Publications

Joseph Douglas Horton

November 6, 2010

1 Refereed Journal Publications

1. Yosri Harzallah, Joseph D. Horton, and Bruce Spencer, Assigning Routes and Wavelengths for Collaboration over Optical Networks, Photonic Networks Communications (10 pages), accepted for publication July 2010.

2. Duong Doan, Patricia Evans, and Joseph D. Horton, A Near-Linear Time Algorithm for Haplotype Determination on General Pedigrees, submitted to the Journal of Computational Biology June 15, 2009 (41 pages)(accepted for publication 2010).

3. J D. Horton and W. D. Wallis, Factoring the Cartesian Product of a Cubic Graph and a Triangle, Discrete Math. 259(2002), Issue: 1-3, December 28, 2002, 137-146.

4. Bruce Spencer and J. D. Horton, 2000, Efficient Algorithms to Detect and Restore Minimality, an Extension of the Regular Restriction of Resolution, Journal of Automated Reasoning, 25(2000), 1-34.

5. J. D. Horton, D. Sharpe, 1998, Allpaths, Journal of Automated Reasoning, 21(1998), 104.

6. J. D. Horton and Bruce Spencer, 1997, Clause Trees: a Tool for Understanding and Implementing Resolution for Automated Reasoning, Artificial Intelligence, 92, 25-89.

7. J. D. Horton, R. Harland, E. Ashby, R. H. Cooper, W. F. Hyslop, B. G. Nickerson, W. M. Stewart, O. K. Ward, 1993, The Cascade Vulnerability Problem, J. Computer Security, 2, 279-290 (accepted in 1994).

8. J. D. Horton and K. Kilakos, 1993, Minimum Edge Dominating Sets, SIAM J. Discrete Math, 6, 375-387.

9. J. D. Horton and G.M. Nonay, 1991, Self-orthogonal Hamilton Path Decompositions, Discrete Mathematics, 97, 251-264.

10. J. D. Horton, 1991, A hyperfactorization of order 8, index 2, Discrete Mathematics, 92, 127-129.

11. J.D. Horton and I. Z. Bouwer, 1991, Symmetric Y-graphs and H-graphs, J. Combinatorial Theory B, 53, 114-129.

12. R.C. Mullin, J.D. Horton, and W.H. Mills, 1991, On Bicovers of Pairs by Quintuples: v odd, v 3 (mod 10), Ars Combinatoria, 31, 3-19.

13. V.C. Bhavsar, U.G. Gujar, J.D. Horton, and L.A. Lambrou, 1990, Evaluation of the discrepancy of the linear congruential pseudo-random number sequences, BIT, 30, 258-267.

14. J.D. Horton, 1989-90, Orthogonal starters in finite Abelian groups, Discrete Math., 79, 265-278.

15. C.C. Lindner, C.A. Rodger, and J.D. Horton, 1989, A Small Embedding for Partial 4-cycle Systems, J. Combin. Math. and Combin. Comput., 5, 23-26.

16. J.D. Horton, 1989, Hamilton path tournament designs, Ars Combinatoria, 27, 69-74.

17. R.C. Mullin and J.D. Horton, 1988, Bicovers of Pairs by Quintuples: v Even, Ars Combinatoria 26, 197-228.

18. J.D. Horton, 1987, A Polynomial Time Algorithm to Find the Shortest Cycle Basis of a Graph, SIAM J. on Computing, 16, 358-366.

19. David Avis and Joe Horton, 1985, Remarks on the Sphere of Influence Graph, Discrete Geometry and Convexity, Annals of the New York Academy of Sciences, Vol. 440, 323-327.

20. J.D. Horton, B.K. Roy, P.J. Schellenberg, and D.R. Stinson, 1985, On Decomposing Graphs into Isomorphic Uniform 2-Factors, Annals of Discrete Math, 27, 297-320.

21. J.D. Horton, Resolvable Path Designs, 1985, J. Combinatorial Theory A, 39, 117-131.

22. M.N. Ellingham and J.D. Horton, 1983, Non-hamiltonian 3-connected cubic bipartite graphs, J. Combinatorial Theory B, 34, 350-353.

23. J.D. Horton, 1983, Sets with no empty convex 7-gons, Canadian Mathematical Bulletin, 26, 482-484.

24. J.D. Horton, l983, The Construction of Kotzig Factorizations, Discrete Math. 43, 199-206.

25. J.D. Horton, 1982, On Two-Factors of Bipartite Regular Graphs, Discrete Math. 41, 35-41.

26. J.D. Horton, 1981, Room Designs and One-Factorizations, Aequationes Mathematicae 22, 56-63.

27. J.D. Horton, 1974, Sublatin Squares and Incomplete Orthogonal Arrays, J. Combinatorial Theory A 16, 23-33.

28. R.G. Stanton and J.D. Horton, 1972, A Multiplication Theorem for Room Squares, J. Combinatorial Theory A 12, 322-325.

