

## Curriculum vitae Hans L. Bodlaender

dr. Hans L. Bodlaender was born on April 21, 1960 in Bennekom (the Netherlands). He started in 1978 with a study Mathematics at Utrecht University (Utrecht, the Netherlands). In April 1981 he received his *kandidaats examen cum laude*, and in August 1983 he received his *doctoraal examen* Mathematics. His thesis subject was on distributed computing and his supervisor was prof. dr. Jan van Leeuwen.

In August 1983 he started with research for a Ph.D. thesis, at the Department of Computer Science of Utrecht University. His thesis advisor was prof. dr. J. van Leeuwen. November 19, 1986, he graduated on a thesis, titled *Distributed Computing — Structure and Complexity*. From August 1983 till January 1987, he was research assistant at the Department of Computer Science, Utrecht University. During the period February 1987 till July 1987, he visited the Department of Computer Science of the Massachusetts Institute of Technology as a post-doctoral fellow, with a grant from the Netherlands Organization for Scientific Research. From August 1987 until June 2003, he worked as *universitair docent* or *docent-onderzoeker* at the Department of Computer Science (Institute of Information and Computing Sciences) of Utrecht University. From June 2003 till now, he is working as *universitair hoofddocent* or *senior docent-onderzoeker* at the Institute of Information and Computing Sciences (Department of Information and Computing Sciences) of Utrecht University.

Hans Bodlaender obtained the *Basiskwalificatie Onderwijs* and the *Seniorkwalificatie Onderzoek* of Utrecht University in 1997.

Hans Bodlaender has the Dutch nationality. He married in October 1986 with Brigitte J. Bodlaender-Peters. He has three children, born in 1988, 1990, and 1993.

## Research

### Program committee memberships

- Member of program committee STACS'93: Symposium on Theoretical Aspects of Computer Science.
- Member of program committee WG'96: 22th International Workshop on Graph-Theoretic Concepts in Computer Science.
- Member of program committee CIAC'97: 3rd Italian Conference on Algorithms and Complexity
- Member of program committee WG'97: 23th International Workshop on Graph-Theoretic Concepts in Computer Science.

- Member of program committee SIROCCO'97: International Colloquium on Structural Information and Communication Complexity.
- Member of program committee WG'98: 24th International Workshop on Graph-Theoretic Concepts in Computer Science.
- Member of program committee WG'99: 25th International Workshop on Graph-Theoretic Concepts in Computer Science.
- Member of program committee ESA'99: European Symposium on Algorithms.
- Member of program committee WG 2000: 26th International Workshop on Graph-Theoretic Concepts in Computer Science.
- Member of program committee WG 2001: 27th International Workshop on Graph-Theoretic Concepts in Computer Science.
- Member of program committee WG 2002: 28th International Workshop on Graph-Theoretic Concepts in Computer Science.
- Member of program committee ISAAC 2002: International Symposium on Algorithms and Computation.
- Member of program committee WADS 2003: Workshop on Algorithms and Data Structures.
- Chairman of program committee WG 2003: 29th International Workshop on Graph-Theoretic Concepts in Computer Science.
- Member of program committee WG 2004: 30th International Workshop on Graph-Theoretic Concepts in Computer Science.
- Member of program committee IWPEC 2004: 1st International Workshop on Parameterized and Exact Computation
- Member of program committee WG 2005: 31th International Workshop on Graph-Theoretic Concepts in Computer Science.
- Member of program committee ICALP 2005: 32nd International Colloquium on Automata, Languages and Programming
- Chairman of program committee IWPEC 2006: 2nd International Workshop on Parameterized and Exact Computation (cochair with Michael Langston)
- Member of program committee AAIM 2006: 2nd International Conference on Algorithmic Aspects in Information and Management

- Member of program committee SOFSEM 2007: 33rd International Conference on Current Trends in Theory and Practice of Computer Science
- Member of program committee WG 2007: 33rd International Workshop on Graph-Theoretic Concepts in Computer Science.

### **Invited lectures**

- Invited lecture at 7th International Meeting of Young Computer Scientists, Smolenice, November 1992.
- Invited lecture at the International Symposium on Mathematical Foundations of Computer Science (MFCS'97), August 1997.
- Invited lecture at 6th International Conference on Graph Theory, Marseilles, August 28 - September 2, 2000. 'The Algorithmic Theory of Treewidth'.
- Invited lecture at the 31st Annual Conference on Current Trends in Theory and Practice of Informatics, SOFSEM 2005, January 22 - 28, 2005.
- Invited lecture at the 32nd International Workshop on Graph-Theoretic Concepts in Computer Science, WG 2007. 'Treewidth: Characterizations, Applications, and Computations'.

### **Ph. D. students**

Co-promotor A. J. J. (Ton) Kloks, June 7, 1993. Title of thesis: Treewidth. (Promotor: prof. dr. J. van Leeuwen.)

Co-promotor Goos Kant, June 14, 1993. Title of thesis: Algorithms for drawing planar graphs. (Promotor: prof. dr. J. van Leeuwen.)

Co-promotor Babette L. E. de Fluiter, March 19, 1997. Title of thesis: Algorithms for graphs of small treewidth. (Promotor: prof. dr. J. van Leeuwen.)

Co-promotor T. Wolle, June 13, 2005. Title of thesis: Computational Aspects of Treewidth. Lower Bounds and Network Reliability. (Promotor: prof. dr. J. van Leeuwen.)

### **Current co-supervision of Ph.D. students**

- Johan Kwisthout (2005 - now). Topic: Algorithmic Complexity of Probabilistic Networks.

## Grants

1989-1993: Grant from Foundation for Computer Science (S.I.O.N) of the Netherlands Organization for Scientific Research (N.W.O.). Project ‘Algorithms for tree-structured graphs’. (Project with ir. Kloks.)

1993-1997: Grant from Foundation for Computer Science (S.I.O.N) of the Netherlands Organization for Scientific Research (N.W.O.). Project ‘Algorithms for tree-structured graphs and their practical aspects’. (Project with ir. de Fluiter.)

In March 1996 - February 1997, Koichi Yamazaki visited as a postdoc with a grant from the Japanese government.

In March 1996 - February 1998, Dimitrios Thilikos visited and visits as a postdoc with a grant from the EC Human Mobility Capital project.

2001/2002-2006: Grant from the Netherlands Organization for Scientific Research (N.W.O.) Project ‘Treewidth and Combinatorial Optimization’. Joint project with prof. Stan van Hoesel, Maastricht.

2005-2009: Grant from the Netherlands Organization for Scientific Research (N.W.O.). Project ‘Algorithmic Complexity of Probabilistic Networks’.

## Editorships

- Guest editor special issue *Algorithmica*, Volume 27, number 3/4, 2000.
- Editor Acta Cybernetica.
- Managing Editor (Section ‘Graphs and Algorithms’) of Discrete Mathematics and Theoretical Computer Science, till 2004. From 2004: Editor (Section ‘Graphs and Algorithms’) of Discrete Mathematics and Theoretical Computer Science.
- Editor proceedings WG’2003: *Graph-Theoretic Concepts in Computer Science, 29th International Workshop, WG 2003*, volume 2880 of *Lecture Notes in Computer Science*, Berlin, 2003. Springer.
- Co-editor proceedings IWPEC 2006: 2nd International Workshop on Parameterized and Exact Computation, volume 4169 of *Lecture Notes in Computer Science*, Berlin, 2006. Springer.

## Miscellaneous

- Reviewer for Zentralblatt für Mathematik. (Till 2006.)
- Reviewer for Mathematical Reviews. (Till 2006.)

