pages 425–439. Springer, 2016.
- C.30. O. Aichholzer, T. Biedl, T. Hackl, M. Held, S. Huber, P. Palfrader, and B. Vogtenhuber. Representing directed trees as straight skeletons. In *Graph Drawing and Network Visualization (GD'15)*, volume 9411 of *Lecture Notes in Computer Science*, pages 335–347. Springer, 2015.
- C.31. T. Biedl and J.M. Schmidt. Small-area orthogonal drawings of 3-connected graphs. In *Graph Drawing and Network Visualization (GD'15)*, volume 9411 of *Lecture Notes in Computer Science*, pages 153–165. Springer, 2015.
- C.32. T. Biedl and M. Derka. 1-string  $B_1$ -VPG-representations of planar partial 3-trees and some subclasses. In *Canadian Conference on Computational Geometry (CCCG'15)*, pages 37–42, 2015.
- C.33. T. Biedl and M. Derka. 1-string  $B_2$ -VPG-representations of planar graphs. In *Symposium on Computational Geometry (SoCG'15)*, volume 34 of *LIPICs*, pages 141–155. Schloss Dagstuhl, 2015.
- C.34. T. Biedl, S. Huber, and P. Palfrader. Stable roommates for weighted straight skeletons. In *Algorithms and Computation (ISAAC'14)*, volume 8889 of *LNCS*, pages 117–127, 2014.
- C.35. T. Biedl. Height-preserving transformations of planar graph drawings. In *Graph Drawing (GD'14)*, volume 8871 of *LNCS*, pages 380–391. Springer, 2014.
- C.36. F. Barrera-Cruz, T. Biedl, M. Derka, S. Kiazzyk, A. Lubiw, and H. Vosoughpour. Turning orthogonally convex polyhedra into orthoballs. In *Canadian Conference in Computational Geometry (CCCG'14)*, pages 251–257, 2014.
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- C.37. T. Biedl. Trees and co-trees with bounded degrees in planar 3-connected graphs. In *Scandinavian Symposium and Workshops on Algorithms Theory (SWAT'14)*, volume 8503 of *LNCS*, pages 62–73. Springer, 2014.
- C.38. T. Biedl. On area-optimal planar grid-drawings. In *International Colloquium on Automata, Languages and Programming (ICALP '14)*, volume 8572 of *LNCS*, pages 198–210. Springer, 2014.
- C.39. T. Biedl, T. Bläsius, B. Niedermann, M. Nöllenburg, R. Prutkin, and I. Rutter. Using ILP/SAT to determine pathwidth, visibility representations, and other grid-based graph drawings. In *Graph Drawing (GD'13)*, volume 8242 of *LNCS*, pages 460–471. Springer, 2013.
- C.40. T. Biedl, M. Held, and S. Huber. Recognizing Straight Skeletons and Voronoi Diagrams and Reconstructing Their Input. In *10th International Symposium on Voronoi Diagrams in Science and Engineering (ISVD 2013)*, pages 37–46. IEEE, 2013.
- C.41. S. Alamdari, T. Biedl, T. Chan, E. Grant, K.R. Jampani, S. Keshav, A. Lubiw, and V. Pathak. Smart-grid electricity allocation via strip packing with slicing. In *Algorithms and Data Structures Symposium (WADS '13)*, volume 8037 of *LNCS*, pages 25–36. Springer, 2013.
- C.42. S. Alamdari and T. Biedl. Open rectangle-of-influence drawings of non-triangulated planar graphs. In *Graph Drawing (GD'12)*, volume 7704 of *LNCS*, pages 102–113. Springer, 2013.
- C.43. T. Biedl. A 4-approximation algorithm for the height of drawing 2-connected outerplanar graphs. In *Workshop on Approximation and Online Algorithms (WAOA'12)*, volume 7846 of *LNCS*, pages 272–285. Springer, 2013.
- C.44. T. Biedl, M. Held, S. Huber, D. Kaaser, and P. Palfrader. Weighted straight skeletons in the plane. In *Canadian Conference on Computational Geometry (CCCG'13)*, pages 13–18, 2013.
