List of Scientific Publications

István Maros

2012-08-19

1 Research Monograph

1. I. Maros. *Computational Techniques of the Simplex Method*, volume 61 of *International Series in Operations Research and Management*. Kluwer Academic Publishers, Boston, 2003. 325+xx pages, Research monograph.

2 Books, Textbooks

1. I. Maros. *Operációkutatás Informatikusoknak*. Typotext, 2011. TÁMOP-4.1.2-08/1/A-2009-0008 sz. projekt.

3 International Journal Papers

1. I. Maros. Computational study of the GDPO dual phase-1 algorithm. *Computational Management Science*, 7(2):207–223, 2010.

2. István Maros, Garyfallos Arabatzis, and Angelo Sifaleras. Editorial to the Special issue on "Optimization models in environment and sustainable development". *Operational Research*, 9(3):225–227, 2009.

3. I. Maros. A Piecewise Linear Dual Phase-1 Algorithm for the Simplex Method. *Computational Optimization and Applications*, 26:63–81, 2003.

4. I. Maros. A General Pricing Scheme for the Simplex Method. *Annals of Operations Research*, 124:193–203, 2003.

5. I. Maros. A Generalized Dual Phase-2 Simplex Algorithm. *European Journal of Operational Research*, 149(1):1–16, 2003.

6. N. Gülpinar, G. Mitra, and I. Maros. Creating Advanced Bases For Linear Programs Exploiting Embedded Network Structure. *Computational Optimization and Applications*, 21(1):71–93, January 2002.

7. I. Maros and M. H. Khaliq. Advances in Design and Implementation of Optimization Software. *European Journal of Operational Research*, 140(2):322–337, 2002.

8. I. Akrotirianakis, I. Maros, and B. Rustem. An Outer Approximation Based Branch And Cut Algorithm For Convex 0-1 MINLP Problems. *Optimization Methods and Software*, 16(1–4):21–47, 2001.

9. N. Gülpinar, G. Gutin, G. Mitra, and I. Maros. Detecting embedded networks in LP using GUB and independent set algorithms. *Computational Optimization and Applications*, 15(3):235–247, March 2000.

10. I. Maros and G. Mitra. Investigating the Sparse Simplex Algorithm on a Distributed Memory Multiprocessor. *Parallel Computing*, 26(1):151–170, 2000.

11. I. Maros and Cs. Mészáros. A repository of convex quadratic programming problems. *Optimization Methods and Software*, 11&12:671–681, December 1999.

12. N. Gülpinar, G. Mitra, and I. Maros. Detecting Embedded Pure Network Structures in LP Problems. *TOP, Operational Research in Practice*, 6(1):67–95, 1998.

13. I. Maros and G. Mitra. Strategies for Creating Advanced Bases for Large-Scale Linear Programming Problems. *INFORMS Journal on Computing*, 10(2):248–260, Spring 1998.

14. I. Maros and Cs. Mészáros. The Role of the Augmented System in Interior Point Methods. *European Journal of Operational Research*, 107(3):720–736, 1998.

15. I. Maros and Cs. Mészáros. A numerically exact implementation of the simplex method. *Annals of Operations Research*, 58:3–17, 1995.

16. I. Maros. A practical anti-degeneracy row selection technique in network linear programming. *Annals of Operations Research*, 47:431–442, 1993.

17. I. Maros. A general Phase–I method in linear programming. *European Journal of Operational Research*, 23:64–77, 1986.

4 Papers in Refereed Volumes

1. Péter Tar and István Maros. Product Form of the Inverse Revisited. In Stefan Ravizza and Penny Holborn, editors, *3rd Student Conference on Operational Research*, volume 22 of *OpenAccess Series in Informatics (OASIcs)*, pages 64–74, Dagstuhl, Germany, 2012. Schloss Dagstuhl–Leibniz-Zentrum fuer Informatik.

2. I. Maros. Simplex-based LP solvers. In James J. Cochran, editor, *Wiley Encyclopedia of Operations Research and Management Science*. John Wiley & Sons, Inc., 2010.