## Thesis

- [1] H. L. Bodlaender. *Distributed Computing: Structure and Complexity*. PhD thesis, Utrecht University, Utrecht, the Netherlands, 1986.
- [2] H. L. Bodlaender. *Distributed Computing: Structure and Complexity*. CWI Tract 43. CWI, Amsterdam, the Netherlands, 1987.

## Journal publications

- [1] J. van Leeuwen, H. L. Bodlaender, and H. A. G. Wijshoff. Compositions of double diagonal and cross latin squares. *Nieuw Archief voor Wiskunde*, 4:256–266, 1984.
- [2] H. L. Bodlaender and J. van Leeuwen. Simulations of large networks on smaller networks. *Information & Control*, 71:143–180, 1986.
- [3] A. A. Schoone, H. L. Bodlaender, and J. van Leeuwen. Diameter increase caused by edge deletion. *Journal of Graph Theory*, 11(3):409–427, 1987.
- [4] H. L. Bodlaender. The complexity of finding uniform emulations on fixed graphs. *Information Processing Letters*, 29:137–141, 1988.
- [5] H. L. Bodlaender. A better lower bound for distributed leader finding in bidirectional, asynchronous rings of processors. *Information Processing Letters*, 27(6):287–290, 1988.
- [6] H. L. Bodlaender. The classification of coverings of processor networks. *Journal of Parallel and Distributed Computing*, 6:166–182, 1989.
- [7] H. L. Bodlaender. Achromatic Number is NP-complete for cographs and interval graphs. *Information Processing Letters*, 31:135–138, 1989.
- [8] H. L. Bodlaender. The complexity of finding uniform emulations on paths and ring networks. *Information and Computation*, 86(1):87 – 106, 1990.
- [9] H. L. Bodlaender. Polynomial algorithms for chromatic index and graph isomorphism on partial  $k$ -trees. *Journal of Algorithms*, 11(4):631 – 643, December 1990.
- [10] H. L. Bodlaender, P. Gritzmann, V. Klee, and J. van Leeuwen. Computational complexity of norm-maximization. *Combinatorica*, 10:203–225, 1990.
- [11] H. L. Bodlaender and G. Tel. Bit-optimal election in synchronous rings. *Information Processing Letters*, 36(1):53–56, 1990.

- [12] H. L. Bodlaender. Some lower bound results for decentralized extrema-finding in rings of processors. *Journal of Computer and System Sciences*, 42(1):97–118, 1991.
- [13] H. L. Bodlaender. New lower bound techniques for distributed leader finding and other problems on rings of processors. *Theoretical Computer Science*, 81:237–256, 1991.
- [14] H. L. Bodlaender. On the complexity of some coloring games. *International Journal of Foundations of Computer Science*, 2(2):133–148, 1991.
- [15] H. L. Bodlaender and D. Kratsch. The complexity of coloring games on perfect graphs. *Theoretical Computer Science*, 106:306–326, 1992.
- [16] H. L. Bodlaender. On linear time minor tests with depth first search. *Journal of Algorithms*, 14(1):1–23, 1993.
- [17] H. L. Bodlaender. Complexity of path-forming games. *Theoretical Computer Science*, 110(1):215–245, 1993.
- [18] H. L. Bodlaender and R. H. Möhring. The pathwidth and treewidth of cographs. *SIAM Journal on Discrete Mathematics*, 6(2):181–188, 1993.
- [19] H. L. Bodlaender and T. Kloks. A simple linear time algorithm for triangulating three-colored graphs. *Journal of Algorithms*, 15(1):160–172, 1993.
- [20] H. L. Bodlaender. A tourist guide through treewidth. *Acta Cybernetica*, 11:1–21, 1993.
- [21] H. L. Bodlaender. Improved self-reduction algorithms for graphs with bounded treewidth. *Discrete Applied Mathematics*, 54:101–115, 1994.
- [22] H. L. Bodlaender, S. Moran, and M. K. Warmuth. The distributed bit complexity of the ring: From the anonymous to the non-anonymous case. *Information and Computation*, 108(1):34–50, 1994.
- [23] H. L. Bodlaender, G. Tel, and N. Santoro. Trade-offs in non-reversing diameter. *Nordic Journal of Computing*, 1:111–134, 1994.
- [24] H. L. Bodlaender. On disjoint cycles. *International Journal of Foundations of Computer Science*, 5(1):59–68, 1994.
- [25] H. L. Bodlaender, K. Jansen, and G. J. Woeginger. Scheduling with incompatible jobs. *Discrete Applied Mathematics*, 55(3):219 – 232, 1994.

- [26] H. L. Bodlaender, J. R. Gilbert, H. Hafsteinsson, and T. Kloks. Approximating treewidth, pathwidth, frontsize, and minimum elimination tree height. *Journal of Algorithms*, 18:238–255, 1995.
- [27] H. L. Bodlaender, T. Gonzalez, and T. Kloks. Complexity aspects of two-dimensional data compression. *Nordic Journal of Computing*, 2:462–495, 1995.
- [28] H. L. Bodlaender and K. Jansen. Restrictions of graph partition problems. Part I. *Theoretical Computer Science*, 148:93–109, 1995.
- [29] H. L. Bodlaender, R. G. Downey, M. R. Fellows, and H. T. Wareham. The parameterized complexity of sequence alignment and consensus. *Theoretical Computer Science*, 147:31–54, 1995.
- [30] H. L. Bodlaender and M. R. Fellows. W[2]-hardness of precedence constrained  $K$ -processor scheduling. *Operations Research Letters*, 18(2):93–98, 1995.
- [31] H. L. Bodlaender, R. G. Downey, M. R. Fellows, M. T. Hallett, and H. T. Wareham. Parameterized complexity analysis in computational biology. *Computer Applications in the Biosciences*, 11(1):49–57, 1995.
- [32] H. L. Bodlaender, T. Kloks, and D. Kratsch. Treewidth and pathwidth of permutation graphs. *SIAM Journal on Discrete Mathematics*, 8(4):606–616, 1995.
- [33] H. L. Bodlaender. A linear time algorithm for finding tree-decompositions of small treewidth. *SIAM Journal on Computing*, 25:1305–1317, 1996.
- [34] H. L. Bodlaender and T. Kloks. Efficient and constructive algorithms for the pathwidth and treewidth of graphs. *Journal of Algorithms*, 21:358–402, 1996.
- [35] H. L. Bodlaender and B. L. E. de Fluiter. On intervalizing  $k$ -colored graphs for DNA physical mapping. *Discrete Applied Mathematics*, 71:55–77, 1996.
- [36] G. Kant and H. L. Bodlaender. Triangulating planar graphs while minimizing the maximum degree. *Information and Computation*, 135:1–14, 1997.
- [37] H. L. Bodlaender and J. Engelfriet. Domino treewidth. *Journal of Algorithms*, 24:94–123, 1997.
- [38] H. L. Bodlaender and D. M. Thilikos. Treewidth for graphs with small chordality. *Discrete Applied Mathematics*, 79:45–61, 1997.