29. J.D. Horton, 1972, Quintuplication of Room Squares, Aequationes Mathematicae 7, 243-245.

30. J.D. Horton, R.C. Mullin, and R.G. Stanton, 1971, A Recursive Construction for Room Designs, Aequationes Mathematicae 6, 39-45.

31. J.G. Kalbfleisch, R.G. Stanton, and J.D. Horton, 1971, On Covering Sets and Error Correcting Codes J. Combinatorial Theory 11, 233-250.

32. R.G. Stanton, J.D. Horton, and J.G. Kalbfleisch, 1969, Covering Theorems for Vectors with Special References to the Case of Four and Five Components, J. London Math. Soc. (2), 1, 493499.

2 Papers in refereed conference proceedings

1. Yosri Harzallah, Joseph D. Horton and Bruce Spencer, Collaboration over a Service-Oriented Fiber Optic Networking Platform, Proc. IEEE-DEST 2009, Istanbul, Turkey, May 31-June 3 2009, pp599-604.

2. Michael Blanchard, Joseph D. Horton and Dawn McIsaac, Folding architecture networks improve the performance of Otter, Short paper at LPAR2006, Phnom Penh, Cambodia, Nov.13-17, 2006 (5 pages).

3. Joseph D. Horton and Franziska Berger, Minimum cycle bases of graphs over different fields, Proc. ICGT-05, Hyeres, France, September 12-16 2005, Electronic Notes on Discrete Mathematics, vol 22(Oct. 2005), 501-505.

4. Therese Biedl, Joseph D. Horton, Alejandro Lopez-Ortiz, Cross-stitching using little thread,Proc. 17th Canadian Conference on Computational Geometry (CCCG'05)Windsor,Ont, Aug.2005, 199-202.

5. Jose M. Rodriguez, F. Chris MacPhee, David J. Bonham, Joseph D. Horton, Virendrakumar C. Bhavsar, Best permutations for the dynamic plant layout problem, ADCOM-2004, Ahmedabad, Gujarat, India, Dec. 2004, 173-178.

6. Joseph D. Horton, Alejandro Lopez-Ortiz, 2003, On the Number of Distributed Measurement Points for Network Tomography, IMC-03, Proceedings ACM SIGCOMM Conference on Internet Measurement held in Miami, Florida, October 27-29, 2003, 204-209.

7. Therese Biedl, Erik D. Demaine, Alexander Golynski, Joseph D. Horton, Alejandro Lopez-Ortiz, Guillaume Poirier, Claude-Guy Quimper, 2003, Optimal Dynamic Video-On-Demand using Adaptive Broadcasting, European Symposium on Algorithms ESA03 track A, held in Budapest, Hungary, September 15-20, 2003, LNCS 2832, 90-101.

8. T. Beidl, M. Hasan, J.D. Horton, A Lopez-Ortiz, T. Vinal, 2002, Searching for the center of a circle, Proc. 14th Canadian Conference on Computational Geometry, CCCG 2002, Lethbridge, August 2002, 137-141.

9. Alexander Golynski and Joseph D. Horton, 2002, A Polynomial Time Algorithm to Find the Minimum Cycle Basis of a Regular Matroid, Proc. 8th Scandinavian Workshop on Algorithm Theory SWAT 2002, LNCS 2368, Turku Finland, July 2002, 200-209.

10. Graham Fyffe, Joseph D. Horton, and Yanping He, 2001, Experiments with Marmoset, a deduction system based on clause trees, Proc. 2nd International Workshop on the Implementation of Logics, Havana Cuba, Dec. 2001, 1-12..

11. J. D. Horton, 2001, Counting the number of equivalent binary resolution proofs, proc. Logic for Programming Artificial Intelligence and Reasoning, 8th International Conference LPAR 2001, Havana Cuba, Dec. 2001, Lecture Notes in Artificial Intelligence 2250, 157-171.

12. Bruce Spencer and Joseph D. Horton, 2000, Support Ordered Resolution, proc. conf. on Automated Deduction, CADE-17 held in Pittsburgh, PA, USA, June 2000, Lecture Notes in Artificial Intelligence 1831, 385-400.

13. Peter Baumgartner, J. D. Horton and Bruce Spencer, 1999, Merge Path Improvements for minimal Model Hyper Tableaux, Tableaux-99, held in Saratoga Springs, NY, June 1999, Lecture Notes in Artificial Intelligence 1617, 51-65.

14. J. D. Horton and Bruce Spencer, 1998, Rank/Activity: a Canonical Form for Binary Resolution, Automated DeductionCADE-15 conference held in Lindau, Germany on July 5-10, 1998, Lecture Notes in Artificial Intelligence 1421, 412-426.