- C.45. Md. J. Alam, T. Biedl, S. Felsner, M. Kaufmann, S. G. Kobourov, and T. Ueckerdt. Computing cartograms with optimal complexity. In *ACM Symposium on Computational Geometry*, pages 21–30, 2012.
- C.46. T. Biedl and M. Vatshelle. The point-set embeddability problem for plane graphs. In *ACM Symposium on Computational Geometry*, pages 41–50, 2012.
- C.47. T. Anderson and T. Biedl. The Vulcan game of Kal-toh: Finding or making triconnected planar subgraphs. In *Fun with Algorithms (FUN'12)*, volume 7288 of *LNCS*, pages 4–15. Springer, 2012.
- C.48. T. Biedl and P. Floderus. Drawing planar graphs on points inside a polygon. In *Mathematical Foundations of Computer Science (MFCS'12)*, volume 7464 of *LNCS*, pages 172–183. Springer, 2012.
- C.49. S. Alamdari and T. Biedl. Planar open rectangle-of-influence drawings with non-aligned frames. In *Graph Drawing (GD'11)*, volume 7034 of *LNCS*, pages 14–25. Springer, 2012.
- C.50. Md. J. Alam, T. Biedl, S. Felsner, M. Kaufmann, and S.G. Kobourov. Proportional contact representations of planar graphs. In *Graph Drawing (GD'11)*, volume 7034 of *LNCS*, pages 26–38. Springer, 2012.
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- C.51. T. Biedl, Md. T. Irfan, J. Iwerks, J. Kim, and J. S. B. Mitchell. Guarding polyominoes. In *ACM Symposium on Computational Geometry (SoCG'11)*, pages 387–396. ACM, 2011.
- C.52. Md. J. Alam, T. Biedl, S. Felsner, A. Gerasch, M. Kaufmann, and S.G. Kobourov. Linear-time algorithms for hole-free rectilinear proportional contact graph representations. In *Algorithms and Computation (ISAAC '11)*, volume 7074 of *LNCS*, pages 281–291. Springer, 2011.
- C.53. T. Biedl, S. Durocher, C. Engelbeen, S. Fiorini, and M. Young. Faster optimal algorithms for segment minimization with small maximal value. In *Algorithms and Data Structures Symposium (WADS'11)*, volume 6844 of *LNCS*, pages 86–97. Springer, 2011.
- C.54. T. Biedl and L. E. Ruiz Velázquez. Orthogonal cartograms with few corners per face. In *Algorithms and Data Structures Symposium (WADS'11)*, volume 6844 of *LNCS*, pages 98–109. Springer, 2011.
- C.55. T. Biedl. Drawings some planar graphs with integer edge-lengths. In *Canadian Conference on Computational Geometry (CCCG'11)*, pages 291–296, 2011.
- C.56. T. Biedl. Small drawings of series-parallel graph. In *Graph Drawing (GD'09)*, volume 5849 of *LNCS*, pages 280–291. Springer, 2010.
- C.57. T. Biedl and L.E. Ruiz Velázquez. Drawing planar 3-trees with fixed areas. In *Graph Drawing (GD'09)*, volume 5849 of *LNCS*, pages 316–322. Springer, 2010.
- C.58. T. Biedl, S. Durocher, and J. Snoeyink. Reconstructing polygons from scanner data. In *International Symposium on Algorithms and Computation (ISAAC'09)*, volume 5878 of *LNCS*, pages 862–871. Springer, 2009.
- C.59. T. Biedl and B. Genç. Cauchy's theorem for orthogonal polyhedra of genus 0. In *European Symposium on Algorithms (ESA '09)*, volume 5757 of *LNCS*, pages 71–82. Springer, 2009.
- C.60. T. Biedl and M. Stern. Edge-intersection graphs of  $k$ -bend paths in grids. In *Computing and Combinatorics (COCOON '09)*, volume 5609 of *LNCS*, pages 86–95. Springer, 2009.
- C.61. T. Biedl, M. Hasan, and A. López-Ortiz. Reconstructing convex polygons and polyhedra from edge and face counts in orthogonal projections. In *Foundations of Software Technology and Theoretical Computer Science (FSTTCS 07)*, volume 4855 of *LNCS*, pages 400–411. Springer, 2007.