- [39] H. L. Bodlaender, J. van Leeuwen, R. Tan, and D. Thilikos. On interval routing schemes and treewidth. *Information and Computation*, 139(1):92–109, 1997.
- [40] H. L. Bodlaender, D. T. Thilikos, and K. Yamazaki. It is hard to know when greedy is good for finding independent sets. *Information Processing Letters*, 61:101–106, 1997.
- [41] D. Thilikos and H. L. Bodlaender. Fast partitioning  $l$ -apex graphs with applications to approximating maximum induced-subgraph problems. *Information Processing Letters*, 61:227–232, 1997.
- [42] H. L. Bodlaender, J. S. Deogun, K. Jansen, T. Kloks, D. Kratsch, H. Müller, and Zs. Tuza. Rankings of graphs. *SIAM Journal on Discrete Mathematics*, 11:168–181, 1998.
- [43] H. L. Bodlaender and T. Hagerup. Parallel algorithms with optimal speedup for bounded treewidth. *SIAM Journal on Computing*, 27:1725–1746, 1998.
- [44] H. L. Bodlaender, T. Kloks, D. Kratsch, and H. Mueller. Treewidth and minimum fill-in on  $d$ -trapezoid graphs. *Journal of Graph Algorithms and Applications*, 2(5):1–23, 1998.
- [45] H. L. Bodlaender. A partial  $k$ -arboretum of graphs with bounded treewidth. *Theoretical Computer Science*, 209:1–45, 1998.
- [46] K. Yamazaki, H. L. Bodlaender, B. de Fluiter, and D. M. Thilikos. Isomorphism for graphs of bounded distance width. *Algorithmica*, 24:105–127, 1999.
- [47] H. L. Bodlaender and D. M. Thilikos. Graphs with branchwidth at most three. *Journal of Algorithms*, 32:167–194, 1999.
- [48] H. L. Bodlaender. A note on domino treewidth. *Discrete Mathematics and Theoretical Computer Science*, 3(4):109–118, 1999.
- [49] H. L. Bodlaender and K. Jansen. On the complexity of the maximum cut problem. *Nordic Journal of Computing*, 7:14–31, 2000.
- [50] H. Zantema and H. L. Bodlaender. Finding small equivalent decision trees is hard. *International Journal of Foundations of Computer Science*, 11(2):343–354, 2000.
- [51] H. L. Bodlaender. Introduction. *Algorithmica*, 27(3/4):209–211, 2000. Introduction to special issue on Treewidth, guest editor.

- [52] H. L. Bodlaender. The algorithmic theory of treewidth. In I. Rusu, editor, *Electronic Notes in Discrete Mathematics*, volume 5. Elsevier Science Publishers, 2000.
- [53] H. L. Bodlaender, M. R. Fellows, M. T. Hallett, H. T. Wareham, and Tandy J. Warnow. The hardness of perfect phylogeny, feasible register assignment and other problems on thin colored graphs. *Theoretical Computer Science*, 244:167–188, 2000.
- [54] H. L. Bodlaender. A generic NP-hardness proof for a variant of graph coloring. *Journal of Universal Computer Science*, 7(12):1114–1124, 2001.
- [55] H. L. Bodlaender and B. van Antwerpen-de Fluiter. Parallel algorithms for series parallel graphs and graphs with treewidth two. *Algorithmica*, 29:543–559, 2001.
- [56] H. L. Bodlaender and B. van Antwerpen-de Fluiter. Reduction algorithms for graphs of small treewidth. *Information and Computation*, 167:86–119, 2001.
- [57] H. L. Bodlaender and D. Kratsch. Kayles and numbers. *Journal of Algorithms*, 43:106–119, 2002.
- [58] J. Alber, H. L. Bodlaender, H. Fernau, T. Kloks, and R. Niedermeier. Fixed parameter algorithms for DOMINATING SET and related problems on planar graphs. *Algorithmica*, 33:461–493, 2002.
- [59] H. L. Bodlaender, M. J. Dinneen, and B. Khoussainov. Relaxed update and partition network games. *Fundamenta Informaticae*, 49:1–12, 2002.
- [60] H. L. Bodlaender and F. V. Fomin. Approximation of pathwidth of outerplanar graphs. *Journal of Algorithms*, 43:190–200, 2002.
- [61] H. Zantema and H. L. Bodlaender. Sizes of ordered decision trees. *International Journal of Foundations of Computer Science*, 13:445–458, 2002.
- [62] H. L. Bodlaender and U. Rotics. Computing the treewidth and the minimum fill-in with the modular decomposition. *Algorithmica*, 36:375–408, 2003.
- [63] Hans L. Bodlaender. Necessary edges in  $k$ -chordalizations of graphs. *Journal of Combinatorial Optimization*, 7:283–290, 2003.
- [64] Hans L. Bodlaender, Richard B. Tan, and Jan van Leeuwen. Finding a  $\delta$ -regular supergraph of minimum order. *Discrete Applied Mathematics*, 131(1):3–9, 2003.

- [65] Hans L. Bodlaender, Ton Kloks, Richard B. Tan, and Jan van Leeuwen. Approximations for  $\lambda$ -coloring of graphs. *The Computer Journal*, 47(2):193–204, 2004.
- [66] Hans L. Bodlaender, Hajo J. Broersma, Fedor V. Fomin, Artem V. Pyatkin, and Gerhard J. Woeginger. Radio labeling with preassigned frequencies. *SIAM Journal on Optimization*, 15(1):1–16, 2004.
- [67] Hans L. Bodlaender and Gerard Tel. A note on rectilinearity and angular resolution. *Journal of Graph Algorithms and Applications*, 8(1):89–94, 2004.
- [68] Hans L. Bodlaender and Jan Arne Telle. Space-efficient construction variants of dynamic programming. *Nordic Journal of Computing*, 11(4):374–385, 2004.
- [69] Hans L. Bodlaender and Fedor V. Fomin. Tree decompositions with small cost. *Discrete Applied Mathematics*, 145(2):143–154, 2005.
- [70] Dimitrios M. Thilikos, Maria J. Serna, and Hans L. Bodlaender. Cutwidth I: A linear time fixed parameter algorithm. *Journal of Algorithms*, 56(1):1–24, 2005.
- [71] Dimitrios M. Thilikos, Maria J. Serna, and Hans L. Bodlaender. Cutwidth II: Algorithms for partial  $w$ -trees of bounded degree. *Journal of Algorithms*, 56(1):25–49, 2005.
- [72] Hans L. Bodlaender, Arie M. C. A. Koster, and Frank van den Eijkhof. Preprocessing rules for triangulation of probabilistic networks. *Computational Intelligence*, 21(3):286–305, 2005.
- [73] Hans L. Bodlaender, Andreas Brandstädt, Dieter Kratsch, Michaël Rao, and Jeremy Spinrad. On algorithms for  $(P_5, \text{gem})$ -free graphs. *Theoretical Computer Science*, 349:2–21, 2005.
- [74] Hans L. Bodlaender and Fedor V. Fomin. Equitable colorings of bounded treewidth graphs. *Theoretical Computer Science*, 349:22–30, 2005.
- [75] Hans L. Bodlaender and Arie M. C. A. Koster. Safe separators for treewidth. *Disc. Math.*, 306:337–350, 2006.
- [76] Hans L. Bodlaender, Arie M. C. A. Koster, and Thomas Wolle. Contraction and treewidth lower bounds. *J. Graph Algorithms and Applications*, 10(1):5–49, 2006.

