PETER L. HAMMER

List of Publications

BOOKS:

Pseudo-Boolean Programming and Applications. Lecture Notes in Mathematics, Vol. 9, Springer-Verlag, Berlin/Heidelberg/New York, 1965, 50 pages.

Boolean Techniques for Bivalent Programming (with S. Rudeanu). Lecture Notes in Mathematics, Vol. 23, Springer-Verlag, Berlin/Heidelberg/New York, 1966, 120 pages.

Boolean Methods in Operations Research and Related Areas (with S. Rudeanu). Springer-Verlag, Berlin/Heidelberg/New York, 1968, 330 pages. Edition francaise: Dunod, Paris, 1970.

FORTHCOMING BOOKS:

Boolean Functions: Theory, Algorithms and Applications (with Y. Crama). Cambridge University Press, forthcoming 2007.

Boolean Functions in Computer Science and Engineering (with Y. Crama). Cambridge University Press, forthcoming 2008.

Boolean Functions in Pure and Applied Mathematics (with Y. Crama). Cambridge University Press, forthcoming 2009.

Pseudo-Boolean Functions (with E. Boros and Y. Crama). Cambridge University Press, forthcoming 2010.

EDITED VOLUMES:

Mathematical Programming in Theory and Practice (Editor, with G. Zoutendijk). North-Holland Publishing Co., Amsterdam, 1974, 480 pages.

Studies in Integer Programming (Editor with E. L. Johnson, B. Korte and G. Nemhauser). North-Holland Publishing Co., Amsterdam, 1977, 562 pages.

Discrete Optimization I - II (Editor with E. L. Johnson and B. Korte). North-Holland Publishing Co., Amsterdam, 1979, 299 & 453 pages resp.

Horn Logic, Search and Satisfiability. Annals of Mathematics and Artificial Intelligence, Volume 1, 1990 (Editor with M. Golumbic, P. Hansen and T. Ibaraki). J.C. Baltzer Scientific Publishing Co., Switzerland, 372 pages.

Boolean Functions. Discrete Applied Mathematics, Volumes 96-97, 1999 (Editor with E. Boros), Elsevier Publishing, Amsterdam, 236 pages.

Boolean Functions and Related Problems. Discrete Applied Mathematics, Volume 107, 2000, Elsevier Publishing, Amsterdam, 262 pages.

Discrete Optimization DO'99: Surveys on the State of the Art. Discrete Applied Mathematics, Volume 123, 2002, and *Topics in Discrete Mathematics* 11, 2003 (Editor with E. Boros), Elsevier Publishing, Amsterdam, 580 pages.

Contributions to Discrete Optimization. Discrete Applied Mathematics, Volume 124, 2002 (Editor with E. Boros), Elsevier Publishing, Amsterdam, 142 pages.

Boolean and Pseudo-Boolean Functions. Discrete Applied Mathematics, Volume 142, 2004. Elsevier Publishing, Amsterdam, 205 pages.

Discrete Mathematics & Data Mining. Discrete Applied Mathematics, Volume 144, 2004 (Editor with M. Anthony, E. Boros, and A. Kogan). Elsevier Publishing, Amsterdam, 227 pages.

Boolean and Psuedo-Boolean Functions. Discrete Applied Mathematics, Volume 149, 2005. Elsevier Publishing, Amsterdam, 218 pages.

Discrete Mathematics & Data Mining. Discrete Applied Mathematics, Volume 154 (7), 2006 (Editor with M. Anthony, E. Boros, and A. Kogan). Elsevier Publishing, Amsterdam, forthcoming.

PUBLISHED PAPERS*

1.   Groups with Finite Classes of Conjugate Elements. <u>Diploma Work</u>. (Appro= M.Sc. Thesis). University of Bucharest, Dept. of Mathematics and Mechanics, 1958.

2.   Infinite Rings with Finite Factorizations. <u>Com. Acad. RPR</u>, 9, 1959, 233-235.

3.   Mathem and the Planning of Transportations. <u>Probl. Automatica</u>, 2, 1960, 47-55 (with E. Balas).

4.   Linear Programming and Transportation. <u>Rev. Statistica</u>, 9, 1960, No. 7, 43-61 (with E. Balas).

5.   Transportation Problems with Related Centres. <u>Stud. Cerc. Matem.</u>, 11, 1960, No. 2, 439-450 (with E. Balas).

6.   Applications of Mathematics to Economics. <u>Gazeta Matem-Fiz</u>, Ser. A, 12 (65), 1960, No. 11, 569-576.

7.   On the Egervary Method for Solving Transportation Problems. I. <u>Com. Acad. RPR</u>, 11, 1961, No. 7, 773-778 (with S. Rudeanu).

