

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 adviser 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 October 2014, he worked as *universitair hoofddocent* or *senior docent-onderzoeker* at the Institute of Information and Computing Sciences (Department of Information and Computing Sciences, Department of Computer Science) of Utrecht University. November 1, 2014, Hans Bodlaender works as *professor Algorithms and Complexity* at Utrecht University for 4 days per week, and as *professor Network Algorithms* at the Technical University Eindhoven for 1 day per week.

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

The email address of Hans Bodlaender is H.L.Bodlaender@uu.nl.

Research

Prizes and qualifications

- The EATCS-IPEC Nerode Prize 2014 for outstanding papers in the area of multivariate algorithmics for the paper: *On problems without polynomial kernels*, Hans L. Bodlaender, Rodney G. Downey, Michael R. Fellows, Danny Hermelin, Journal of Computer and System Sciences, 2009; joint with *Infeasibility of instance compression and succinct PCPs for NP*, Lance Fortnow, Rahul Santhanam, Journal of Computer and System Sciences, 2011.
- Senior qualification Research of Utrecht Universities, 1997

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.

Program committee memberships

- Member of program committee STACS'93: 10th Annual 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.
- Member of program committee AAIM 2007: 3rd International Conference on Algorithmic Aspects in Information and Management.
- Member of program committee UAI 2007: 23rd Conference on Uncertainty in Artificial Intelligence.
- Member of program committee COCOA'08: 2nd International Conference on Combinatorial Optimization and Applications.
- Member of program committee WG 2009: 35th International Workshop on Graph-Theoretic Concepts in Computer Science.
- Member of Program Committee TAMC 2009: 6th Annual Conference on Theory and Applications of Model of Computation.
- Member of Program Committee IWPEC 2009: 4th International Workshop on Parameterized and Exact Computation.
- Member of Program Committee SWAT 2010: 12th Scandinavian Workshop on Algorithm Theory.
- Member of Program Committee ESA 2010: 18th European Symposium on Algorithms.
- Member of Program Committee TAMC 2010: 7th Annual Conference on Theory and Applications of Model of Computation.
- Member of Program Committee IPEC 2011: 6th International Symposium on Parameterized and Exact Computation.
- Member of Program Committee WALCOM 2012: 6th Workshop on Algorithms and Computation.
- Member of program committee STACS 2012: 29th Annual Symposium on Theoretical Aspects of Computer Science.
- Member of program committee APEX 2012: International Workshop on Approximation, Parameterized and EXact algorithms.
- Member of program committee WG 2012: 38th International Workshop on Graph-Theoretic Concepts in Computer Science.

- Chairman of Program Committee ESA 2013: 21st European Symposium on Algorithms. (Track A.)
- Member of Program Committee IPEC 2014: 9th International Symposium on Parameterized and Exact Computation.
- Member of Program Committee FAW 2014: 8th International Frontiers of Algorithmics Workshop.
- Member of program committee WG 2014: 40th International Workshop on Graph-Theoretic Concepts in Computer Science.
- Member of Program Committee WALCOM 2015: 9th Workshop on Algorithms and Computation.
- Member of program committee ICALP 2015: 42nd International Colloquium on Automata, Languages and Programming.
- Member of program committee FAW 2015: 9th International Frontiers of Algorithms Workshop.

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 2006. 'Treewidth: Characterizations, Applications, and Computations'.
- Invited lecture at the 14th International Colloquium on Structural Information and Communication Complexity, SIROCCO 2007. 'Treewidth: Structure and Algorithms'.
- Invited lecture at Workshop in Graph Decomposition: Theoretical, Algorithmic and Logical Aspects, April 7-11, 2008, CIRM, Luminy, Marseille.
- Invited lecture at 4th International Workshop on Parameterized and Exact Computation, IWPEC 2009, September 10-11, 2009, Copenhagen, part of ALGO 2009.
- Invited lecture at the Theory Day of the Nederlandse Vereniging voor Theoretische Informatica, March 3 2011, Utrecht.
- Tutorial on Kernels, 6th International Symposium on Parameterized and Exact Computation, IPEC 2011, Saarbrücken, Germany, September 7–9, 2011.

- Invited lecture at the 5th Workshop on Graph Classes and Width Parameters, GROW 2011, Daejeon, Korea, October 27–29, 2011.
- Tutorial on Fixed Parameter Tractability, ECSQARU 2013, Utrecht, the Netherlands, July 2013.
- Invited lecture at 9th International Workshop on Parameterized and Exact Computation, IWPEC 2014, Wrocław, Poland, part of ALGO 2014, September 8–12, 2014. (Invited lecture associated to EATCS-IPEC Nerode Prize.)