- C.62. T. Biedl, A. Lubiw, and M. Spriggs. Cauchy's theorem and edge lengths of convex polyhedra. In *Workshop on Algorithms and Data Structures (WADS'07)*, volume 4619 of *LNCS*, pages 398–409. Springer, 2007.
- C.63. T. Biedl and F. Brandenburg. Partitions of graphs into trees. In *Graph Drawing (GD'06)*, volume 4372 of *LNCS*, pages 430–439. Springer, 2007.
- C.64. S. Aziza and T. Biedl. Improved layouts of the multigrid network. In *Canadian Conference on Computational Geometry (CCCG'07)*, pages 221–224, 2007.
- C.65. T. Biedl. Realizations of hexagonal graph representations. In *Canadian Conference on Computational Geometry (CCCG'07)*, pages 89–92, 2007.
- C.66. T. Biedl, F.J. Brandenburg, and X. Deng. Crossings and permutations. In *Graph Drawing (GD'05)*, volume 3843 of *LNCS*, pages pp. 1–12. Springer, 2006.
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- C.67. T. Biedl, A. Lubiw, and M. J. Spriggs. Morphing planar graphs while preserving edge directions. In *Graph Drawing (GD'05)*, volume 3843 of *LNCS*, pages 13–24. Springer, 2005.
- C.68. S. Aziza and T. Biedl. Hexagonal grid drawings. In *Graph Drawing (GD'04)*, volume 3383 of *LNCS*, pages 18–23. Springer, 2005.
- C.69. T. Biedl, J. Horton, and A. López-Ortiz. Cross-stitching using little thread. In *Canadian Conference on Computational Geometry (CCCG'05)*, pages 199–202, 2005.
- C.70. T. Biedl, A. Lubiw, and M. Spriggs. Morphing polyhedra preserving face normals: A counterexample. In *Canadian Conference on Computational Geometry (CCCG'05)*, pages 109–112, 2005.
- C.71. T. Biedl and B. Genç. Complexity of octagonal and rectangular cartograms. In *Canadian Conference on Computational Geometry (CCCG'05)*, pages 117–120, 2005.
- C.72. T. Biedl. The complexity of domino tiling. In *Canadian Conference on Computational Geometry (CCCG'05)*, pages 187–190, 2005.
- C.73. T. Biedl and F. Brandenburg. Drawing planar bipartite graphs with small area. In *Canadian Conference on Computational Geometry (CCCG'05)*, pages 105–108, 2005.
- C.74. T. Biedl, M. Hasan, and A. López-Ortiz. Efficient view point selection for silhouettes of polyhedra. In *Mathematical Foundations of Computer Science (MFCS 2004)*, volume 3153 of *LNCS*, pages 735–747. Springer, 2004.
- C.75. T. Biedl, A. Lubiw, and M. Spriggs. Angles and lengths in reconfigurations of polygons and polyhedra. In *Mathematical Foundations of Computer Science (MFCS 2004)*, volume 3153 of *LNCS*, pages 748–759. Springer, 2004.
- C.76. T. Biedl and B. Genç. When can a graph form an orthogonal polyhedron? In *Canadian Conference on Computational Geometry (CCCG'04)*, pages 53–56, 2004.
- C.77. T. Biedl, E. Demaine, A. Golyński, J. Horton, A. López-Ortiz, G. Poirier, and C. Quimper. Optimal dynamic video-on-demand using adaptive broadcasting. In *European Symposium on Algorithms (ESA'03)*, volume 2832 of *LNCS*, pages 90–101. Springer, 2003.
- C.78. T. Biedl, B. Brejová, E. Demaine, A. Hamel, A. López-Ortiz, and T. Vinař. Finding hidden independent sets in interval graphs. In *9th International Computing and Combinatorics Conference (COCOON'03)*, volume 2697 of *LNCS*, pages 182–191. Springer, 2003.
- C.79. T. Biedl, A. Lubiw, and M. Spriggs. Parallel morphing of trees and cycles. In *Canadian Conference on Computational Geometry (CCCG'03)*, pages 29–32, 2003.