8.   Optimization of the Development Plan of an Industry. <u>Probl. Automatica</u>, 3, 1961, 25-34 (with E. Balas).

9.   Transportation Problems with Parameters. <u>Stud. Cerc. Matem.</u>, 12, 1961, No. 2, 413-427 (with E. Balas).

10.   Transportation Problems with Variable Centres. <u>Stud. Cerc. Matem.</u>, 12, 1961, No. 2, 429-435 (with E. Balas).

11.   A Method for Solving Transportation Problems. <u>Com. Acad. RPR</u>, 11, 1961, No. 9, 1047-1049 (with E. Balas).

12.   Transportation Problems for Nonhomogeneous Products. <u>Stud. Cerc. Matem.</u>, 13, 1962, No. 1, 97-105 (with E. Balas).

13.   Semilinear Spaces. <u>Com. Acad. RPR</u>, 12, 1962, No. 12, 1267-1272 (with G. Godini).

14.   On the Egervary Method for Solving Transportation Problems. II. <u>Stud. Cerc. Matem.</u>, 14, 1963, No. 1, 59-67 (with S. Rudeanu).

15.   Stability of the Optimal Solutions of Transportation Problems with Variable Costs. <u>Com. Acad. RPR</u>, 13, 1963, No. 3, 249-251 (with E. Balas).

16.   Soviet Works on Operations Research. <u>Gazeta Matem.-Fiz.</u>, Ser. A, 15(68), 1963, No. 2, 102-103.

17.   On the Minimization of Pseudo-Boolean Functions. <u>Stud. Cerc. Matem.</u>, 14, 1963, No. 3, 359-364 (with I. Rosenberg and S. Rudeanu).

18.   Applications of Boolean Algebra to Economics. <u>Stud. Cerc. Matem.</u>, 17, 1965, No. 4, 583-598.

19.   Romanian Research on Mathematical Programming. <u>Progresele Stiintei</u>, 1, 1965, No. 5, 137-142.

20.   A Theory of Binary Decisions. I. <u>The Linear Case. Stud. Cerc. Calcul Economic si Cibern. Econom.</u>, 1, 1966, No. 2, 105-126 (with S. Rudeanu).

21.   A Method for Bivalent Mathematical Programming. <u>Lucrarile Conferintei Directiei Centrale Statistica</u>, 1966, 128-137.[1]

22..   Shefferian Algebras. <u>Bull. Math.</u>, 3(51), 1959, 289-303.

23.   Transportation Problems with Variable Data. <u>Rev. Math. Pures et Appl.</u>, 6, 1961, 713-734 (with E. Balas).

---

1   Papers 1-21 are in Romanian, with abstracts in English, French, German or Russian.

24.   Applications de la programmation lineaire dans les transports roumains. <u>Etudes Economiques</u>, 1962, No. 140 (with E. Balas).

25.   On the Transportation Problem. <u>Cahiers du Centre d'Etudes de Recherche Operationelle</u>, Part I: 4, 1962, No. 2, 98-116; Part II: 4, 1962, 131-160 (with E. Balas).

26.   Applications of Discrete Linear Programming to the Minimization of Boolean Functions. <u>Rev. Math. Pures et Appl.</u>, 8, 1963, No. 3, 459-475 (in Russian; with I. Rosenberg and S. Rudeanu).

27.   On a Problem in Coding Theory. <u>Bull. Math.</u>, 7(59), 1963, Nos. 3-4, 149-150 (with A. Deleanu).

28.   Programmation polynomiale en nombres entiers. <u>C.R. Acad. Sci. Paris</u>, 258, 1964, 424-427.

29.   On the Generalized Transportation Problem. <u>Management Science</u>, 11, 1964. No. 1, 188-202 (with E. Balas).

30.   Applications of Pseudo-Boolean Programming to the Theory of Graphs. <u>Zeitschrift fur Wahrscheinlich-keitstheorie</u>, 3, 1964, 163-176 (with I. Rosenberg).

31.   On the Minimal Decomposition of Finite Partially Ordered Sets into Chains. <u>Rev. Roum. Math. Pures et Appl.</u>, 9, 1964, No. 10, 897-903.

32.   Systems of Pseudo-Boolean Equations and Inequalities. <u>Bull. Acad. Polon. Sci., Cl.</u> III, 12, 1964, No. 11, 673-680.

33.   The Method of Successive Eliminations for Pseudo-Boolean Equations. <u>Bull. Acad. Polon. Sci.</u>, Cl. III. 12, 1964, No. 11, 681-683.