## Conference proceedings publications

- [1] H. L. Bodlaender and J. van Leeuwen. Simulations of large networks on smaller networks. In *Proceedings NGI-SION Symposium 1984*, pages 227–241, Amsterdam, 1984.
- [2] H. L. Bodlaender and J. van Leeuwen. Uniform emulation of the shuffle-exchange network. In U. Pape, editor, *Proc. 10th Conf. Graph Theoretic Concepts in Comp. Science*, pages 19–28. Trauner Verlag, 1984.
- [3] H. L. Bodlaender and J. van Leeuwen. Simulations of large networks on smaller networks. In *Proc. STACS 85: 2nd Annual Symposium on Theoretical Comp. Science, Lecture Notes in Computer Science 182*, pages 47–58, Heidelberg, 1985. Springer Verlag.
- [4] H. L. Bodlaender and J. van Leeuwen. New upperbounds for decentralized extrema-finding in a ring of processors. In *Proc. STACS 86: 3rd Annual Conference on Theoretical Comp. Science, Orsay, Lect. Notes in Comp. Science 210*, pages 119–129, Berlin, 1986. Springer Verlag.
- [5] H. L. Bodlaender and J. van Leeuwen. New upperbounds for decentralized extrema-finding in a ring of processors. In E. Gafni and N. Santoro, editors, *Proc. 1st Workshop on Distributed Algorithms on Graphs*, pages 27–40, Ottawa, 1986. Carlton University Press.
- [6] H. L. Bodlaender. Deadlock-free packet switching networks with variable packet size. In *Proceedings NGI-SION Symposium 1986*, pages 475–484, Amsterdam, 1986. Stichting Informatica Congressen.
- [7] A. A. Schoone, H. L. Bodlaender, and J. van Leeuwen. Improved diameter bounds for altered graphs. In G. Tinhofer and G. Schmidt, editors, *Proceedings Graph-Theoretic Concepts in Computer Science 86, Lect. Notes in Comp. Science, vol. 246*, pages 227–236, Berlin, 1987. Springer Verlag.
- [8] H. L. Bodlaender. New lower bounds for distributed leader finding in asynchronous rings of processors. In *Proc. 17e GI-Jahrestagung Computerintegrierter Arbeitsplatz im Büro*, pages 82–88, Berlin, 1987. Springer Verlag.
- [9] H. L. Bodlaender. Dynamic programming on graphs with bounded treewidth. In *Proceedings 15th International Colloquium on Automata, Languages and Programming*, pages 105–118, Berlin, 1988. Springer Verlag, Lecture Notes in Computer Science 317.

- [10] H. L. Bodlaender. Polynomial algorithms for chromatic index and graph isomorphism on partial  $k$ -trees. In R. Karlsson and A. Lingas, editors, *Proceedings 1st Scandinavian Workshop on Algorithm Theory*, pages 223–232, Berlin, 1988. Springer Verlag, Lecture Notes in Computer Science 318.
- [11] H. L. Bodlaender. New lower bound techniques for distributed leader finding and other problems on rings of processors. In *Proceedings Computing Science in the Netherlands*, pages 241–258, 1988.
- [12] H. L. Bodlaender. NC-algorithms for graphs with small treewidth. In *Proc. 14th Workshop Graph-Theoretic Concepts in Computer Science WG'88*, pages 1–10. Springer Verlag, Lecture Notes in Computer Science 344, 1989.
- [13] P. W. Beame and H. L. Bodlaender. Distributed computing on transitive grids: The torus. In B. Monien and R. Cori, editors, *Proc. Symp. Theor. Aspects of Comp. Sc. STACS '89*, pages 294–303. Springer Verlag, 1989.
- [14] H. L. Bodlaender, S. Moran, and M. K. Warmuth. The distributed bit complexity of the ring: From the anonymous to the non-anonymous case. In *Proc. FCT'89*, pages 58–67. Springer Verlag, Lecture Notes in Computer Science vol. 380, 1989.
- [15] H. L. Bodlaender. Classes of graphs with bounded treewidth or pathwidth. In U. Faigle and C. Hoede, editors, *Proc. Twente workshop on Graphs and Combinatorial Optimization*, pages 21–28, 1989.
- [16] H. L. Bodlaender. On linear time minor tests and depth first search. In *Proc. Workshop on Algorithms and Data Structures*, pages 577–590. Springer Verlag, Lecture Notes in Computer Science vol. 382, 1989.
- [17] H. L. Bodlaender. On linear time minor tests and depth first search. In *Proc. Computer Science in the Netherlands*, pages 15–32, 1989.
- [18] H. L. Bodlaender. Improved self-reduction algorithms for graphs with bounded treewidth. In *Proceedings 15th International Workshop on Graph Theoretic Concepts in Computer Science WG'89*, pages 232–244. Springer Verlag, Lecture Notes in Computer Science, vol. 411, 1990.
- [19] H. L. Bodlaender and R. H. Möhring. The pathwidth and treewidth of cographs. In *Proc. 2nd Scandinavian Workshop on Algorithm Theory, Lecture Notes in Computer Science, vol 447*, pages 301–310, Heidelberg, 1990. Springer Verlag.

- [20] H. L. Bodlaender. On the complexity of some coloring games. In R. H. Möhring, editor, *Proc. 16th Workshop Graph-Theoretic Concepts in Computer Science WG'90*, pages 30–40. Springer Verlag, Lecture Notes in Computer Science, volume 484, 1991.
- [21] H. L. Bodlaender and T. Kloks. A simple linear time algorithm for triangulating three-colored graphs. In J. van Leeuwen, editor, *Proceedings Computing Science in the Netherlands*, pages 88–98, 1991.
- [22] H. L. Bodlaender and T. Kloks. Better algorithms for the pathwidth and treewidth of graphs. In *Proceedings 18'th International Colloquium on Automata, Languages and Programming*, pages 544–555, Berlin, 1991. Springer Verlag, Lecture Notes in Computer Science 510.
- [23] G. Kant and H. L. Bodlaender. Planar graph augmentation problems. In F. Dehne, J.-R. Sack, and N. Santoro, editors, *Proceedings 2nd Workshop on Algorithms and Datastructures*, pages 286 – 298. Springer Verlag Lecture Notes in Computer Science, volume 519, 1991.
- [24] H. L. Bodlaender, T. Gonzalez, and T. Kloks. Complexity aspects of map compression. In J. A. Storer and J. H. Reif, editors, *Proceedings of the Data Compression Conference*, pages 287–296. IEEE Computer Society Press, April 1991.
- [25] H. L. Bodlaender. On disjoint cycles. In G. Schmidt and R. Berghammer, editors, *Proceedings of the 17th International Workshop on Graph-Theoretic Concepts in Computer Science, WG'91*, pages 230–238. Springer Verlag, Lecture Notes in Computer Science, volume 577, 1992.
- [26] H. L. Bodlaender, J. R. Gilbert, H. Hafsteinsson, and T. Kloks. Approximating treewidth, pathwidth, frontsize, and minimum elimination tree height. In G. Schmidt and R. Berghammer, editors, *Proceedings of the 17th International Workshop on Graph-Theoretic Concepts in Computer Science, WG'91*, pages 1–12. Springer Verlag, Lecture Notes in Computer Science, volume 577, 1992.
- [27] H. L. Bodlaender and T. Kloks. A simple linear time algorithm for triangulating three-colored graphs. In A. Finkel and M. J.tzen, editors, *Proceedings 9th Annual Symposium on Theoretical Aspects of Computer Science*, pages 415–423. Springer Verlag, Lecture Notes in Computer Science, volume 577, 1992.
- [28] H. L. Bodlaender and G. Kant. Triangulating planar graphs while minimizing the maximum degree. In O. Nurmi and E. Ukkonen, editors, *Proceedings 3rd Scandinavian Workshop on Algorithm Theory*, pages