- C.80. T. Biedl and D. Wilkinson. Bounded-degree independent sets in planar graphs. In *Symposium on Algorithms and Computation (ISAAC '02)*, volume 2518 of *LNCS*, pages 416–427. Springer, 2002.
- C.81. T. Biedl. Drawing outer-planar graphs in  $O(n \log n)$  area. In *Graph Drawing (GD'01)*, volume 2528 of *LNCS*, pages 54–65. Springer, 2002.
- C.82. T. Biedl, J. Johansen, T. Shermer, and D. Wood. Orthogonal drawings with few layers. In *Graph Drawing (GD'01)*, volume 2265 of *LNCS*, pages 297–311. Springer, 2002.
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- C.85. T. Biedl, T. Chan, and A. López-Ortiz. Drawing  $K_{2,n}$ : a lower bound. In *Canadian Conference on Computational Geometry (CCCG'02)*, pages 146–148, 2002.
- C.86. T. Biedl, E. Demaine, C. Duncan, R. Fleischer, and S. Kobourov. Tight bounds on maximal and maximum matching. In *International Symposium on Algorithms and Computation (ISAAC'01)*, volume 2223 of *LNCS*, pages 308–319. Springer, 2001.
- C.87. T. Biedl, T. Chan, E. Demaine, R. Fleischer, M. Golin, and I. Munro. Fun-sort. In *Fun with Algorithms (FUN'01)*, volume 10 of *Proceedings in Informatics*, pages 15–26. Carleton Scientific Press, 2001.
- C.88. T. Biedl. Linear reductions of maximum matching. In *ACM-SIAM Symposium on Discrete Algorithms (SODA'01)*, pages 825–826. ACM, 2001.
- C.89. T. Biedl, T. Thiele, and D. Wood. Three-dimensional orthogonal graph drawing with optimal volume. In *Graph Drawing (GD'00)*, volume 1984 of *LNCS*, pages 284–295. Springer, 2001.
- C.90. T. Biedl, B. Brejová, and T. Vinař. Simplifying flow networks. In *Mathematical Foundations of Computer Science (MFCS 2000)*, volume 1893 of *LNCS*, pages 192–201. Springer, 2000.
- C.91. T. Biedl, E. Čenek, T. Chan, E. Demaine, M. Demaine, R. Fleischer, and M. Wang. Balanced  $k$ -colorings. In *Mathematical Foundations of Computer Science (MFCS 2000)*, volume 1893 of *LNCS*, pages 202–211. Springer, 2000.
- C.92. T. Biedl. 1-bend 3-D orthogonal drawings: two open problems solved. In *Canadian Conference on Computational Geometry (CCCG'00)*, pages 173–180, 2000.
- C.93. T. Biedl, E. Demaine, S. Lazard, S. Robbins, and M. Soss. Convexifying monotone polygons. In *International Symposium on Algorithms and Computations (ISAAC'99)*, volume 1741 of *LNCS*, pages 415–424. Springer, 1999.
- C.94. T. Biedl, A. Bretscher, and H. Meijer. Rectangle of influence drawings of graphs without filled 3-cycles. In *Graph Drawing (GD'99)*, volume 1731 of *LNCS*, pages 359–368. Springer, 1999.
- C.95. T. Biedl, P. Bose, E. Demaine, and A. Lubiw. Efficient algorithms for Petersen's matching theorem. In *ACM-SIAM Symposium on Discrete Algorithms (SODA'99)*, pages 130–139. ACM, 1999.
- C.96. T. Biedl, E. Demaine, M. Demaine, S. Lazard, A. Lubiw, J. O'Rourke, M. Overmars, S. Robbins, I. Streinu, G. Toussaint, and S. Whitesides. Locked and unlocked polygonal chains in 3D. In *ACM-SIAM Symposium on Discrete Algorithms (SODA'99)*, pages 866–867, New York, 1999. ACM.
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- C.97. T. Biedl, A. Lubiw, and J. Sun. When can a net fold to a polyhedron? In *Canadian Conference on Computational Geometry (CCCG'99)*, pages 1–5, 1999.
- C.98. T. Biedl. Three approaches to 3D-orthogonal box-drawings. In *Graph Drawing (GD'98)*, volume 1547 of *LNCS*, pages 30–43. Springer, 1998.