3. I. Maros. Degeneracy and variable entering/exiting rules. In James J. Cochran, editor, *Wiley Encyclopedia of Operations Research and Management Science*. John Wiley & Sons, Inc., 2010.

4. I. Maros and K. Thielemans. PET Image reconstruction by vector norm optimization. In *Proceedings of MIAR 2001, Medical Imaging and Augmented Reality*, pages 152–156. IEEE Computer Society, 2001.

5. I. Maros. A Piecewise Linear Dual Procedure in Mixed Integer Programming. In F. Giannesi, S. Komlósi, and T. Rapcsák, editors, *New Trends in Mathematical Programming*, pages 159–170. Kluwer Academic Publishers, 1998.

6. I. Maros and G. Mitra. Simplex Algorithms. In J. Beasley, editor, *Advances in Linear and Integer Programming*, pages 1–46. Oxford University Press, 1996.

7. I. Maros, S. Ruuth, C. Lucas, and G. Mitra. Solution of a nonlinear robot assignment problem. In E. Matson, editor, *Essays in honour of Bjorn Nygreen on his 50th birthday*, pages 49–60. Norwegian University of Science and Technology, Department of Managerial Economics and Operations Research, Trondheim, Norway, 1996.

8. I. Maros and G. Mitra. Finding Better Starting Bases for the Simplex Method. In P. Kleinschmidt and et al., editors, *Operations Research Proceedings 1995*, pages 7–12. Springer Verlag, 1996.

9. I. Maros. Performance evaluation of the MINET minimum cost netflow solver. In D. S. Johnson and C. C. McGeogh, editors, *Network Flows and Matching: First DIMACS Implementation Challenge*, volume 12 of *DIMACS series in discrete mathematics and theoretical computer science*, pages 199–217. American Mathematical Society, 1993.

10. I. Maros and M. Biró. The use of deep knowledge from the perspective of cooperative problem solving, systems modeling, and cognitive psychology. In R. Mittermeir, editor, *Shifting Paradigms in Software Engineering*, pages 56–67. Springer–Verlag, Wien New York, 1992. also Springer-Verlag New York Wien.

11. I. Maros. A multicriteria decision problem within the simplex method. In G. Mitra, editor, *Mathematical Models for Decision Support*, pages 263–272. Springer Verlag, 1988.

12. I. Maros. A Non–Standard Phase–I Method. *SZÁMKI Studies*, 7:49–75, 1980.

13. I. Maros and J. Mócsi. Experiences with the dual type GUB algorithm of Grigoriadis. In A. Prékopa, editor, *Survey of Mathematical Programming I.*, pages 75–83. North-Holland, 1979.

14. I. Maros. LIPROS linear programming system R10/12. In K. Lommatzsch, editor, *Seminarberichte*, 22. Humboldt Universität, Sektion Mathematik, Berlin, Germany, Dez 1979.

15. I. Maros and J. Mócsi. Investigation of the numerical behavior of a dual type linear programming algorithm. *SZÁMKI Studies*, 2:109–121, 1978.

5 Hungarian Refereed Journal Papers

1. Gy. Kozmann, I. Maros, Zs. Tarjányi, G. Tuboly, and K. Fülöp. Kadiológiai bioelektromos képalkotás testfelszini és epicardiális szinten. *IME*, 9(10):50–53, December 2010.

2. I. Maros. Investigating Phase-1 of the Dual Simplex Method. *Alkalmazott Matematikai Lapok (Journal of Applied Mathematics)*, 23:139–161, 2006. In Hungarian.

3. I. Maros and J. Bokor. Impact of personal computers on operations research. *Alkalmazott Matematikai Lapok (Journal of Applied Mathematics)*, 14:155–169, 1989. In Hungarian.

4. I. Maros, J. Novák, and M. Gyenei. A method for comparative study of accidents. *Egészségtudomány (Health Science)*, 26:273–280, 1982. In Hungarian.

5. I. Maros. Adaptive methods in linear programming, II. *Alkalmazott Matematikai Lapok (Journal of Applied Mathematics)*, 7:1–71, 1981. In Hungarian.