- 258–271, Berlin, 1992. Springer Verlag, Lecture Notes in Computer Science 621.
- [29] H. L. Bodlaender, M. R. Fellows, and T. J. Warnow. Two strikes against perfect phylogeny. In *Proceedings 19th International Colloquium on Automata, Languages and Programming*, pages 273–283, Berlin, 1992. Springer Verlag, Lecture Notes in Computer Science 623.
- [30] T. Kloks and H. Bodlaender. Testing superperfection of  $k$ -trees. In O. Nurmi and E. Ukkonen, editors, *Proceedings 3rd Scandinavian Workshop on Algorithm Theory*, pages 292–303, Berlin, 1992. Springer Verlag, Lecture Notes in Computer Science 621.
- [31] T. Kloks and H. Bodlaender. Approximating treewidth and pathwidth of some classes of perfect graphs. In *Proceedings Third International Symposium on Algorithms and Computation, ISAAC'92, Lect. Notes in Comp. Science 650*, pages 116–125, Berlin, 1992. Springer Verlag.
- [32] H. L. Bodlaender. Kayles on special classes of graphs — An application of Sprague-Grundy theory. In E. W. Mayr, editor, *Proceedings of the 18th International Workshop on Graph-Theoretic Concepts in Computer Science, WG'92*, pages 90–102. Springer Verlag, Lecture Notes in Computer Science, volume 657, 1993.
- [33] H. L. Bodlaender. A linear time algorithm for finding tree-decompositions of small treewidth. In *Proceedings of the 25th Annual ACM Symposium on the Theory of Computing*, pages 226–234. ACM Press, 1993.
- [34] H. L. Bodlaender, T. Kloks, and D. Kratsch. Treewidth and pathwidth of permutation graphs. In *Proceedings 20th International Colloquium on Automata, Languages and Programming*, pages 114–125, Berlin, 1993. Springer Verlag, Lecture Notes in Computer Science, volume 700.
- [35] H. L. Bodlaender, K. Jansen, and G. J. Woeginger. Scheduling with incompatible jobs. In E. W. Mayr, editor, *Proceedings of the 18th International Workshop on Graph-Theoretic Concepts in Computer Science, WG'92*, pages 37–49. Springer Verlag, Lecture Notes in Computer Science, volume 657, 1993.
- [36] J. Gustedt and H. L. Bodlaender. The path-width of  $k$ -trees. In N. Robertson and P. Seymour, editors, *Graph Structure Theory, Proceedings of the AMS-IMS-SIAM Joint Summer Research Conference, Seattle WA, June 1991*, pages 678–679, Providence, RI, 1993. American Math. Soc. Contemp. Math. 147. In section “Open Problems”, editor N. Dean.

- [37] T. Kloks, H. Bodlaender, H. Müller, and D. Kratsch. Computing treewidth and minimum fill-in: All you need are the minimal separators. In T. Lengauer, editor, *Proceedings 1st Annual European Symposium on Algorithms ESA'93, Lecture Notes on Computer Science, vol. 726*, pages 260–271, Berlin, 1993. Springer Verlag. (Erratum published in proceedings ESA'94.)
- [38] H. L. Bodlaender and K. Jansen. On the complexity of scheduling incompatible jobs with unit-times. In A. M. Borzyszkowski and S. Sokolowski, editors, *Proceedings 18th International Symposium on Mathematical Foundations of Computer Science, Lecture Notes on Computer Science*, pages 291–300, Berlin, 1993. Springer Verlag.
- [39] H. L. Bodlaender and K. Jansen. On the complexity of the maximum cut problem. In P. Enjalbert, E. W. Mayr, and K. W. Wagner, editors, *Proc. STACS 94: 11st Annual Symposium on Theoretical Comp. Science, Lecture Notes in Computer Science 775*, pages 769–780. Springer Verlag, 1994.
- [40] H. L. Bodlaender. A tourist guide through treewidth. In Jürgen Dawsow and Alica Kelemenova, editors, *Developments in Theoretical Computer Science: Proceedings of the 7th International Meeting of Young Computer Scientists, Smolenice, 16 – 20 November 1992*, pages 1–20. Gordon and Breach Science Publishers, 1994.
- [41] H. L. Bodlaender. On reduction algorithms for graphs with small treewidth. In J. van Leeuwen, editor, *Proceedings 19th International Workshop on Graph-Theoretic Concepts in Computer Science, WG'93, Lecture Notes in Computer Science, vol. 790*, pages 45–56, Berlin, 1994. Springer Verlag.
- [42] H. L. Bodlaender. Dynamic algorithms for graphs with treewidth 2. In J. van Leeuwen, editor, *Proceedings 19th International Workshop on Graph-Theoretic Concepts in Computer Science, WG'93, Lecture Notes in Computer Science, vol. 790*, pages 112–124, Berlin, 1994. Springer Verlag.
- [43] H. L. Bodlaender, M. R. Fellows, and M. T. Hallett. Beyond NP-completeness for problems of bounded width: hardness for the  $W$  hierarchy. In *Proceedings of the 26th Annual ACM Symposium on the Theory of Computing*, pages 449–458. ACM Press, 1994.
- [44] H. L. Bodlaender, M. R. Fellows, and M. T. Hallett. Beyond NP-completeness for problems of bounded width: hardness for the  $W$  hierarchy. In E. Backer, editor, *Proceedings CSN'94, Computing Science in the Netherlands*, pages 1–10, 1994.

- [45] H. L. Bodlaender, J. S. Deogun, K. Jansen, T. Kloks, D. Kratsch, H. Müller, and Zs. Tuza. Rankings of graphs. In E. W. Mayr, G. Schmidt, and G. Tinhofer, editors, *Proceedings 20th International Workshop on Graph Theoretic Concepts in Computer Science WG'94*, pages 292–304. Springer Verlag, Lecture Notes in Computer Science, vol. 903, 1995.
- [46] H. L. Bodlaender and J. Engelfriet. Domino treewidth. In E. W. Mayr, G. Schmidt, and G. Tinhofer, editors, *Proceedings 20th International Workshop on Graph Theoretic Concepts in Computer Science WG'94*, pages 1–13. Springer Verlag, Lecture Notes in Computer Science, vol. 903, 1995.
- [47] H. L. Bodlaender and B. L. E. de Fluiter. Intervalizing  $k$ -colored graphs. In Z. Fülöp and F. Gécseg, editors, *Proceedings 22nd International Colloquium on Automata, Languages and Programming*, pages 87–98, Berlin, 1995. Springer-Verlag, Lecture Notes in Computer Science 944.
- [48] H. L. Bodlaender and T. Hagerup. Parallel algorithms with optimal speedup for bounded treewidth. In Z. Fülöp and F. Gécseg, editors, *Proceedings 22nd International Colloquium on Automata, Languages and Programming*, pages 268–279. Springer-Verlag, Lecture Notes in Computer Science 944, 1995.
- [49] H. L. Bodlaender, R. B. Tan, D. M. Thilikos, and J. van Leeuwen. On interval routing schemes and treewidth. In M. Nagl, editor, *Proceedings 21th International Workshop on Graph Theoretic Concepts in Computer Science WG'95*, pages 181–186. Springer Verlag, Lecture Notes in Computer Science, vol. 1017, 1995.
- [50] H. L. Bodlaender and B. de Fluiter. Reduction algorithms for constructing solutions in graphs with small treewidth. In J. Cai and C.K. Wong, editors, *Proceedings 2nd Annual International Conference on Computing and Combinatorics, COCOON'96*, pages 199–208. Springer Verlag, Lecture Notes in Computer Science, vol. 1090, 1996.
- [51] H. L. Bodlaender and B. de Fluiter. Parallel algorithms for series parallel graphs. In J. Diaz and M. Serna, editors, *Proceedings 4th Annual European Symposium on Algorithms ESA'96, Lecture Notes on Computer Science, vol. 1136*, pages 277–289, Berlin, 1996. Springer Verlag.
- [52] H. L. Bodlaender, M. R. Fellows, and Patricia A. Evans. Finite-state computability of annotations of strings and trees. In *Proc. Conference on Pattern Matching*, pages 384–391, 1996.