34.   Outline of the Pseudo-Boolean Method for Integer Polynomial Programming. Bull. <u>Acad. Sci., Cl.</u> III. 12, 1964, No. 11, 685-686.

35.   On the Weighted Distribution Problem. <u>Proceedings of the Colloquium on Applications of Mathematics to Economics, Publ. House of Hungarian Academy of Sciences</u>, 1965, pp. 11-13 (with E. Balas).

36.   Problems of Pseudo-Boolean Programming. <u>Proceedings of the Colloquium of Applications of Mathematics to Economics</u>. Publ. House of Hungarian Academy of Sciences, 1965, 141-144 (with I. Rosenberg and S. Rudeanu).

37.   Integer Polynomial Programming. <u>Bull. Math.</u>, 9(57), 1965, No. 1, 59-66.

38.   Some Network Flow Problems Solved with Pseudo-Boolean Programming. <u>Operations Research</u>, 13, 1965, No. 3, 388-399.

39.   Applications of Boolean Algebra to the Theory of Binary Decisions and to Economics. <u>Rev. Roum. Math. Pures et Appl.</u>, 10, 1965, No. 6, 809-841.

40.   Pseudo-Boolean Programming with Special Constraints; Applications to Graph Theory. <u>Elektronische Informationstheorie und Kybernetik</u>, 1, 1965, No. 3, 165-183.

41.   Pseudo-Boolsche Programmierung und Anwendungen. <u>Mathematik und Wirtschaft</u>, Band IV, 1966, 9-26.

42.   Dynamic Programming with Bivalent Variables. <u>Matematicki Vesnik</u>, 3(18), 1966, 87-99.

43.   Researches on the Transportation Problem. <u>Matematicki Vesnik</u> 3(18), 1966, No. 3, 187-201.

44.   Programmation Pseudo-Booleenne. I. <u>Le Cas Lineaire. C.R. Acad. Sci. Paris, Ser.</u> A-B, 263, 1966, 164-167 (with S. Rudeanu).

45.   Programmation Pseudo-Booleenne. II. <u>Le Cas Non-Lineaire.</u> C.R. Acad. Sci. Paris, Ser. A-B, 263, 1966, 217-219 (with S. Rudeanu).

46.   A Pseudo-Boolean Approach to Matching Problems in Graphs with Applications to Assignment and Transportation Problems. Theory of Graphs. <u>Proceedings of the International Symposium Organized by ICC - Rome 1966</u>. Dunod (Paris) and Gordon and Breach (New York), 1967, 161-175 (with S. Rudeanu).

47.   Minimization of Switching Circuits in Actual Operation. <u>Rev. Roum. Math. Pures et Appl.</u>, 12, 1967, 407-444 (with S. Rudeanu).

48.   Boolean Methods in Operations Research. <u>Ekonomicko-Matematicki Obzor</u>, 3, 1967, No. 4, 442-445.

49.   Extensions of Pseudo-Boolean Programming. <u>Matematicki Vesnik</u>, 4 (19), 1967, No. 3, 211-224 (with S. Rudeanu).

50.   A Theory of Binary Decisions. In: <u>Risk and Uncertainty, Proceedings of a Conference of the International Economic Association</u> (K. Borch and G. Mossin, editors), MacMillan, London-Toronto, 1968 and St. Martin's Press, New York, 1968, pp.163-181 (discussion of same paper on pp. 181-182).

51.   Parametrische Transportprobleme. <u>Mathematik und Wirtschaft</u>, Band V, 1968, 135-145.

52.   Plant Location - A Pseudo-Boolean Approach. <u>Israel Journal of Technology</u>, 6, 1968, No. 5, 330-332.

53.   A Pseudo-Boolean Viewpoint on Systems of Representatives. <u>Applicationes Mathematicae</u>, 10, 1969, 135-142 (with S. Rudeanu).

54.   Pseudo-Boolean Programming. <u>Operations Research</u>, 17, 1969, No. 2, 233-261 (with S. Rudeanu).

55. Increasing the Capacity of a Network. Journal of the Canadian Operational Research Society, 7, 1969, No. 2, 83-91.

56. Time Minimizing Transportation Problems. Naval Research Logistics Quarterly, 16, No.3, 1969, 345-357.

56a. Communication on "The Bottleneck Transportation Problem" and "Some Remarks on the Time Transportation Problem". Naval Research Logistics Quarterly, 18, 1971, No. 4, 487-490.