6. I. Maros. Experiences with some new algorithmic procedures of LIPROS linear programming package. *STRUKTURA (Structure)*, 15:7–25, 1981. In Hungarian.

7. I. Maros. Some new algorithmic procedures in LIPROS linear programming package. *STRUKTURA (Structure)*, 14:46–60, 1981. In Hungarian.

8. I. Maros. On determining the outgoing variable in Phase–I of the simplex method. *Alkalmazott Matematikai Lapok (Journal of Applied Mathematics)*, 6:1–16, 1980. In Hungarian.

9. I. Maros. Dynamic scaling in LIPROS linear programming package. *Információ-Elektronika (Information-Electronics)*, 5:294–298, 1979. In Hungarian.

10. I. Maros. The LIPROS linear programming package. *Számitástechnika (Computing)*, 4, 1977. In Hungarian.

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12. I. Maros. Remarks on applying operations research to real-life problems. *Szervezés és Vezetés (Management)*, 5:160–162, 1974. In Hungarian.

13. I. Maros, A. Dobosy, and A. Heppes. Solution of large scale linear programming problems on ICL 1900 series computers. *Szervezés és Vezetés (Management)*, 11:313–319, 1974. In Hungarian.

14. I. Maros and A. Dóczi. An information data base for oil exploration. *Információ-Elektronika (Information-Electronics)*, 3:197–203, 1974. In Hungarian.

15. I. Maros. Error recovery procedures in linear programming algorithms. *Információ-Elektronika (Information-Electronics)*, 2:91–97, 1974. In Hungarian.

16. I. Maros and A. Heppes. Chances to solve large scale linear programming problems. *SZÁMOLÓGÉP (COMPUTERS)*, 3, 1971. In Hungarian.

17. I. Maros and J. Seregély. Determining all solutions of a Diophantine equation. *Szervezés és Vezetés (Management)*, 4:136–139, 1970. In Hungarian.

18. I. Maros. Optimization efforts in local bus transport. *Információ-Elektronika (Information-Electronics)*, 3:187–191, 1969. In Hungarian.

19. I. Maros. A cutting stock problem. *Studies in Computing (NIM IGÜSZI Számitástechnikai Közlemények)*, 1:24–26, 1965. In Hungarian.

6 Editing Foreign Language Volumes

1. István Maros, Garyfallos Arabatzis, and Angelo Sifaleras. Special issue on "Optimization models in environment and sustainable development". *Operational Research*, 9(3):225–227, 2009.

2. I. Maros, G. Mitra, and H. Vladimirou, editors. *Applied Mathematical Programming and Modelling IV.*, volume 99 of *Annals of Operations Research*. Kluwer Academic Publishers, 2000.

3. I. Maros, G. Mitra, and A. Schiomachen, editors. *Applied Mathematical Programming and Modelling III.*, volume 81 of *Annals of Operations Research*. Baltzer Science Publishers, 1998.

4. I. Maros and G. Mitra, editors. *Applied Mathematical Programming and Modelling II.*, volume 58 of *Annals of Operations Research*. Baltzer Science Publishers, 1995.

5. I. Maros, editor. *Symposium on Applied Mathematical Programming and Modelling*. Computer and Automation Institute, Akaprint, Hungarian Academy of Sciences, 1993. 620 + xxiii pages.

6. I. Maros, editor. *Feature issue on nonlinear programming*, volume 65(3) of *European Journal of Operational Research*. Elsevier, 1993.

7. I. Maros and G. Mitra, editors. *Applied Mathematical Programming and Modelling*, volume 43 of *Annals of Operations Research*. Baltzer Science Publishers, 1993.

7 Selected Research Reports

1. S. Ruuth, I. Maros, and K. Nieminen. A Multiobjective Dynamic Nonlinear Robot Assignment Problem. Departmental Technical Reports 2007/3, Department of Computing, Imperial College, London, 2007.

2. O. C. Ezechukwu and I. Maros. A Generic Algorithm for Automated Model Formulation. Departmental Technical Reports 2007/1, Department of Computing, Imperial College, London, 2007.