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

Co-promotor Johan H. P. Kwisthout, October 29, 2009. Title of thesis: The Computational Complexity of Probabilistic Networks. (Promotor: prof. dr. J. van Leeuwen and prof. dr. ir. L. C. van der Gaag. Other co-promotor: dr. G. Tel.)

Co-promotor Johan M. M. van Rooij, June 24, 2011. Title of thesis: Exact Exponential-Time Algorithms for Domination Problems in Graphs. (Promotor: prof. dr. J. van Leeuwen.)

Co-promoter Bart M. P. Jansen, July 1, 2013. Title of thesis: The Power of Data Reduction — Kernels for Fundamental Graph Problems. (Promotor: prof. dr. J. van Leeuwen.) Bart Jansen received for his thesis the *Christiaan Huygens prize*: best thesis on ICT in the Netherlands over a period of 5 years (10.000 euro).

Supervision of Research Guest and Postdocs

- Dimitrios Thilikos (postdoc, 2 years. 1996 – 1998)
- Koichi Yamazaki (postdoc, 1 year, 1996 – 1997)
- Eelko Penninx (2005 – 2011). Topic: Parameterized graph problems and branchwidth.
- Marc Comas (Ph.D student, Barcelona), 2009 (6 months).
- Yota Otachi (Ph.D. student, Gunma, Japan), 2009 (6 weeks).
- Manu Basavaraju (Ph. D. student, India), 2009 (2 months).
- Zhang Wenyan (Ph.D. student, Fudan University, Shanghai, China, 2011 (2 months)
- Stefan Kratsch (postdoc, 2 years, 2010 – 2012)
- Jesper Nederlof (postdoc, 2 years, 2012 – 2014)
- O-joung Kwon and Jisu Jeong (Ph.D. student, KAIST, Daejeon, S. Korea, 3 weeks, winter 2014)

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’.

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’.

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’.

2009-2013: Grant from the Netherlands Organization for Scientific Research (N.W.O.). Project: KERNELS: Combinatorial Analysis of Data Reduction.

2012-2014: Grant from the Netherlands Organization for Scientific Research (N.W.O.). Project: Space and Time Efficient Structural Improvements of Dynamic Programming Algorithms.

Editorships

- Guest editor special issue *Algorithmica*, Volume 27, number 3/4, 2000.
- Editor Acta Cybernetica (1997 – present)
- Managing Editor (Section ‘Graphs and Algorithms’) of Discrete Mathematics and Theoretical Computer Science, till 2004. 2004 - 2008: Editor (Section ‘Graphs and Algorithms’) of Discrete Mathematics and Theoretical Computer Science. 2008 - now: Board member 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 with Michael A. Langston: proceedings IWPEC 2006: 2nd International Workshop on Parameterized and Exact Computation, volume 4169 of *Lecture Notes in Computer Science*, Berlin, 2006. Springer.
- Member Editorial Board Information and Computation, 2008 - 2012.
- Co-editor with Rod Downey, Fedor V. Fomin, and Dániel Marx: The Multivariate Algorithmic Revolution and Beyond - Essays Dedicated to Michael R. Fellows on the Occasion of His 60th Birthday. *Lecture Notes in Computer Science 7370*, Springer 2012, ISBN 978-3-642-30890-1.
- Co-editor with Giuseppe F. Italiano: Proceedings ESA 2013: 21st Annual European Symposium on Algorithms, volume 8125 of *Lecture Notes in Computer Science*, Berlin, 2013. Springer. ISBN 978-3-642-40449-8.

Miscellaneous

- Reviewer for Zentralblatt für Mathematik. (Till 2006.)
- Reviewer for Mathematical Reviews. (Till 2006.)
- Scientific Organizer (with Fedor Fomin and Saket Saurabh) of WORKER 2010: Workshop on Kernelization 2010, Lorentz Center Leiden, November 2010.
- Scientific Organizer (with Pinar Heggernes and Daniel Lokshtanov) of Dagstuhl Seminar *Graph modification problems*, February 9, 2014 – February 14, 2014.