57. A Note on the Dynamic Planning of Investment Projects. European Economics Review, 2, No. 1, 1970, 111-121, (with M. Shechter).

58. Some Remarks on Quadratic Programming with 0-1 Variables. Revue Francaise d'Informatique et de Recherche Operationelle, 4, 1970, V-3, 67-79, (with A. A. Rubin).

59. Applications of Pseudo-Boolean Methods to Economic Problems. Theory and Decision, 1, 1971, 296-308 (with E. Shliffer).

60. A BBB Method for Linear and Nonlinear Bivalent Programming. Developments in Operations Research, Vol. I. B. Avi-Itzhak (editor), 45-82. Gordon and Breach, New York/London/Paris, 1971.

61. Pseudo-Boolean Programming with Random Coefficients, Cahiers du Centre d'Etudes de Recherche Operationelle, 14, 1972, 67-82 (with A. Ettinger).

62. On the Maximization of a Pseudo-Boolean Function. Journal of the Association for Computing Machinery, 19, 1972, 265-282 (with U. Peled).

63. On the Use of Boolean Functions in 0-1 Programming. Methods of Operations Research, 12, 1972, 154-184 (with F. Granot).

64. Equivalent Forms of 0-1 Programs. In: "Applications of Number Theory to Numerical Analysis", S.K. Zaremba (editor), Academic Press, New York, London 1972, 453-463 (with I. Rosenberg).

65. Ternary Programming. I. The Linear Case. Methods of Operations Research, 14, 1972, 271-315 (with B.-Z Ronen).

66. BABO - A Boolean Approach to Bivalent Optimization. Optimization and Design, M. Avriel, M.J. Rijckaert and D.J. Wilde (editors), Prentice-Hall, Inc., Englewood Cliffs, N.J., 1973, pp. 473-489.

67. Disconnection of Finite Graphs by Pseudo-Boolean Methods. Methods of Operations Research, 16, 1973, 161-165 (with P. Robert).

68. Some Developments in 0-1 Programming. In: OR72 - Proceedings of 15th IFORS Conference, M. Ross (editor), North-Holland Publishing Co., Amsterdam, 1973, 551-554.

69. A Note on the Monotonicity of Pseudo-Boolean Functions. Zeitschrift fur Operations Research, 18, 1974, 47-50.

70. Coefficient Reduction in 0-1 Programming. Mathematical Programming, 7, 1974, 263-282 (with G.H. Bradley and L.A. Wolsey).

71. Boolean Procedures for Bivalent Programming. In: Mathematical Programming in Theory and Practice, P.L. Hammer and G. Zoutendijk (editors), North-Holland Publishing Co., Amsterdam/New York, 1974, 311-363.

72. Linear Decomposition of a Positive Group-Boolean Function. In: Numerische Methoden bei Optimierung, Vol. II, L. Collatz and W. Wetterling (editors), Birkhauser Verlag, Basel/Stuttgart, 1974, 51-62 (with I. Rosenberg).

73. On the Role of Generalized Covering Problems. Cahiers du Centre d'Etudes de Recherche Operationelle, 16, 1974, 277-289 (with F. Granot).

74. Regular 0-1 Programs. Cahiers du Centre d'Etudes de Recherche Operationelle, 16, 1974, 267-276 (with E.L. Johnson and U.N. Peled).

75. Boolean Elements in Combinatorial Optimization. Combinatorial Programming: Methods and Applications, B. Roy (editor), Reidel Publ. Co., Dordrecht-Holland, 1974, 67-92.

75a. Boolean Elements in Combinatorial Optimization (A Revised Survey). Annals of Discrete Mathematics, 4, 1979, 51-71.

76. Constraint Pairing in Integer Programming. INFOR - Canadian Journal of Operational Research and Information Processing, 13, 1975, 68-81 (with M.W. Padberg and U.N. Peled).

77. Facets of Regular 0-1 Polytopes. Mathematical Programming, 8, 1975, 179-206 (with E.L. Johnson and U.N. Peled).

78. Boolean Procedures in Optimization. Symposia Mathematica, 19, 1976, 103-121.

79. Pseudo-Boolean Remarks on Balanced Graphs. Graph Theory and Integer Programming, International Series of Numerical Mathematics, 36, 1977, 69-78, Birkhauser Verlag, Basel, Switzerland.

80. The Role of Master Polytopes in the Unit Cube. SIAM Journal of Applied Mathematics, 32, 1977, 711-716 (with E.L. Johnson and U.N. Peled).

81. Split Graphs Having Dilworth Number Two. Canadian Journal of Mathematics, 29, 1977, 666-672 (with S. Foldes).

82. Aggregation of Inequalities in Integer Programming. Annals of Discrete Mathematics, 1, 1977, 145-162 (with V. Chvatal).