3. I. Maros. Computational Study of the GDPO Dual Phase-1 Algorithm. Departmental Technical Reports 2006/7, Department of Computing, Imperial College, London, 2006.

4. O. C. Ezechukwu and I. Maros. OSCP: Optimization Service Connectivity Protocol. Departmental Technical Reports 2004/5, Department of Computing, Imperial College, London, 2004.

5. O. C. Ezechukwu and I. Maros. ORML: Optimization Reporting Markup Language. Departmental Technical Reports 2003/13, Department of Computing, Imperial College, London, 2003.

6. O. C. Ezechukwu and I. Maros. AML: Algebraic Markup Language. Departmental Technical Reports 2003/12, Department of Computing, Imperial College, London, 2003.

7. O. C. Ezechukwu and I. Maros. OOF: Open Optimization Framework. Departmental Technical Reports 2003/7, Department of Computing, Imperial College, London, 2003.

8. K. Nieminen, S. Ruuth, and I. Maros. Genetic algorithm for finding a good first integer solution for MILP. Departmental Technical Reports 2003/4, Department of Computing, Imperial College, London, 2003.

9. I. Maros. An enhanced piecewise linear dual phase-1 algorithm for the simplex method. Departmental Technical Reports 2002/15, Department of Computing, Imperial College, London, 2002.

10. I. Maros. A General Pricing Scheme for the Simplex Method. Departmental Technical Reports 2001/3, Department of Computing, Imperial College, London, 2001. 14pp.

11. I. Maros. A Generalized Dual Phase-2 Simplex Algorithm. Departmental Technical Reports 2001/2, Department of Computing, Imperial College, London, 2001. 26pp.

12. I. Maros. A Piecewise Linear Dual Phase-1 Algorithm for the Simplex Method With All Types of Variables. Departmental Technical Reports 2000/13, Department of Computing, Imperial College, London, 2000. 25pp.

13. I. Maros and M. H. Khaliq. Advances in Design and Implementation of Optimization Software. Departmental Technical Reports 2000/11, Department of Computing, Imperial College, London, 2000. 36pp.

14. I. Akrotirianakis, I. Maros, and B. Rustem. An Outer Approximation Based Branch And Cut Algorithm For Convex 0-1 Minlp Problems. Departmental Technical Reports 2000/6, Department of Computing, Imperial College, London, 2000. 20pp.

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16. N. Gülpinar, I. Maros, and G. Mitra. Solving LP with Embedded Networks: Lagrangian Relaxation Used as a Crash Procedure. Technical Report TR/04/98, Department of Mathematics and Statistics, Brunel University, West London, United Kingdom, 1998.

17. I. Maros and Cs. Mészáros. A Repository of Convex Quadratic Programming Problems. Departmental Technical Report 1997/6, Department of Computing, Imperial College, London, 1997.

18. I. Maros, N. Gülpinar, and G. Mitra. Detecting Embedded Pure Network Structures in Linear Programs. Technical Report TR/20/96, Department of Mathematics and Statistics, Brunel University, West London, United Kingdom, July 1996.

19. I. Maros. A piecewise linear dual procedure in mixed integer programming. Technical Report TR/17/96, Department of Mathematics and Statistics, Brunel University, West London, United Kingdom, June 1996.

20. I. Maros and G. Mitra. Strategies for creating advanced bases for large-scale linear programming problems. Technical Report TR/4/96, Department of Mathematics and Statistics, Brunel University, West London, United Kingdom, March 1996.

21. I. Maros and G. Mitra. Simplex Algorithms. Technical Report TR/12/95, Department of Mathematics and Statistics, Brunel University, West London, United Kingdom, June 1995.

22. I. Maros and Cs. Mészáros. The practical linear algebra of interior point methods for linear programming. Technical Report TR/10/95, Department of Mathematics and Statistics, Brunel University, West London, United Kingdom, April 1995.

23. I. Maros and Cs. Mészáros. Vector norm minimization approaches to image reconstruction problems. Technical Report TR/09/95, Department of Mathematics and Statistics, Brunel University, West London, United Kingdom, April 1995.