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 δ -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 λ -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, 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 Wollé. Contraction and treewidth lower bounds. *Journal of Graph Algorithms and Applications*, 10(1):5–49, 2006.
- [77] Irit Katriel and Hans L. Bodlaender. Online topological ordering. *ACM Transactions on Algorithms*, 2(3):364–379, 2006.
- [78] Frank van den Eijkhof, Hans L. Bodlaender, and Arie M. C. A. Koster. Safe reduction rules for weighted treewidth. *Algorithmica*, 47:139–158, 2007.
- [79] Hans L. Bodlaender and Arie M. C. A. Koster. On the maximum cardinality search lower bound for treewidth. *Discrete Applied Mathematics*, 155(11):1348–1372, 2007.
- [80] Alexander Grigoriev and Hans L. Bodlaender. Algorithms for graphs embeddable with few crossings per edge. *Algorithmica*, 49:1–11, 2007.

- [81] Hans L. Bodlaender, Alexander Grigoriev, and Arie M. C. A. Koster. Treewidth lower bounds with brambles. *Algorithmica*, 51:81–98, 2008.
- [82] Hans L. Bodlaender and Arie M. C. A. Koster. Combinatorial optimization on graphs of bounded treewidth. *The Computer Journal*, 51(3):255–269, 2008.
- [83] Hans L. Bodlaender, Michael R. Fellows, and Dimitrios M. Thilikos. Derivation of algorithms for cutwidth and related graph layout parameters. *Journal of Computer and System Sciences*, 75(4):231–244, 2009.
- [84] Helmut Alt, Hans L. Bodlaender, Marc van Kreveld, Günther Rote, and Gerard Tel. Wooden geometric puzzles: Design and hardness proofs. *Theory of Computing Systems*, 44(2):160–174, 2009.
- [85] Hans L. Bodlaender, Rodney G. Downey, Michael R. Fellows, and Danny Hermelin. On problems without polynomial kernels. *Journal of Computer and System Sciences*, 75(8):423–434, 2009.
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- [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.
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- [23] Hans L. Bodlaender, Rod Downey, Fedor V. Fomin, Dniel Marx (Eds.): The Multivariate Algorithmic Revolution and Beyond - Essays Dedicated to Michael R. Fellows on the Occasion of His 60th Birthday. Lecture Notes in Computer Science 7370, Springer 2012, isbn 978-3-642-30890-1.

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Teaching

- 1980, 1981: Teaching assistant Computer Science, Utrecht University
- 1983 - 1986: *Werkcollegeleider* various courses.
- Hans Bodlaender lectured his first course in the fall of 1986: the course *Computer Algorithms* (3rd year Computer Science, bachelor programme.) 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', 'experimentation projects', and 'capita selecta' courses. He is also coordinator of the course *Research Methods for Computer Science*.
- Basis qualification Education, of Utrecht University, 1997.
- Hans Bodlaender has followed a course for lecturers at the IVLOS institute.
- March 2014: Teaching Award; In recognition of distinguished teaching, for the course *Algorithms and Networks*.

Master thesis project supervision (partial list)

- Frans van Haandel: Graph drawing.
- Bas van Zoeren: Graph isomorfism.
- Freek Weijers: Dynamisation of minimum cost flow algorithms.
- Mhammed Dahmane: Implementation of a chess-competition system (graph matching application.) Joint supervision with Hans Zantema.
- Joris Marx: The traveling salesman problem on graphs of bounded treewidth.
- Matthijs L. Havik: Partitioning a Questionnaire Graph (work done at the *Centraal Bureau voor de Statistiek*), 1998.
- Ernst de Ridder: Graph automorphisms with maximal projection distances, 1999.
- Arjan Bosse: The construction of a heuristic for the Windy Postman problem, 2000.
- Rogier van Koetsveld: Proving the wellfoundedness of two graphs: a combinatorial versus a symbolic approach. (2nd supervisor; CKI-student. First supervisor was Marc Bezem.)