- [53] K. Yamazaki, H. L. Bodlaender, B. de Fluiter, and D. M. Thilikos. Isomorphism for graphs of bounded distance width. In G. Bongiovanni, D.P. Bovet, and G. Di Battista, editors, *Proceedings 3rd Italian Conference on Algorithms and Complexity, Lecture Notes on Computer Science, vol. 1203*, pages 276–287, Berlin, 1997. Springer Verlag.
- [54] B. de Fluiter and H. L. Bodlaender. Parallel algorithms for treewidth two. In R. H. Möhring, editor, *Proceedings 23th International Workshop on Graph Theoretic Concepts in Computer Science WG'97*, pages 157–170. Springer Verlag, Lecture Notes in Computer Science, vol. 1335, 1997.
- [55] H. L. Bodlaender and D. M. Thilikos. Constructive linear time algorithms for branchwidth. In P. Degano, R. Gorrieri, and A. Marchetti-Spaccamela, editors, *Proceedings 24th International Colloquium on Automata, Languages, and Programming, Lecture Notes in Computer Science, volume 1256*, pages 627–637, Berlin, 1997. Springer-Verlag.
- [56] H. L. Bodlaender. Treewidth: Algorithmic techniques and results. In I. Privara and P. Ruzicka, editors, *Proceedings 22nd International Symposium on Mathematical Foundations of Computer Science, MFCS'97, Lecture Notes in Computer Science, volume 1295*, pages 19–36, Berlin, 1997. Springer-Verlag.
- [57] L. C. van der Gaag and H. L. Bodlaender. Comparing loop cutsets and clique trees in probabilistic inference. In K. Van Marcke and W. Daelemans, editors, *Proceedings of the Ninth Dutch Conference on Artificial Intelligence*, pages 71 – 80. NVKI, 1997.
- [58] H. Bodlaender, J. Gustedt, and J. A. Telle. Linear-time register allocation for a fixed number of registers. In *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms (San Francisco, CA, 1998)*, pages 574–583, New York, 1998. ACM.
- [59] H. L. Bodlaender and T. Hagerup. Tree decompositions of small diameter. In *Proceedings 23rd International Symposium on Mathematical Foundations of Computer Science, MFCS'98, Lecture Notes in Computer Science, volume 1450*, pages 702–712, Berlin, 1998. Springer-Verlag.
- [60] H. N. de Ridder and H. L. Bodlaender. Graph automorphisms with maximal projection distances. In *FCT'99, Proc. 12th Intern. Symp. on Fundamentals of Computation Theory, Lecture Notes in Computer Science Vol. 1684*, pages 204–214, Berlin, 1999. Springer-Verlag.

- [61] H. J. Haverkort and H. L. Bodlaender. Finding a minimal tree in a polygon with its medial axis. In *11th Canadian Conference on Computational Geometry*, Vancouver, 1999. Electronic Proceedings.
- [62] H. L. Bodlaender, T. Kloks, R. B. Tan, and J. van Leeuwen.  $\lambda$ -coloring of graphs. In H. Reichel and S. Tison, editors, *STACS 2000, Proc. 17th Annual Symp. on Theoretical Aspects of Computer Science, Lecture Notes in Computer Science Vol. 1770*, pages 395–406, Berlin, 2000. Springer-Verlag.
- [63] D. M. Thilikos, M. J. Serna, and H. L. Bodlaender. Constructive linear time algorithms for small cutwidth and carving-width. In D.T. Lee and S.-H. Teng, editors, *Proc. 11th International Symposium on Algorithms And Computation ISAAC '00, Lecture Notes in Computer Science 1969*, pages 192–203. Springer-Verlag, 2000.
- [64] J. Alber, H. L. Bodlaender, H. Fernau, and R. Niedermeier. Fixed parameter algorithms for PLANAR DOMINATING SET and related problems. In M. M. Halldórsson, editor, *Proceedings 7th Scandinavian Workshop on Algorithm Theory, SWAT'2000, Lecture Notes in Computer Science 1851*, pages 97–110. Springer-Verlag, 2000.
- [65] F. V. Fomin and H. L. Bodlaender. Approximation of pathwidth of outerplanar graphs. In A. Brandstädt and V. Bang Le, editors, *Proceedings of the 27th International Workshop on Graph-Theoretic Concepts in Computer Science, WG 2001*, pages 166–176. Springer Verlag, Lecture Notes in Computer Science, volume 2204, 2001.
- [66] D. M. Thilikos, M. J. Serna, and H. L. Bodlaender. A polynomial time algorithm for the cutwidth of bounded degree graphs with small treewidth. In F. Meyer auf der Heide, editor, *Proceedings 9th Annual European Symposium on Algorithms ESA 2001, Lecture Notes on Computer Science, vol. 2161*, pages 380–390. Springer-Verlag, 2001.
- [67] H. L. Bodlaender, M. J. Dinneen, and B. Khoussainov. On game-theoretic models of networks. In P. Eades and T. Takaoka, editors, *Proceedings 12th International Symposium on Algorithms and Computation, ISAAC 2001, Lecture Notes in Computer Science 2223*, pages 550–561. Springer, 2001.
- [68] A. M.C.A. Koster, H. L. Bodlaender, and S. P.M. van Hoesel. Treewidth: Computational experiments. In H. Broersma, U. Faigle, J. Hurink, and S. Pickl, editors, *Electronic Notes in Discrete Mathematics*, volume 8. Elsevier Science Publishers, 2001.

- [69] H. L. Bodlaender, A. M. C. A. Koster, F. van den Eijkhof, and L. C. van der Gaag. Pre-processing for triangulation of probabilistic networks. In J. Breese and D. Koller, editors, *Proceedings of the 17th Conference on Uncertainty in Artificial Intelligence*, pages 32–39, San Francisco, 2001. Morgan Kaufmann.
- [70] H. L. Bodlaender, A. M. C. A. Koster, F. van den Eijkhof, and L. C. van der Gaag. Pre-processing for triangulation of probabilistic networks. In B. Kröse, M. de Rijke, G. Schreiber, and M. van Someren, editors, *Proceedings of the 13th Belgium-Netherlands Conference on Artificial Intelligence BNAIC 2001*, pages 67–68, Amsterdam, 2001.
- [71] H. L. Bodlaender, F. van den Eijkhof, and L. C. van der Gaag. On the MPA problem in probabilistic networks. In B. Kröse, M. de Rijke, G. Schreiber, and M. van Someren, editors, *Proceedings of the 13th Belgium-Netherlands Conference on Artificial Intelligence BNAIC 2001*, pages 59–66, Amsterdam, 2001.
- [72] H. L. Bodlaender, F. van den Eijkhof, and L. C. van der Gaag. On the complexity of the MPA problem in probabilistic networks. In F. van Harmelen, editor, *Proceedings of the 15th European Conference on Artificial Intelligence*, pages 675–679, Amsterdam, 2002. IOS Press.
- [73] H. L. Bodlaender and U. Rotics. Computing the treewidth and the minimum fill-in with the modular decomposition. In M. Penttonen and E.M. Schmidt, editors, *Proceedings 8th Scandinavian Workshop on Algorithm Theory, SWAT'2002, Lecture Notes in Computer Science 1851*, pages 388–397. Springer-Verlag, 2002.
- [74] H. L. Bodlaender and F. V. Fomin. Tree decompositions with small cost. In M. Penttonen and E.M. Schmidt, editors, *Proceedings 8th Scandinavian Workshop on Algorithm Theory, SWAT'2002, Lecture Notes in Computer Science 1851*, pages 378–387. Springer-Verlag, 2002.
- [75] H. L. Bodlaender, H. J. Broersma, F. V. Fomin, A. V. Pyatkin, and G. J. Wöginger. Radio labeling with pre-assigned frequencies. In R. Möhring and R. Raman, editors, *Proceedings of the 10th Annual European Symposium on Algorithms, ESA'2002, Lecture Notes in Computer Science 2461*, pages 211–222. Springer-Verlag, 2002.
- [76] F. van den Eijkhof and H. L. Bodlaender. Safe reduction rules for weighted treewidth. In L. Kučera, editor, *Proceedings 28th Int. Workshop on Graph Theoretic Concepts in Computer Science, WG'02*, pages 176–185. Springer-Verlag, Lecture Notes in Computer Science 344, 2002.

