

Publications of William H. Cunningham

Refereed Publications

1. A network simplex method, *Mathematical Programming* 11 (1976), 105–116.
2. Chords and disjoint paths in matroids, *Discrete Math.* 19 (1977), 7–15.
3. An unbounded matroid intersection polyhedron, *Linear Algebra and its Applications* 16 (1977), 209–215.
4. (with A.B. Marsh, III) A primal algorithm for optimum matching, *Math. Programming Study* 8 (1978), 50–72.
5. Theoretical properties of the network simplex method, *Math. of Operations Research* 4 (1979), 196–208.
6. (with R.E. Bixby) Matroids, graphs, and 3-connectivity, in: ed. Bondy and Murty, *Graph Theory and Related Topics*, Academic Press, New York (1979), 91–103.
7. Binary matroid sums, *Quarterly J. Math. Oxford (2)*, 30 (1979), 271–281.
8. (with R.E. Bixby) Converting linear programs to network problems, *Math. of Operations Research* 5 (1980), 321–357.
9. (with J. Edmonds), A combinatorial decomposition theory, *Canadian J. Math.* 32 (1980), 734–765.
10. On matroid connectivity, *J. Combinatorial Theory B* 30 (1981), 94–99.

11. Separating cocircuits in binary matroids, *Linear Algebra and its Applications* 43 (1982), 69–86.
12. Decomposition of directed graphs, *SIAM J. Algebraic and Discrete Methods* 3 (1982), 214–228.
13. Polyhedra for composed independence systems, *Annals of Discrete Math.* 16 (1982), 57–67.
14. (with J.G. Klincewicz) On cycling in the network simplex method, *Math. Programming* 26 (1983), 182–189.
15. A class of linear programs convertible to network problems, *Operations Research* 31 (1983), 387–391.
16. Decomposition of submodular functions, *Combinatorica* 3 (1983), 53–68.
17. (with J. Araoz, J. Edmonds, and J. Green-Krótki) Reductions to 1-matching polyhedra, *Networks* 13 (1983), 455–473.
18. Testing membership in matroid polyhedra, *J. Combinatorial Theory B* 36 (1984), 161–188.
19. (with F. Barahona) A submodular network simplex method, *Mathematical Programming Study* 22 (1984), 9–31.
20. (with A. Frank) A primal-dual algorithm for submodular flows, *Math. of Operations Research* 10 (1985), 251–262.
21. Minimum cuts, modular functions, and matroid polyhedra, *Networks* 15 (1985), 205–215.
22. Optimal attack and reinforcement of a network, *J. ACM* 32 (1985), 549–561.
23. (with R.E. Bixby and D.M. Topkis) The poset of a polymatroid extreme point, *Math. of Operations Research* 10 (1985), 367–378.
24. (with G. Cornuéjols) Compositions for perfect graphs, *Discrete Mathematics* 55 (1985), 245–254.

25. On submodular function minimization, *Combinatorica* 5 (1985), 185–192.
26. Improved bounds for matroid partition and intersection algorithms, *SIAM J. Computing* 15 (1986), 948–957.
27. (with J. Green-Krótki) Dominants and submissives of matching polyhedra, *Mathematical Programming* 36 (1986), 228–237.
28. (with R.E. Bixby) Short cocircuits in binary matroids, *European J. Combinatorics* 8 (1987), 213–225.
29. (with F. Barahona) On dual integrality in matching problems, *Operations Research Letters* 8 (1989), 245–249.
30. Computing the binding number of a graph, *Discrete Applied Math.* 27 (1990), 283–285.
31. (with S.C. Boyd) Small travelling salesman polytopes, *Math. of Operations Research* 16 (1991), 259–271.
32. (with J. Green-Krótki) b -matching degree sequence polyhedra, *Combinatorica* 11 (1991), 219–230.
33. The optimal multiterminal cut problem, Proceedings of DIMACS Workshop on Reliability of Computer and Communications Networks, American Mathematical Society, 1991, pp. 105–120.
34. (with E. Cheng) A faster algorithm for computing the strength of a network, *Information Proc. Letters* 49 (1994), 209–212.
35. (with J. Green-Krótki) A separation algorithm for the matchable set polytope, *Math. Programming* 65 (1994), 139–150.
36. (with A. Bouchet) Delta-matroids, jump systems, and bisubmodular polyhedra, *SIAM J. Discrete Math.* 8 (1995), 17–32.
37. (with S.C. Boyd, M. Queyranne, and Y. Wang) Ladders for travelling salesmen, *SIAM J. Optimization* 5 (1995), 408–420.