- Thomas van Kuipers: An Alternative Method to Pearl's loop Cutset Conditioning in Multiply Connected Multi-parent Single-split Probabilistic networks, 2003. (Co-supervision with Linda van der Gaag.)
- Erik Jan van Leeuwen: Optimization Problems on Mobile Ad Hoc Networks Algorithms for Disk Graphs, 2004.
- Els Maes: Development of a SUpporter for the MApping of GRaph Models for Gras/GXL, 2004.
- Eelko Penninx: Exploiting Connectivity: Faster Exact Algorithms on Planar Graphs, 2005.
- Bart de Boer: Trust networks, 2005.
- Johan van Rooij: Algorithm design using Measure and Conquer: An $O(1.5086^n)$ algorithm for dominating set and similar problems, 2006.
- Thomas C. van Dijk: Fixed parameter complexity of feedback problems, 2007.
- Ron de Bruijn: Finding perfect matchings in regular bipartite graphs, 2007. Joint supervision with Marinus Veldhorst.
- Lukas Vermeer: Graph Decomposition for Bid Price Optimization in Airline Revenue Management (work done at ORTEC), 2008.
- Jesper Nederlof: Exact algorithms with Inclusion-Exclusion, 2008.
- Wouter Penard: Navigation and Flow Algorithms — Building a Navigation Framework (work done at Logica CMG), 2008.
- Ruben van der Zwaan: Exact algorithms for Vertex Ranking, 2007 – 2009.
- Bart Jansen: Kernelization for Max Leaf Spanning Tree, 2008 – 2009.
- Roeland Luitwieler: Fixed-Parameter Tractable Algorithms for Cluster Editing Variants, 2008 – 2009.
- Joris Borgdorff, Distributing knowledge in an organization by emergence, 2009.
- Luite Stegemann: Pareto curves for set covers, 2009 – 2010.
- Marnix Kammer: Plagiarism detection with graph isomorphism, 2009 – 2010.
- Bas den Heijer, Graph algorithmic methods for compiler optimization, 2011 – 2012.
- Thomas Dons. Kernelization for cluster editing., 2011.
- Vincent Kreuzen, Special treewidth, 2011 – 2012.
- Sjoerd Timmer, The cut-and-count technique for finding loop cutsets, 2011 – 2012.
- Pim de Weijer, Kernelization, 2012 – 2013..

- Stefan Fafianie, Rank based methods for dynamic programming on tree decompositions, 2013.
- Ioannis Katsikarelis, Rank based methods for dynamic programming on tree decompositions, 2013 – 2014.
- Max van Boxtel, Exact algorithms for Pathwidth and Minimum Cost Triangulations, 2013 – now.
- Lars Jaffke, Exploiting Treewidth for Faster Heuristics for the Steiner Tree Problem, 2013 – now.
- Luuk van der Graaff, Speeding up algorithms on nice tree decompositions, 2013 – now.
- Myrna van der Burgwal, Computing efficient tree decompositions, 2014 – now.

Hans Bodlaender also was member of the thesis committee of a number of other master students, and supervised students in smaller projects (capita selecta, experimentation projects).

Courses

Basic (bachelors) curriculum

- Algoritmen en Datastructuren (in several different versions: Datastructuren, Algoritmen en Datastructuren 2, Computer Algoritmen, Algoritmiek).
- 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)
- Algorithms and Networks
- 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

Courses in 2007/2008

- Algoritmiëk
- Algorithms and Networks
- Seminar Graph Drawing

Courses in 2008/2009

- Datastructuren
- Algorithms and Networks
- Seminar Exact Algorithms

Courses in 2009/2010

- Datastructuren
- Algorithms and Networks
- Overdragen van Informatica Onderzoek

Courses in 2010/2011

- Datastructuren
- Algorithms and Networks
- Overdragen van Informatica Onderzoek

Courses in 2011/2012

- Datastructuren
- Algorithms and Networks
- Onderzoeksmethoden van de Informatica

Courses in 2012/2013

- Datastructuren
- Algorithms and Networks
- Onderzoeksmethoden van de Informatica

Courses in 2013/2014

- Datastructuren
- Algorithms and Networks
- Onderzoeksmethoden van de Informatica

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'94 (European Symposium on Algorithms.)

- Chairman of steering committee WG: Workshop on Graph Theoretic Concepts in Computer Science (2007 – now).
- Chairman of steering committee IWPEC: International Workshop on Exact and Parameterized Computation (2009-2010, 2012 – now)
- Member of steering committee ESA: European Symposium on Algorithms (2012 – now).
- Group leader *Algorithmic Systems*, 2012 – 2013.
- Program leader Master program *Computing Science*, Utrecht University, 2011 – now.
- Various committee memberships, e.g., grant committees for NWO (Netherlands Organization for Scientific Research: VIDI, Free Competition, TOP Compartment 2).

Miscellaneous facts

Citations are based upon Google scholar from November 10, 2014.

- Citations: 11521. Since 2009: 5510.
- h-index: 52. Since 2009: 36.
- i10-index: 145. Since 2009: 107.
- Most cited paper: A linear time algorithm for finding tree-decompositions: 1237 citations.
- Erdős number 2 (via Dieter Kratsch, Shlomo Moran, and/or Zsolt Tuza).