- [77] Hans L. Bodlaender, Michael R. Fellows, and Dimitrios M. Thilikos. Starting with nondeterminism: The systematic derivation of linear-time graph layout algorithms. In B. Rován and P. Vojtáš, editors, *Proceedings 28th International Symposium on Mathematical Foundations of Computer Science, MFCS'03, Lecture Notes in Computer Science, volume 2747*, pages 239–248, Berlin, 2003. Springer-Verlag.
- [78] Hans L. Bodlaender, Andreas Brandstädt, Dieter Kratsch, Michaël Rao, and Jeremy Spinrad. Linear time algorithms for some NP-complete problems on  $(P_5, \text{gem})$ -free graphs. (extended abstract). In *FCT'03, Proc. 14th Intern. Symp. on Fundamentals of Computation Theory, Lecture Notes in Computer Science Vol. 2751*, pages 61–72, Berlin, 2003. Springer-Verlag.
- [79] Hans L. Bodlaender and Dimitrios M. Thilikos. Computing small search numbers in linear time. In Rod Downey, Michael Fellows, and Frank Dehne, editors, *Proceedings First International Workshop on Parameterized and Exact Computation, Lecture Notes in Computer Science, Vol. 3162*, pages 37–48, Berlin, 2004. Springer-Verlag.
- [80] Hans L. Bodlaender and Arie M. C. A. Koster. Safe separators for treewidth. In *Proceedings 6th Workshop on Algorithm Engineering & Experiments ALENEX04*, pages 70–78, 2004.
- [81] Hans L. Bodlaender and Fedor V. Fomin. Equitable colorings of bounded treewidth graphs. In *Proceedings of the 29th International Symposium on Mathematical Foundations of Computer Science (MFCS 2004), Springer-Verlag Lecture Notes in Computer Science, vol. 3153*, pages 204–214, Berlin, 2004.
- [82] Hans L. Bodlaender, Celina M. H. de Figueiredo, Marisa Gutierrez, Ton Kloks, and Rolf Niedermeier. Simple max-cut for split-indifference graphs and graphs with few  $P_4$ 's. In *WEA 2004, Proc. 3rd International Workshop on Experimental and Efficient Algorithms, Lecture Notes in Computer Science Vol. 3059*, pages 87–99, Berlin, 2004. Springer-Verlag.
- [83] Hans L. Bodlaender, Arie M. C. A. Koster, and Thomas Wolle. Contraction and treewidth lower bounds. In Susanne Albers and Tomasz Radzik, editors, *Proceedings 12th Annual European Symposium on Algorithms, ESA2004*, pages 628–639. Springer, Lecture Notes in Computer Science, vol. 3221, 2004.
- [84] Hans L. Bodlaender and Arie M. C. A. Koster. On the Maximum Cardinality Search lower bound for treewidth. In J. Hromkovič, M. Nagl, and B. Westfechtel, editors, *Proceedings 30th International Workshop*

- on *Graph-Theoretic Concepts in Computer Science WG 2004*, pages 81–92. Springer-Verlag, Lecture Notes in Computer Science 3353, 2004.
- bitem140c Arie M. C. A. Koster, Thomas Wolle, and Hans L. Bodlaender. Degree-based treewidth lower bounds. In Sotiris E. Nikolettseas, editor, *Proceedings of the 4th International Workshop on Experimental and Efficient Algorithms WEA 2005*, pages 101–112. Springer-Verlag, Lecture Notes in Computer Science 3503, 2005.
- [85] Emgad H. Bachoore and Hans L. Bodlaender. New upper bound heuristics for treewidth. In Sotiris E. Nikolettseas, editor, *Proceedings of the 4th International Workshop on Experimental and Efficient Algorithms WEA 2005*, pages 217–227. Springer-Verlag, Lecture Notes in Computer Science 3503, 2005.
- [86] Alexander Grigoriev and Hans L. Bodlaender. Algorithms for graphs embeddable with few crossings per edge. In M. Liskiewicz and R. Reischuk, editors, *Proceedings 15th International Symposium on Fundamentals of Computation Theory, FCT 2005*, pages 378–387, Luebeck, Germany, 2005. Springer, Lecture Notes in Computer Science, volume 3623.
- [87] Hans L. Bodlaender. Discovering treewidth. In Peter Vojtáš, Mária Bielíková, and Bernadette Charron-Bost, editors, *SOFSEM 2005: 31st Conference on Current Trends in Theory and Practice of Computer Science*, pages 1–16. Springer-Verlag, Lecture Notes in Computer Science 3381, 2005.
- [88] Irit Katriel and Hans L. Bodlaender. Online topological ordering. In *Proceedings of the Sixteenth Annual ACM-SIAM Symposium on Discrete Algorithms, SODA 2005*, pages 443–450, 2005.
- [89] Hans L. Bodlaender, Alexander Grigoriev, and Arie M. C. A. Koster. Treewidth lower bounds with brambles. In *Proceedings 13th Annual European Symposium on Algorithms, ESA 2005*, pages 391–402. Springer, Lecture Notes in Computer Science, volume 3669, 2005.
- [90] Frederic Dorn, Eelko Penninkx, Hans L. Bodlaender, and Fedor V. Fomin. Efficient exact algorithms on planar graphs: Exploiting sphere cut branch decompositions. In *Proceedings 13th Annual European Symposium on Algorithms, ESA 2005*, pages 95–106. Springer, Lecture Notes in Computer Science, volume 3669, 2005.
- [91] Emgad H. Bachoore and Hans L. Bodlaender. A branch and bound algorithm for exact, upper, and lower bounds on treewidth. In Siu-Wing Cheng and Chung Keung Poon, editors, *Proceedings 2nd International*

*Conference on Algorithmic Aspects in Information and Management, AAIM 2006*, pages 255–266. Springer, Lecture Notes in Computer Science, volume 4041, 2006.

- [92] Hans L. Bodlaender, Fedor V. Fomin, Arie M. C. A. Koster, Dieter Kratsch, and Dimitrios M. Thilikos. On exact algorithms for treewidth. In Y. Azar and T. Erlebach, editors, *Proceedings 14th Annual European Symposium on Algorithms ESA 2006*, pages 672–683. Springer, Lecture Notes in Computer Science, volume 4168, 2006.
- [93] Hans L. Bodlaender. Treewidth: Characterizations, applications, and computations. In Fedor V. Fomin, editor, *Proceedings 32nd International Workshop on Graph-Theoretic Concepts in Computer Science WG 2006*, pages 1 – 14. Springer, Lecture Notes in Computer Science, volume 4271, 2006.

### Miscellaneous publications

- [1] H. L. Bodlaender. A solution to P33. *EATCS Bulletin*, 21:200–202, 1983.
- [2] H. L. Bodlaender and J. van Leeuwen. The minimum bisection width of (three-dimensional) blocks. Technical Report RUU-CS-84-2, Department of Computer Science, Utrecht University, Utrecht, 1984. Also as: 'A colourful proof of an obvious theorem" in: *Dopo Le Parole*, Album Amicorum for A. K. Lenstra, 1984, pp. 25-30.
- [3] H. L. Bodlaender and J. van Leeuwen. On the complexity of finding uniform emulations. Technical Report RUU-CS-85-4, Department of Computer Science, Utrecht University, Utrecht, 1985.
- [4] H. L. Bodlaender. On approximation algorithms for determining minimum cost emulations. Technical Report RUU-CS-85-10, Department of Computer Science, Utrecht University, Utrecht, 1985.
- [5] H. L. Bodlaender. Finding grid embeddings with bounded maximum edge length is NP-complete. Technical Report RUU-CS-85-18, Department of Computer Science, Utrecht University, Utrecht, 1985.
- [6] H. L. Bodlaender. Emulations of processor networks with buses. Technical Report RUU-CS-85-20, Department of Computer Science, Utrecht University, Utrecht, 1985.
- [7] H. L. Bodlaender and J. van Leeuwen. Distribution of records on a ring of processors. Technical Report RUU-CS-86-6, Department of Computer Science, Utrecht University, Utrecht, 1986.