15. M. G. Lamoureux, J. D. Horton, and B. G. Nickerson, 1997, Dynamizing Domination Queries in 2-Dimensions — the Paper Stabbing Problem Revisited, 9th Canadian Conference on Computational Geometry, Kingston, August 1997.

16. Bruce Spencer and J. D. Horton, 1997, Extending the Regular Restriction of Resolution of Non-Linear Subdeductions, AAAI-97 Proc. 14th National Conf. on AI, Providence, Rhode Island, July 27-31, 1997, 478-483.

17. J. D. Horton and Bruce Spencer, 1995, A Top Down Algorithm to Find Only Minimal Clause Trees, 19th Annual German Conference on Artifical Intellegence, Bielefeld, Sept 11-13, 1995, KI-95 Activities: Workshops, Posters, Demos, 79-80.

18. J. D. Horton, R. Harland, E. Ashby, R. H. Cooper, W. F. Hyslop, B. G. Nickerson, W. M. Stewart, O. K. Ward, 1993, The Cascade Vulnerability Problem, Proceedings of the IEEE Symposium on Research in Security and Privacy, Oakland, CA, May 24-26, 1993, 110-116. (One of 17 papers accepted out of 70 submitted.)

19. Eric Neufeld and J.D. Horton, 1989, Conditioning on disjunctive knowledge: defaults and probability, Proceedings of the Fifth International AIII Workshop on Reasoning Under Uncertainty, 272-278. (Also appeared as a Chapter in Volume V of the Uncertainty in AI series, with title Conditioning on disjunction knowledge: Simpson's paradox in default logic.

20. J.D. Horton and Andrew Kurn, 1981, Counting Sequences with Complete Increasing Subsequences, Proceedings of the Twelfth Southeastern Conference on Combinatorics, Graph Theory, and Computing, Baton Rouge, Louisiana, Congressus Numerantium, 33, 75-80.

21. J.D. Horton, R.C. Mullin, and P.J. Schellenberg, 1972, On the Existence of Room Squares of Side 8s+5, Proceedings of the Third Southeastern Conference on Combinatorics, Graph Theory, and Computing, Boca Raton, 425-446.

22. J.D. Horton, R.C. Mullin, and R.G. Stanton, 1971, Minimal Coverings of Pairs by Quadruples, Proceedings of the Second Louisiana Conference on Combinatorics, Graph Theory and Computing, Baton Rouge, Louisiana, 495-516.

23. R.G. Stanton and J.D. Horton, 1969, Composition of Room Squares, Proc. Coll. Comb. Math., Bolyai Janos Math. Soc., 1013-1021.

3 Non-refereed conference publications

1. Bruce Spencer and J. D. Horton, Completeness, Uniqueness and Size Preserving Properties for Combinations of Restrictions of Resolution, invited contribution in Deduction Dagstuhl-Seminar Report;232, 28.02.1999-05.03.1999 (99091), pp20-21.

2. J.D. Horton, R. Harland, E. Ashby, R.H. Cooper, W.F. Hyslop, B.G. Nickerson, W.M. Stewart, O.K. Ward, Overview of the Cascade Correction Problem, Proceedings of the 5th Canadian Computer Security Symposium, Ottawa, May 18-21, 1993, 577-588.

3. J.D. Horton, 1988, A Survey of the Convex Hull Problem, Proceedings of the Second International Seminar on Trends and Concerns of Spatial Sciences, Y.C. Lee (ed.), Technical Report 136, Dept. Surveying Engineering, June 1988, 153-170.

4. J.D. Horton and A.S. Ripley, 1984, A Fast Algorithm to Find Hamilton Cycles in Undirected Cubic Graphs, Proceedings of the Annual APICS Computer Science Conference, pp. 140-141.

5. David Avis and J.D. Horton, 1981, Remarks on the Sphere of Influence Graph, New Developments in Computer Science - Education and Practice, Conference sponsored by the Computer Science Committee of APICS, 1-7.

6. Dale Richmond and Joseph D. Horton, 1976, Role of Data Processing as Seen by the Planning Function, invited talk at: Information Technology and Urban Governance, conference sponsored by the Ministry of State for Urban Affairs, 239-245.

7. J.D. Horton, 1970, Variations on a Theme by Moore, Proceedings of the Louisiana Conference on Combinatorics, Graph Theory, and Computing, Baton Rouge, Louisiana, 146-166.

4   Non-refereed research reports

Many of these are early versions of refereed publications.

1. E. B. Spencer and J. D. Horton, 2001, Ancestor Reduction in Binary Resolution Trees, TR01-145 (11 pages).

2. Alexander Golynski and Joseph D. Horton, 2001, A Polynomial Time Algorithm to Find the Minimum Cycle Basis of a Regular Matroid, TR01-144 (9 pages).