83. Pseudo-Boolean Functions and Game Theory. I. Core Elements and Shapley Value. <u>Cahiers du Centre d'Etudes de Recherche Operationelle</u>, 19, 1977, Nos. 1-3, 159-176, (with U.N. Peled and S. Sorensen).

84. Split Graphs. <u>Proceedings of the Eighth SE Conference on Combinatorics</u>, Graph Theory and Computing, 1977, 311-315 (with S. Foldes).

85. The Dilworth Number of a Graph. <u>Annals of Discrete Mathematics</u>, 2, 1978, 211-219 (with S. Foldes).

86. Linear Separation of Dominating Sets in Graphs. <u>Annals of Discrete Mathematics</u>, 3, 1978, 1-10 (with C. Benzaken).

87. On Split Graphs and Some Related Questions. In: <u>Problemes Combinatoires et Theorie des Graphes</u>, Editions du Centre National de la Recherche Scientifique, Paris, 1978, 139-140 (with S. Foldes).

88. On a Class of Matroid Producing Graphs. <u>Coll. Math. Soc. J. Bolyai</u>, 18, Combinatorics, Budapest, 1978, 331-352 (with S. Foldes).

89. Degree Sequences of Threshold Graphs. <u>Proceedings of the Ninth SE Conference on Combinatorics, Graph Theory and Computing</u>, 1978, 329-355 (with T. Ibaraki and B. Simeone).

90. An Algorithm to Dualize a Regular Switching Function. <u>IEEE Transactions on Computers</u>, C-28, No. 3, 1979, 238-243 (with U.N. Peled and M.A. Pollatschek).

91. APOSS - A Partial Order in the Solution Space of Bivalent Programs. <u>Combinatorial Optimization</u>, N. Christofides, et al (editors), John Wiley and Sons, 1979, 93-106 (with S. Nguyen).

92. Quadratic Knapsack Problems. <u>Mathematical Programming Studies</u>, 12, 1980, 132-149 (with G. Gallo and B. Simeone).

93. A Note on Hamiltonian Split Graphs. <u>Journal of Combinatorial Theory</u>, B, 28, 1980, 245-248, (with R.E. Burkard).

94. Threshold Numbers and Threshold Completions. (Extended Abstract). <u>Annals of Discrete Mathematics</u>, 9, 1980, 103-106 (with T. Ibaraki and U.N. Peled).

94a. Threshold Numbers and Threshold Completions. <u>Annals of Discrete Mathematics</u>, 11, 1982, 125-145 (with T. Ibaraki and U.N. Peled).

95. Quasimonotone Boolean Functions and Bistellar Graphs. <u>Annals of Discrete Mathematics</u>, 9, 1980, 107-119 (with B. Simeone).

96. A Reduction Algorithm for Knapsack Problem. In: <u>Methods of Operations Research</u>, 36, 1980 49-60 (with R.S. Dembo).

97. Graphes de Conflict des Fonctions Pseudo-Booleennes Quadratiques. In: <u>Regards sur la Theorie des Graphes</u>, Actes du Colloque de Cerisy, 12-18 Juin 1980, P. Hansen and D. de Werra (editors), Presses Polytechniques Romandes, Lausanne, Switzerland, 1980, 165-170 (with C. Benzaken and B. Simeone).

98. Some Remarks on Conflict Graphs of Quadratic Pseudo-Boolean Functions. <u>International Series of Num. Math.</u>, Vol. 55, 1980, 9-30 (with C. Benzaken and B. Simeone).

99. Threshold Sequences. <u>SIAM Journal of Algebraic and Discrete Methods</u>, 2, 1981, 39-49 (with T. Ibaraki and B. Simeone).

100. Upper Planes of Quadratic 0-1 Functions and Stability in Graphs. <u>Nonlinear Programming</u>, 4, Academic Press, 1981, 395-414 (with P. Hansen and B. Simeone).

101. Logical Relations in Quadratic 0-1 Programming. <u>Rev. Roum. Math. Pures et Appl.</u>, 26, 1981, 421-429 (with Pierre Hansen).

102. The Splittance of a Graph. <u>Combinatorica</u>, 1 (3), 1981, 272-284 (with B. Simeone).

103. Vertices Belonging to All or to No Maximum Stable Sets of a Graph. <u>SIAM Journal of Algebraic and Discrete Methods</u>, 3, 1982, 511-522 (with P. Hansen and B. Simeone).