- C.99. T. Biedl, J. Marks, K. Ryall, and S. Whitesides. Graph multidrawing: Finding nice drawings without defining nice. In *Graph Drawing (GD'98)*, volume 1547 of *LNCS*, pages 347–355. Springer, 1998.
- C.100. T. Biedl, M. Kaufmann, and P. Mutzel. Drawing planar partitions II: HH-drawings. In *Workshop on Graph-Theoretic Concepts in Computer Science (WG'98)*, volume 1517 of *LNCS*, pages 124–136. Springer, 1998.
- C.101. T. Biedl. Drawing planar partitions I: LL-drawings and LH-drawings. In *ACM Symposium on Computational Geometry (SoCG'98)*, pages 287–296. ACM, 1998.
- C.102. P. Agarwal, T. Biedl, S. Lazard, S. Robbins, S. Suri, and S. Whitesides. Curvature constrained shortest paths inside a convex polygon. In *ACM Symposium on Computational Geometry (SoCG'98)*, pages 392–401. ACM, 1998.
- C.103. T. Biedl, T. Shermer, S. Whitesides, and S. Wismath. Orthogonal 3-D graph drawing. In *Graph Drawing (GD'97)*, volume 1353 of *LNCS*, pages 76–86. Springer, 1998.
- C.104. T. Biedl, B. Madden, and I. Tollis. The three-phase method: A unified approach to orthogonal graph drawing. In *Graph Drawing (GD'97)*, volume 1353 of *LNCS*, pages 391–402. Springer, 1998.
- C.105. T. Biedl, E. Demaine, M. Demaine, A. Lubiw, J. O'Rourke, M. Overmars, S. Robbins, and S. Whitesides. Unfolding some classes of orthogonal polyhedra. In *Canadian Conference on Computational Geometry (CCCG'98)*, pages 70–71, 1998.
- C.106. T. Biedl, E. Demaine, M. Demaine, A. Lubiw, and G. Toussaint. Hiding disks in folded polygons. In *Canadian Conference on Computational Geometry (CCCG'98)*, pages 36–37, 1998.
- C.107. T. Biedl, E. Demaine, M. Demaine, S. Lazard, A. Lubiw, J. O'Rourke, S. Robbins, I. Streinu, G. Toussaint, and S. Whitesides. On reconfiguring tree linkages: Trees can lock. In *Canadian Conference on Computational Geometry (CCCG'98)*, pages 4–5, 1998.
- C.108. T. Biedl and M. Kaufmann. Area-efficient static and incremental graph drawings. In *European Symposium on Algorithms (ESA'97)*, volume 1284 of *LNCS*, pages 37–52. Springer, 1997.
- C.109. T. Biedl. Optimal orthogonal drawings of triconnected plane graphs. In *Scandinavian Workshop on Algorithms Theory (SWAT'96)*, volume 1095 of *LNCS*, pages 333–344. Springer, 1996.
- C.110. T. Biedl. New lower bounds for orthogonal graph drawings. In *Graph Drawing (GD'95)*, volume 1027 of *LNCS*, pages 28–39. Springer, 1996.
- C.111. T. Biedl. Improved orthogonal drawings of 3-graphs. In *Canadian Conference on Computational Geometry (CCCG'96)*, volume 5 of *International Informatics Series*, pages 295–299. Carleton University Press, 1996.
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- C.112. T. Biedl. Optimal orthogonal drawings of connected plane graphs. In *Canadian Conference on Computational Geometry (CCCG'96)*, volume 5 of *International Informatics Series*, pages 306–311. Carleton University Press, 1996.
- C.113. T. Biedl and G. Kant. A better heuristic for orthogonal graph drawings. In *European Symposium on Algorithms (ESA'94)*, volume 855 of *LNCS*, pages 124–135. Springer, 1994.
- C.114. T. Biedl, G. Kant, and M. Kaufmann. On triangulating planar graphs under the four-connectivity constraint. In *Scandinavian Workshop on Algorithms Theory (SWAT'94)*, *LNCS*, pages 83–94. Springer, 1994.