3. J. D. Horton and A. Lopez-Ortiz, 2001, High Arity Nodes, Routing and Internet Tomography, TR01-143 (10 pages).

4. Joseph D. Horton, 2001, Counting the Number of Equivalent Binary Resolution Proofs, TR01-142 (15 pages).

5. J. D. Horton, 2000, Detecting Cascade Vulnerability in Linear Time, TR00-136, July, 2000 (7 pages).

6. Bruce Spencer and J. D. Horton, 2000, Support Ordered Resolution, TR00-134. (13 pages).

7. J. D. Horton and Bruce Spencer, 1999, Combining Rank/Activity with Set of Support, Hyperresolution and Subsumption, TR99-125, June 1999 (15 pages).

8. Andrew J. McAllister and J. D. Horton, 1999, On the Realizability of Cardinality Constraints in Conceptual Data Models, TR99-123, April 1999 (9 pages).

9. Peter Baumgartner, J.D. Horton and Bruce Spencer, 1999, Merge Path Improvements for Minimal Model Hyper Tableaux, University of Koblenz-Landau, Informatics Institute, Fachberichte Informatik No. 1-99. (33 pages) Also published as TR99-124 in Faculty of Computer Science, UNB.

10. J.D. Horton and Bruce Spencer, 1997, Bottom-up Procedures to Construct each Minimal Clause Tree Once, TR97-115, July 1997 (15 pages).

11. J. D. Horton and Bruce Spencer, 1996, Bottom-up Procedures for Minimal Clause Trees, TR96-101, January 1996 (21 pages).

12. J. D. Horton and Bruce Spencer, 1995, Reducing Search with Minimal Clause Trees, TR95-099, November 1995 (11 pages).

13. J. D. Horton and Bruce Spencer, 1995, Clause Trees: a Tool for Understanding and Implementing Resolution for Automated Reasoning, TR95-095, June 1995 (73 pages).

14. Bruce Spencer, J. D. Horton, and Kelsey Francis, 1995, Experiments with the ALPOC Theorem Prover, TR95-094, June 1995 (18 pages).

15. J. D. Horton and Bruce Spencer, 1994, Clause Trees and Factor Paths, TR93-088, October 1994 (17 pages).

16. W. M. Stewart and J. D. Horton, 1990, A Fast Incremental Convex Hull Algorithm for Higher Dimensions, TR90-061, Dec. 1990 (17 pages).

17. J. D. Horton, 1989, Factoring the Product of a Cubic Graph and a Triangle, TR89-046, March 1989.

18. J. D. Horton, 1988, A Hyperfactorization of Order 8, Index 2, TR88-045, Dec. 1988.

19. J.D. Horton, 1987, Hamilton Path Tournament Designs, Research Report CORR 87-50, Dept. Comb. Opt., U. Waterloo, Dec. 1987.

20. V.C. Bhavsar, L.A. Lambrou, J.D. Horton, and U.G. Gujar, 1987, Evaluation of the Discrepancy of the Linear Congruential Pseudo-Random Number Sequences, TR87-040, Oct. 1987.

21. J.D. Horton, 1987, Orthogonal Starters in Finite Abelian Groups, TR87-037, School of Computer Science, University of New Brunswick, April 1987.

22. J.D. Horton, 1984, A Polynomial-time Algorithm to Find the Shortest Cycle Basis of a Graph, TR84-026, School of Computer Science, University of New Brunswick, August 1984.

23. J.D. Horton, 1984, A Lower Bound on the Number of One-Factors in Bicubic Graphs, TR84-023, School of Computer Science, University of New Brunswick, June 1984.

24. J.D. Horton, 1983, Resolvable Path Designs, TR83-022, School of Computer Science, University of New Brunswick, June 1983.

25. J.D. Horton, 1982, Sets with No Empty Convex 7-gons, TR82-021, School of Computer Science, University of New Brunswick, September 1982.

26. J.D. Horton, 1973, A Hypotraceable Graph, Research Report CORR 73-4, Dept. of Combinatorics and Optimization, University of Waterloo.

5 Education

5.1 Degrees

Year	Department	University	Degree
1971	Combinatorics and Optimization	University of Waterloo	Ph.D.
1969	Mathematics	York University	M.A.
1968	Mathematics	University of Manitoba	B.Sc.(honours)

5.2 Theses

M.A. Thesis: Some Improved Bounds on Covering Sets, York University, Toronto (1969). Supervisor: R.G. Stanton.
Ph.D. Thesis: Some Recursive Constructions of Combinatorial Designs, University of Waterloo (1971). Supervisor: R.C. Mullin.