104. Computing Low-Capacity 0-1 Knapsack Polytopes. <u>Zeitschrift fur Operations Research</u>, 26, 243-249, 1982 (with U. Peled).

105. Weighted Konig-Egervary Graphs and Pseudo-Boolean Optimization. <u>Methods of Operations Research</u>, 2, 1983, 171-175 (with B. Simeone and J.M. Bourjolly).

106. Adjoints of Pure Bidirected Graphs. <u>Congressus Numerantium</u>, 39, 1983, 123-144 (with C. Benzaken, S. Boyd and B. Simeone).

107. Pseudo-Boolean Functions and Stability of Graphs. <u>Annals of Discrete Mathematics</u>, 19, 1984, 83-97 (with Ch. Ebenegger and D. de Werra).

108. Roof-Duality, Complementation and Persistence in Quadratic 0-1 Optimization. <u>Mathematical Programming,</u> 28, 1984, 121-155 (with P. Hansen and B. Simeone).

109. Pseudo-Boolean Functions and Their Graphs. <u>Annals of Discrete Mathematics</u>, 20, 1984, 137-146 (with A. Fraenkel).

110. Node-Weighted Graphs Having the Konig-Egervary Property. <u>Mathematical Programming Studies</u>, 22, 1984, 44-63 (with J.M. Bourjolly and B. Simeone).

111. Reduction Methods for the Vertex Packing Problem. <u>Proc. 7th Conference on Probability Theory</u>, Editura Academiei R.S. Romania, 1984, 73-79 (with L. Butz and D. Haussmann).

112. Boolean Techniques for Matroidal Decomposition of Independence Systems and applications to Graphs. *D*iscrete Mathematics, 56, 1985, 7-34 (with C. Benzaken).

113. Bithreshold Graphs. SIAM Journal on Algebraic and Discrete Methods, 6, 1985, 497-506 (with N.V.R. Mahadev).

114. Threshold Characterization of Graphs with Dilworth Number Two. J. Graph Theory, 9, 1985, 245-267 (with C. Benzakan and D. de Werra).

115. Stability in CAN-Free Graphs. J. Comb Theory B, 38, 1985, 23-30 (with N.V.R. Mahadev and D. de Werra).

116. The Struction of a Graph: Application to CN-Free Graphs. Combinatorica, 5, 1985, 141-147 (with N.V.R. Mahadev and D. de Werra).

117. Intershold Graphs. Utilitas Mathematica, 27, 1985, 207-215 (with N.V.R. Mahadev).

118. Split Graphs of Dilworth Number 2. Discrete Mathematics 55, 1985, 123-127 (with C. Benzaken and D. de Werra).

119. La Logique des Decisions. Libertas Mathematica, 6, 1986, 193-195.

120. Strong Unimodularity for Matrices and Hypergraphs. Discrete Applied Mathematics, 15, 1986, 221-239 (with Y. Crama and T. Ibaraki).

121. Order Relations of Variables in O-1 Programming. Annals of Discrete Mathematics, 31, 1987, 83-112 (with B. Simeone).

122. Product Form Parametric Representation of the Solutions of a Quadratic Boolean Equation. RAIRO-Operations Research, 21, 1987, 287-306 (with Y. Crama, B. Jaumard and B. Simeone).

123. From Linear Separability to Unimodality: A Hierarchy of Pseudo-Boolean Functions. SIAM Journal on Discrete Mathematics, 1, 1988, 174-184 (with D. de Werra, T. Liebling and B. Simeone).

124. 0-1 Programming and Order Relations, J. Math. Res. & Expos, 8, 1988, Part I, 315-325; Part II, 8, 1988, 481-490 (with Liu Yanpei) (in Chinese).

125. Stability in Circular Arc Graphs. J. of Algorithms, 9, 1988, 314-320 (with M. Golumbic).

126. Cause-Effect Relationships and Partially Defined Boolean Functions. Annals of Operations Research, 16, 1988, 299-325 (with Y. Crama and T. Ibaraki).

127. Some Properties of 2-Threshold Graphs. Networks, 19, 1989, 17-23 (with N.V.R. Mahadev and U.N. Peled).

128. A Characterization of a Cone of Pseudo-Boolean Functions via Super-modularity-Type Inequalities. Quantitative Methoden in den Wirtschaftswissenschaften, P. Kall et al (editors), Springer-Verlag, Berlin, Heidelberg, 1989, 53-55 (with Y. Crama and R. Holzman).

129. Bimatroidal Independence Systems. Zeitschrift fur Operations Research 33, 1989, 149-165 (with Y. Crama).

130. On Clustering Problems with Connected Optima in Euclidean Spaces. Discrete Mathematics, 75, 1989, 81-88 (with E. Boros).