- [8] H. L. Bodlaender. Dynamic programming on graphs with bounded treewidth. Technical Report MIT/LCS/TR-394, Laboratory for Computer Science, Massachusetts Institute of Technology, Cambridge, 1987.
- [9] H. L. Bodlaender. A new lowerbound technique for distributed extrema finding on rings of processors. Technical Report RUU-CS-87-11, Department of Computer Science, Utrecht University, Utrecht, 1987.
- [10] H. L. Bodlaender. Planar graphs with bounded treewidth. Technical Report RUU-CS-88-14, Department of Computer Science, Utrecht University, Utrecht, 1988.
- [11] H. L. Bodlaender. Some classes of planar graphs with bounded treewidth. *Bulletin of the EATCS*, 36:116–126, 1988.
- [12] T. Kloks and H. Bodlaender. On the treewidth and pathwidth of permutation graphs. Technical Report RUU-CS-92-13, Department of Computer Science, Utrecht University, Utrecht, 1992.
- [13] T. Kloks and H. Bodlaender. Only few graphs have bounded treewidth. Technical Report RUU-CS-92-35, Department of Computer Science, Utrecht University, Utrecht, 1992.
- [14] J. Shawe-Taylor, C. Domingo, H. Bodlaender, and J. Abello. Learning minor closed graph classes with membership and equivalence queries. Technical Report LSI-94-37-R, Departament de Llenguatges i sistemes informàtics, Univeritat Politècnica de Catalunya, Barcelona, Spain, 1994.
- [15] H. L. Bodlaender and B. de Fluiter. A problem on strings with an application to intervalizing colored graphs. *Bulletin of the EATCS*, 62:323–324, 1997.
- [16] T. Kloks H.L. Bodlaender and R. Niedermeier. Simple max-cut for graphs with few P4s. In C. Hoede H.J. Broersma, U. Faigle and J.L. Hurink, editors, *Electronic Notes in Discrete Mathematics*, volume 3. Elsevier Science Publishers, 2000.
- [17] Hans L. Bodlaender and Thomas Wolle. Contraction degeneracy on cographs. Technical Report CS-UU-2004-031, Institute for Information and Computing Sciences, Utrecht University, Utrecht, the Netherlands, 2004.
- [18] Thomas Wolle and Hans L. Bodlaender. A note on edge contraction. Technical Report CS-UU-2004-028, Institute for Information and Computing Sciences, Utrecht University, Utrecht, the Netherlands, 2004.

- [19] Alexander Grigoriev and Hans L. Bodlaender. Algorithms for graphs embeddable with few crossings per edge. Technical Report CS-UU-2004-059, Institute for Information and Computing Sciences, Utrecht University, Utrecht, the Netherlands, 2004.
- [20] Thomas Wolle, Arie M. C. A. Koster, and Hans L. Bodlaender. A note on contraction degeneracy. Technical Report CS-UU-2004-042, Institute for Information and Computing Sciences, Utrecht University, Utrecht, the Netherlands, 2004.
- [21] Thomas Wolle, Arie M. C. A. Koster, and Hans L. Bodlaender. A note on contraction degeneracy. ZIB-Report 04-43, Konrad-Zuse-Zentrum für Informationstechnik Berlin, Berlin, Germany, 2004.

## Teaching

- 1980, 1981: Teaching assistant Computer Science, Utrecht University
- 1983 - 1986: *Werkcollegeleider* various courses.
- In the fall semester of 1986, Hans Bodlaender lectured the course *Computer Algorithms*. From fall 1987 till now, Hans has been lecturing several computer science courses (one, two, or three each year). (See below for a list of titles.) He also has been ‘werkcollegeleider’ and practicumleider for various courses, has supervised master students (see below), and also has supervised some ‘third year projects’.
- Hans Bodlaender has followed a course for lecturers at the IVLOS institute.

## Master students

- Frans van Haandel: Graph drawing.
- Bas van Zoeren: Graph isomorfism.
- Freek Weijers: Dynamisation of minimum cost flow algorithms. Dynamisatie van algoritmen voor minimum kosten stroming
- Mhammed Dahmane: Implementation of a chesscompetition system (graph matching application.) Joint supervision with Hans Zantema.
- Joris Marx: The traveling salesman problem on graphs of bounded treewidth.
- Ernst de Ridder: Graph automorphisms with maximal projection distances.

- Arjan Bosse: The Windy Postman problem
- Rogier van Koetsveld: Proving the wellfoundedness of two graphs: a combinatorial versus a symbolic approach. (2nd supervisor; CKI-student. First supervisor was Marc Bezem.)
- Matthijs L. Havik: Partitioning a Questionnaire Graph (work done on the *Centraal Bureau voor de Statistiek*).
- Thomas van Kuipers: More efficient calculations in probabilistic networks.
- Erik Jan van Leeuwen: Optimization problems for mobile ad-hoc networks (2005)
- Eelko Penninx: Faster exponential time algorithms on planar graphs (2005)
- Bart de Boer: Trust in networks (2005)
- Johan van Rooij: Algorithm design using Measure and Conquer: An  $O(1.5086^n)$  algorithm for dominating set and similar problems (2006)

## Courses

### Basic (bachelors) curriculum

- *Algoritmen en Datastructuren* (in several different versions: *Datastructuren*, *Algoritmen en Datastructuren 2*, *Computer Algoritmen*, *Algoritmiëk*).
- *Databases*
- *Inleiding Informatica*
- *Inleiding Informatica en Management*
- *Software project*
- *Overdragen van de Informatica*
- *Programmeerproject Informatica en Management*

### Specialisation (masters) courses

- *Graph algorithms*
- *Network algorithms*
- *Toegepaste Netwerk Algoritmen* (with Marinus Veldhorst)

- *Combinatorische Optimalisering*
- Several seminaria

#### **Courses in 2003/2004**

- Algoritmiëk
- Network Algorithms
- Seminar Graph Drawing

#### **Courses in 2004/2005**

- Algoritmiëk
- Network Algorithms
- Seminar Local Search Algorithms

#### **Courses in 2005/2006**

- Algoritmiëk
- Algorithms and Networks
- Seminar Graph Drawing

#### **Courses in 2006/2007**

- Algoritmiëk
- Algorithms and Networks
- Overdragen van Informatica Onderzoek
- Seminar Constraint Satisfaction

### **Organizational tasks**

- Member of board of the NVTI (Nederlandse Vereniging voor Theoretische Informatica.) (Till 2005.)
- Member of the *Disciplinegroepbestuur Informatica 2004-2005*, with assignment *education*.
- Hans Bodlaender has been member of the *Dagelijks Bestuur* of the Department of Computer Science, Utrecht University and of the *Onderzoeksbestuur*.

- Hans Bodlaender was for about five year Vakreferent of the Library of the Institute of Information and Computing Sciences, till 2002, and has been from 2000 till 2002 the Chairman of the Library Committee. He has been member of several other committees of the Department/Institute.
- Since many years, Hans Bodlaender is the coordinator of the Technical Reports series of the Department/Institute.
- Member of the local organization committee of ESA'92 (European Symposium on Algorithms.)