### 2.2.4 Other major works

- O.1. T. Biedl and A. Kerren, editors. *Graph Drawing and Network Visualization (GD'18)*, *proceedings*, volume 11282 of *LNCS*. Springer, 2018.
- O.2. T. Biedl, editor. *Canadian Conference on Computational Geometry (CCCG'01)*, *proceedings*. 2001.
- O.3. T. Biedl. *Orthogonal Graph Visualization: The Three-Phase Method With Applications*. PhD thesis, RUTCOR, Rutgers University, May 1997.
- O.4. T. Biedl. *Orthogonal Graph Drawing: Algorithms and Lower Bounds*. Master's thesis, Technical University Berlin, January 1996.

## 3 Teaching activities

### 3.1 Courses taught in the past five years

Title	Level	Offering	Class size
Data Structures and Data Management, enriched (cs240e)	2nd year course	W19	35
Data Structures and Data Management (cs240)	2nd year course	W18	82
Graph-theoretic algorithms (cs762)	graduate course	S17	12
Data Structures and Data Management, enriched (cs240e)	2nd year course	W16	35
Data Structures and Data Management (cs240)	2nd year course	W15	110
Graph-theoretic algorithms (cs762)	graduate course	W14	20

### 3.2 Thesis supervision

#### 3.2.1 Ph.D. students

- P.1. **Martin Derka**, Fall 2013–Spring 2017.
- P.2. **Anton Raichuk**, Fall 2011–Spring 2012 (left the program), co-supervised with Jochen Könnemann.
- P.3. **Burkay Genç**, Fall 2003–Winter 2008.
- P.4. **Michael Spriggs**, Spring 2002–Fall 2006, co-supervised with Anna Lubiw.
- P.5. **Masud Hasan**, Spring 2002–Spring 2005, co-supervised with Alex López-Ortiz.

### 3.2.2 Master's students

- M.1. **Pavle Bulatovic**, Fall 2018–current.
- M.2. **Owen Merkel**, Fall 2018–current, co-supervised with Anna Lubiw.
- M.3. **John Wittnebel**, Winter 2017– Fall 2018.
- M.4. **Stephanie Lee**, Fall 2014–Spring 2016, co-supervised with Timothy Chan.
- M.5. **Philippe Demontigny**, Fall 2014–Spring 2016.
- M.6. **Neeraj Kumar**, Spring 2014–Spring 2015, co-supervised with Sebastian Fischmeister.
- M.7. **Soroush Alamdari Hosseini**, Fall 2010–Winter 2012.
- M.8. **Laura Inozemtseva**, Fall 2010–Winter 2011 (switched supervisor.)
- M.9. **Terry Anderson**, Winter 2008–Spring 2010.
- M.10. **Elena Lesvia Ruiz-Velázquez**, Winter 2008–Spring 2009.
- M.11. **Adam Bains**, Fall 2007–Winter 2009.
- M.12. **Philip Hendersen**, Winter 2004–Spring 2005.
- M.13. **Shabnam Aziza**, Fall 2002–Spring 2004.
- M.14. **Dana Wilkinson**, Fall 2000–Spring 2002.

### 3.3 Other student supervision

#### 3.3.1 Postdoctoral fellows and visitors

- F.1. **Veronika Irvine**, NSERC Postdoctoral fellow, Fall 2016–current, co-supervised with Craig Kaplan and Anna Lubiw.
  - F.2. **Ahmad Biniaz**, NSERC Postdoctoral fellow, Fall 2017–Spring 2018, co-supervised with Anna Lubiw.
  - F.3. **Philipp Kindermann**, Postdoctoral fellow, Spring 2018.
  - F.4. **Claire Pennarun**, visiting Ph.D. student, Spring 2016, Spring 2017.
  - F.5. **Debajyoti Mondal**, Postdoctoral fellow, Fall 2016–Fall 2017, co-supervised with Anna Lubiw.
  - F.6. **Saeed Mehrabi**, Postdoctoral fellow, Fall 2015–Spring 2017.
  - F.7. **Fabrizio Montecchiani**, visiting Postdoctoral fellow, Fall 2015.
  - F.8. **Martin Vatshelle**, visiting Ph.D. student, Fall 2011, co-supervised with Naomi Nishimura.
  - F.9. **Peter Floderus**, visiting Ph.D. student, Fall 2011.
  - F.10. **Elad Cohen**, visiting Ph.D. student, Spring 2009–Spring 2010.
  - F.11. **Stephane Durocher**, Postdoctoral fellow, Fall 2007–Spring 2008, co-supervised with Alex López-Ortiz and Timothy Chan.
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### 3.3.2 Undergraduate students