131. Recognition of Quadratic Graphs and Adjoints of Bidirected Graphs. Annals of the New York Academy of Sciences, 555, 1989, 140-149 (with Y. Crama).

132. Quadratic Functions of Binary Variables. B. Simeone (ed): Combinatorial Optimization, Lecture Notes in Mathematics, Vol. 1403, 1989, 1-56 (with B. Simeone).

133. A Bound on the Roof-Duality Gap. B. Simeone (ed): Combinatorial Optimization, Lecture Notes in Mathematics, Vol. 1403, 1989, 254-257 (with B. Kalantari).

134. Upper Bounds for Quadratic 0-1 Maximization. Operations Research Letters, 9, 1990, 73-79 (with E. Boros and Y. Crama).

135. Completely Separable Graphs. Discrete Applied Mathematics, 27, #1-2, 1990, 85-99 (with F. Maffray).

136. Packing, Covering and Partitioning Problems With Strongly Unimodular Constraint Matrices. Mathematics of Operations Research, 15, 1990, 258-267 (with Y. Crama and T. Ibaraki).

137. More Characterizations of Triangulated Graphs. Journal of Graph Theory, 14, #4, 1990, 413-422 (with C. Benzaken, Y. Crama, P. Duchet and F. Maffray).

138. Difference Graphs. Discrete Applied Mathematics, 28, 1990, 35-44 (with U. Peled and X. Sun).

139. Polynomial-Time Inference of All Valid Implications for Horn and Related Formulae. Annals of Mathematics and Artificial Intelligence, 1, 1990, 21-32 (with E. Boros and Y. Crama).

140. On Renamable Horn and Generalized Horn Functions. Annals of Mathematics and Artificial Intelligence, 1, 1990, 33-47 (with V. Chandru, C.R. Coullard, M. Montanez and X. Sun).

141. Boolean Approaches to Combinatorial Optimization, J. Math. & Expos., 10, Part I, 10, 1990, 300-312; Part II, 10, 1990, 455-468; Part III, 10, 1990, 619-628 (with Liu Yanpei and B. Simeone) (in Chinese).

142. Cut-Threshold Graphs. Discrete Applied Mathematics 30, 1991, 163-179 (with F. Maffray and M. Queyranne).

143. The Max-Cut Problem and Quadratic 0-1 Optimization: Polyhedral Aspects, Relaxations and Bounds. <u>Annals of Operations Research</u> 33, 1991, 151-180 (with E. Boros).

144. Approximations of Pseudo-Boolean Functions; Applications to Game Theory. <u>ZOR - Methods and Models of Operations Research</u>, 36, 1992, 3-21 (with R. Holzman).

145. Chvatal Cuts and Odd Cycle Inequalities in Quadratic 0-1 Optimization. <u>SIAM Journal on Discrete Mathematics</u> 5 No. 2, 1992, 163-177 (with E. Boros and Y. Crama).

146. Boolean and Graph Theoretic Formulations of the Simple Plant Location Problem. <u>Transportation Science</u> 26, No. 2, 1992, 138-148 (with P. Dearing and B. Simeone).

147. Boolean-Combinatorial Bounding of Maximum 2-Satisfiability. <u>Computer Science and Operations Research: New Developments in Their Interfaces</u>. Eds: O. Balci, R. Sharda, and S. Zenios. Pergamon Press, Oxford, 1992, 23-42 (with J-M. Bourjolly, W. Pulleyblank and B. Simeone).

148. Horn Functions and their DNF's. <u>Information Processing Letters</u> 44, 1992, 23-29 (with A. Kogan).

149. A Polynomial Algorithm for Balancing Acyclic Data Flow Graphs. <u>IEEE Transactions on Computers</u> 41, No. 11, 1992, 1380-1385 (with E. Boros and R. Shamir).

150. Cut-polytopes, Boolean Quadric Polytopes and Non-negative Quadratic Pseudo-Boolean Functions. <u>Mathematics of Operations Research</u> 18, 1993, 244-252 (with E. Boros).

151. Bipartite Bithreshold Graphs. <u>Discrete Mathematics</u> 119, 1993, 79-96 (with N.V.R. Mahadev and U.N. Peled).

152. Optimal Compression of Propositional Horn Knowledge Bases: Complexity and Approximation. <u>Artificial Intelligence</u> 64, 1993, 131-145 (with A. Kogan).