24. I. Maros and Cs. Mészáros. The Role of the Augmented System in Interior Point Methods. Technical Report TR/06/95, Department of Mathematics and Statistics, Brunel University, West London, United Kingdom, March 1995.

25. I. Maros and Cs. Mészáros. A numerically exact implementation of the simplex method. In I. Maros, editor, *Applied Mathematical Programming and Modeling*, pages 102–109. Computer and Automation Institute (MTA SZTAKI), Budapest, Hungary, 1993

26. I. Maros, R. Levkovitz, and G. Mitra. Computational issues of integrating sparse simplex and interior point methods. In *Scandinavian Workshop on Linear Programming, Volume of Extended Abstracts*, pages 27–31. IMSOR/Technical University of Denmark, August 1993.

27. I. Maros. Performance evaluation of MINET minimum cost netflow solver. Research Report 11–92, RUTCOR, Rutgers University NJ, USA., 1992.

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29. I. Maros. A structure exploiting pricing procedure for network linear programming. Research Report 18–91, RUTCOR, Rutgers University, NJ, USA, May 1991. 15 pages.

30. I. Maros. A practical anti-degeneracy row selection technique in network linear programming. COST Combinatorial Optimization in Science and Technology, Volume of Extended Abstracts, RUTCOR, Rutgers University, NJ, USA., April 1991.

31. I. Maros and M. Biró. Deep knowledge for group decision support. Research Report 42, Computer and Automation Institute (MTA SZTAKI), Budapest, Hungary, 1991. 32 pages.

32. I. Maros. On pricing in the primal network simplex algorithm. Research Report 39, Computer and Automation Institute (MTA SZTAKI), Budapest, Hungary, 1990. 12 pages, in Hungarian.

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35. I. Maros. MINET fast network LP solver, description and user's guide for v2.00. Technical Report WP–88–6, IIASA, Laxenburg, Austria, January 1988.

36. I. Maros. MINET a fast network LP solver. Technical Report WP–87–50, IIASA, Laxenburg, Austria, June 1987. 15 pages.

37. I. Maros. A general Phase–I method in linear programming. Technical Report Memorandum COSOR 83–01, THE (Eindhoven University of Technology), Eindhoven, Holland, 1983. 37 pages.

38. I. Maros, A. Dobosy, M. Hegedűs, and A. Heppes. The development of a linear programming package for the Hungarian R10 computers. First prize winner research project in computing at the Hungarian Academy of Sciences, 1980. In Hungarian.

39. I. Maros. *The FUT linear programming package for solving large scale LP problems, II.: The algorithm.* NIM IGÜSZI, Budapest, Hungary, 1971. 36 pages, in Hungarian.

40. I. Maros and P. Ihrig. Methods to find best fitting curves for production time series. In *Research Reports of the Research Institute for Industrial Engineering*, volume 8, pages 185–224. Hungarian Academy of Sciences, Budapest, Hungary, 1967. In Hungarian.

41. I. Maros. Optimal time tables for local bus transportation. Technical report, IFIP Seminar, London, 1967. 24 pages.

8 Software

1. E. F. D. Ellison, M. Hajian, R. Levkovitz, I. Maros, G. Mitra, and D. Sayers. *FortMP Manual.* Optirisk Systems and Brunel University, London, 3rd edition, June 1999.

2. I. Maros and G. Mitra. Introducing FortMP: A Comprehensive Optimization Tool for Academic and Industrial Research. In K. Madsen, editor, *Extended Abstracts of Invited Papers, Second Scandinavian Workshop on Linear Programming*, pages 26–31. Technical University of Denmark, Lyngby, Aug. 1996.

3. I. Maros, E. F. D. Ellison, M. Hajian, R. Levkovitz, G. Mitra, and D. Sayers. *FortMP Manual*. Department of Mathematics and Statistics, Brunel University, London and NAG, Oxford, May 1994. 2nd edition published in 1996.

4. I. Maros. MILP linear programming optimizer for personal computers under DOS. Research Report 41, Computer and Automation Institute (MTA SZTAKI), Budapest, Hungary, 1991. 16 pages.

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