- U.1. **Jean Xue Wang**, Undergraduate Research Assistant, Spring 2018, co-supervised with V. Irvine.
- U.2. **Marco Lilek**, Undergraduate Research Assistant, Spring 2017, co-supervised with V. Irvine.
- U.3. **Milap Sheth**, Undergraduate Research Assistant, Fall 2016.
- U.4. **Yutong (Gia) Wu**, Undergraduate Research Assistant, Fall 2016. co-supervised with M. Derka.
- U.5. **Billy Jin**, Undergraduate Research Assistant, Fall 2016, co-supervised with S. Mehrabi.
- U.6. **Ziting (Darin) Yu**, Undergraduate Research Assistant, Winter 2016, co-supervised with S. Mehrabi.
- U.7. **Johannes Batzill**, Visiting undergraduate student, Spring 2015.
- U.8. **Adnan Khalid**, Undergraduate student, Fall 1998.

### 3.4 Thesis examinations

- External examiner for the HDR thesis (habilitation á diriger de recherche) of Daniel Gonçalvez, Montpellier, France. Fall 2018.
- External examiner (anonymous) for a Ph.D. thesis at a university in India. Spring 2014.
- External examiner (anonymous) for a Ph.D. thesis at a university in Central Europe. Fall 2012.
- PhD committee member for students not supervised by me (date of defense):  
Jan Gorzny (ongoing), Alan Arroyo (Winter 2018), Hamide Vosoughpour (Fall 2017), Gelin Zhou (Winter 2017), Jazmin Romero (Fall 2015), Amer Mouawad (Winter 2015), Krishnam Raju Jampani (Winter 2011), David Pritchard (Fall 2009), Jessica MacDonald (Spring 2009), Hamid Zarrabi-Zadeh (Fall 2008), Ehsan Chiniforooshan (Spring 2007), Tomáš Vinař (Fall 2005), Kerri Webb (Fall 2004), Alastair Farrugia (Winter 2003), Erik Demaine (Spring 2001), Eowyn Čenek (Spring 2001).
- Reader of Master's thesis for students not supervised by me (date of presentation):  
Kshitij Jain (Spring 2018), Krishna Vaidyanathan (Spring 2017), Vijay Subramanya (Fall 2016), Simon Pratt (Winter 2016), Alexander Daigle (Winter 2016), Youcef Tebbal (Spring 2015), Patrick Lee (Spring 2014), Elyot Grant (Spring 2011), Vinayak Pathak (Spring 2011), Gordon Taylor (Spring 2010), Daniil Golod (Spring 2009), Mina Razaghpour (Fall 2008), Sriram Dharba (Winter 2005), Ian Harrower (Winter 2005), Mustaq Ahmad (Fall 2004), Bashir Sayyed Sadjad (Fall 2004), Derek Phillips (Winter 2002), Mike Hu (Winter 2001), Yashar Ganjali (Winter 2001), Deep Jaitly (Winter 2000), Julie Sun (Spring 1999)

## 4 Service

### 4.1 University Committees

- member, School/Department Advisory Committee on Appointments: 2000-2003, 2008-2009, 2010-2011, 2013-2015, 2018-2019
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- member, Women in Computer Science committee: 2009, 2011, 2015-2018
- chair (12 months), Women in Computer Science committee: 2010
- member, Mathematics Faculty Representative Council, 2008-2009
- chair, Task Force on Gender Equality, 2007-2008
- member, Undergraduate Academic Plans Committee, 2006-2009
- member, Space Committee, 2002-2005
- member, Medals committee, 1999-2003

## 4.2 Professional Committees

- elected member, Steering Committee, Graph Drawing and Network Visualization, 2018-2020

# 5 Professional activities

## 5.1 Editorial positions

- Journal of Graph Algorithms and Applications. Guest Editor (together with Andreas Kerren) for a special issue devoted to papers at GD'18. 2018. 5 papers handled.
- Graph Drawing (GD'18). Program Chair and Proceedings Editor (together with Andreas Kerren). 2018. 102 submissions handled.
- Young Research Forum (YRF'17). Program Chair. 2017. 17 submissions handled.
- Discrete Mathematics and Computer Science, Field Editor. 2003–2013. 25 papers handled.
- Canadian Conference on Computational Geometry (CCCG'13). Proceedings Editor. 2013.
- Computational Geometry: Theory and Applications. Guest Editor for a special issue devoted to papers at CCCG'01. 2002. 7 papers handled.
- Canadian Conference on Computational Geometry (CCCG'01). Program Chair and Proceedings Editor. 2001.