38. (with J. Cheriyan, L. Tunçel, and Y. Wang) A linear programming and rounding approach to max 2-sat, Proceedings of Second DIMACS Challenge, American Mathematical Society, in: D.S. Johnson and M.A Trick (eds.) *Cliques, Coloring, and Satisfiability*, AMS, 1996, pp. 395–414.
39. (with E. Cheng) Wheel inequalities for the stable set polytope, *Math. Programming* 77 (1997), 389–421.
40. (with J. Geelen) The optimal path-matching problem, *Combinatorica* 17 (1997), 315–338.
41. (with J. Geelen) Integral solutions to linear complementarity problems, *Math. of Operations Research*, 23 (1998), 61–68.
42. (with A. Bouchet and J. Geelen) Principally unimodular skew-symmetric matrices, *Combinatorica* 18 (1998), 461–486.
43. (with Y. Wang) Restricted 2-factor polytopes, *Math. Programming*, 87 (2000), 87–111.
44. Matching, matroids, and extensions, *Mathematical Programming B* 91 (2002) 515-542.
45. (with Y. Wang) On the even permutation polytope, *Linear Algebra and its Applications* 389C (2004), 269-281.
46. (with K. Cheung and L. Tang), 3-Terminal cuts and linear programming, *Math. Programming* 105 (2006), 389–421.
47. (with M. Chudnovsky and J. Geelen) An algorithm for packing non-zero A -paths in group-labeled graphs, *Combinatorica* 28 (2008), 145–161.

Papers submitted and in preparation

1. (with J. Geelen) Optimal even factors in digraphs”, manuscript.

Papers in refereed conference proceedings

1. The circumference of a class of product graphs, in: ed. R.C. Mullin *et al.*, *Proceedings of the Second Louisiana Conference on Combinatorics, Graph Theory and Computing*, 1971, 203–224.
2. On theorems of Berge and Fournier, in: ed. C. Berge and D.K. Ray-Chaudhuri, *Hypergraph Seminar Proceedings 1972*, Springer Lecture Note Series No. 411, 1974, 67–74.
3. (with F. Zhang) Subgraph degree sequence polyhedra, *Proceedings of Second Conference on Integer Programming and Combinatorial Optimization*, Carnegie Mellon Press, 1992.
4. (with E. Cheng) Separation problems for the stable set polytope, in: E. Balas and J. Clausen (eds.), *Proceedings of 4th International IPCO Conference*, Lecture Notes in Computer Science Springer Verlag, 1995.
5. (with J. Geelen), The optimal path-matching problem, in: *Proceedings of Symposium on Foundations of Computer Science*, 1996, pp. 78–85.
6. (with L. Tang), Optimal 3-terminal cuts and linear programming, in: *Proceedings of 7th International IPCO Conference*, Lecture Notes in Computer Science, 1999, pp. 114–125.
7. (with Jim Geelen), On Integer programming and the branch-width of the constraint matrix, in: *Proceedings of 12th International IPCO Conference*, Lecture Notes in Computer Science, 2007, pp. 158–166.

Book chapters

1. (with R.E. Bixby) Matroid optimization and algorithms, in: R.L. Graham, M. Grötschel, and L. Lovász (eds.) *Handbook of Combinatorics*, North-Holland, 1995, pp. 550–609.

Books

1. (with W.J. Cook, W.R. Pulleyblank, and A. Schrijver) *Combinatorial Optimization*, Wiley, New York, 1998.

Books Edited

1. (with M. Queyranne and S.T. McCormick) *Proceedings of the Fifth Conference on Integer Programming and Combinatorial Optimization*, Springer Verlag, 1996.