## 5.2 Conference organization

- Member, organizing committee, Canadian Conference on Computational Geometry (CCCG'13).
  - Chair, organizing committee, Canadian Conference on Computational Geometry (CCCG'01).
  - Member, organizing committee, Canadian Conference on Computational Geometry (CCCG'98).
  - Member, organizing committee, Graph Drawing (GD'98).
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## 5.3 Refereeing and reviewing

### 5.3.1 Journals

ACM Transactions on Algorithms, Algorithmica, American Mathematical Society: Special Anniversary edition, Computational Geometry: Theory and Applications, Discrete Applied Mathematics, Discrete & Computational Geometry, Discrete Mathematics and Computer Science, Information Processing Letters, International Journal Computers & Mathematics, International Journal on Computational Geometry and Applications, Journal of Algorithms, Journal of Combinatorial Optimization, Journal of Computational Geometry, Journal of Computer Mathematics, Journal of Discrete Algorithms, Journal of Graph Algorithms and Applications, SIAM Journal on Discrete Mathematics, The Computer Journal, Transactions on Algorithms

### 5.3.2 Tenure case and Grant reviews

- Reviewer of a grant proposal from the Netherlands, 2016.
- Reviewer of NSERC discovery grant proposals, 2015 (2 proposals), 2012, 2011.
- Evaluation of tenure-case at a university in central USA, 2014.
- Reviewer of a grant application from Africa, 2002.

### 5.3.3 Conference program committees

- Algorithms and Data Structures Symposium (WADS), 2017.
  - Canadian Conference on Computational Geometry (CCCG), 2002, 2008, 2011, 2012, 2013, 2014, 2015, 2020
  - Computing and Combinatorics (COCOON), 2007, 2010
  - European Symposium on Algorithms (ESA), 2011.
  - Graph Drawing (GD), 2000, 2001, 2007, 2009, 2013, 2016, 2017
  - International Symposium on Algorithms And Computation (ISAAC), 2004, 2013
  - International Symposium on Fundamentals of Computation Theory (FCT), 2013.
  - Mathematical Foundations of Computer Science (MFCS), 2014.
  - Workshop on Graph-Theoretic Concepts in Computer Science (WG), 2012, 2018.
  - Workshop on Algorithms and Complexity (WALCOM), 2010.
  - Scandinavian Workshop on Algorithms Theory (SWAT), 2004, 2016
  - Symposium on Computational Geometry (SoCG), 2005, 2010, 2020
  - Video submissions at ACM Symposium on Computational Geometry (SoCG), 2000.
  - Young Researcher Forum at Computational Geometry Week (YRF), 2016.
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### 5.3.4 Conferences external reviewer

ACM-SIAM Conference on Discrete Mathematics (SODA), ACM Symposium on Computational Geometry (SoCG), ACM Symposium on Theory of Computing (STOC), Algorithms and Data Structures Symposium (WADS), Approximation Algorithms for Combinatorial Optimization Problems (APPROX), Conference on Integer Programming and Combinatorial Optimization (IPCO), European Symposium on Algorithms (ESA), Foundations of Software Technology and Theoretical Computer Science (FSTTCS), Graph drawing (GD), IEEE Pacific Visualization Symposium (PacificViz), International Colloquium on Algorithms, Programming and Languages (ICALP), International Computer Science Symposium Russia, International Symposium on Algorithms And Complexity (ISAAC), International Workshop on Combinatorial Algorithms (IWOCA), Italian Conference on Algorithms and Complexity (CIAC), Scandinavian Workshop on Algorithms Theory (SWAT), Symposium on Experimental Algorithms (SEA), Theory and Practice of Computer Science (SOFSEM), Workshop on Graph-theoretic Concepts in Computer Science (WG), Workshop on Algorithms and Experiments (ALENEX), Young Researchers Forum at the Computational Geometry Week (YRF).

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