153. Preperfect Graphs. <u>Combinatorica</u> 13, (2), 1993, 199-208 (with F. Maffray).

154. On domination elimination orderings and domination graphs. <u>Lecture Notes in Computer Science</u> 903. Graph-Theoretic Concepts in Computer Science, 20th International Workshop, WG 94. Springer-Verlag, 1994 (with E. Dahlhaus, F. Maffray and S. Olariu).

155. Knowledge Compression - Logic Minimization for Expert Systems. <u>Proceedings of IISF/ACM Japan International Symposium</u>, Tokyo, March 1994, World Scientific, Singapore, 1994, 306-312 (with A. Kogan).

156. Graph-based Methods for Horn Knowledge Compression. <u>Proceedings of the Twenty-seventh Annual Hawaii International Conference on System Sciences</u>, Vol. III, IEEE Computer Society Press, Los Alamitos, California, 1994, 300-309 (with A. Kogan).

157. A Complexity Index for Satisfiability Problems. <u>SIAM Journal on Computing</u>, 23, 1994, 45-49 (with E. Boros, Y. Crama and M. Saks).

158. Balancing Problems in Acyclic Networks. <u>Discrete Applied Mathematics</u> 49, 1994, 77-93 (with E. Boros, M. Hartmann, R. Shamir).

159. Recognition of q-Horn Formulae in Linear Time. <u>Discrete Applied Mathematics</u> 55, 1994, 1-13 (with E. Boros and X. Sun).

160. Predicting Cause-Effect Relationships from Incomplete Discrete Observations. <u>SIAM Journal on Discrete Mathematics</u>, Vol. 7, No. 4, 1994, 531-543 (with E. Boros and J. Hooker).

161. On Universal Threshold Graphs. <u>Combinatorics, Probability and Computing</u> 3, 1994, 327-344 (with A. Kelmans).

162. Decomposability of Partially Defined Boolean Functions. <u>Discrete Applied Mathematics</u> 62, 1995, 51-75 (with E. Boros, V. Gurvich, T. Ibaraki, and A. Kogan).

163. Boolean Regression. <u>Annals of Operations Research</u> 58, 1995, 201-226 (with E. Boros and J. Hooker).

164. Quasi-acyclic Propositional Horn Knowledge Bases: Optimal Compression. <u>IEEE Transactions on Knowledge and Data Engineering</u>, Vol. 7, No. 5, 1995, 751-762 (with A. Kogan).

165. Essential and Redundant Rules in Horn Knowledge Bases. <u>Decision Support Systems</u> 16, 1996, 119-130 (with A. Kogan).

166. Laplacian Spectra and Spanning Trees of Threshold Graphs. <u>Discrete Applied Mathematics</u> 65, 1996, 255-273 (with A. Kelmans).

167. Bipartite Dimensions and Bipartite Degrees of Graphs. <u>Discrete Mathematics</u> 160, 1996, 127-148 (with P. Fishburn).

168. Polynomial-Time Recognition of 2-Monotonic Positive Boolean Functions Given by an Oracle. <u>SIAM Journal on Computing</u> 26, No. 1, 1997, 93-109 (with E. Boros, T. Ibaraki, and K. Kawakami).

169. Matroids Arisen from Matrogenic Graphs. <u>Discrete Mathematics</u> 165/166, 1997, 211-217 (with G. Ding).

170. Horn Functions and Submodular Boolean Functions. Theoretical Computer Science 175, 1997, 257-270 (with O. Ekin and U. Peled).

171. Variable and Term Removal from Boolean Formulae. Discrete Applied Mathematics 75, 1997, 217-230 (with Y. Crama and O. Ekin).

172. Efficient Methods for Solving Quadratic 0-1 Knapsack Problems. INFOR - Information Systems and Operational Research 35, No. 3, 1997, 170-182 (with D. Rader).

173. Logical Analysis of Numerical Data. Mathematical Programming 79, 1997, 163-190 (with E.Boros, T. Ibaraki, and A. Kogan).

174. Dual Subimplicants of Positive Boolean Functions. Optimization Methods & Software 10, No. 2, 1998, 147-156 (with E. Boros and V. Gurvich).

175. Optimal Cell Flipping to Minimize Channel Density in VLSI Design and Pseudo-Boolean Optimization. Discrete Applied Mathematics 90, 1999, 69-88 (with E. Boros, M. Minoux and D. Rader).

176. Logical Analysis of Chinese Labor Productivity Patterns. Annals of Operations Research 87, 1999, 165-176 (with A. Hammer and I. Muchnik).

177. Distance-based Classification Methods.   INFOR - Information Systems and Operational Research 37, No. 3, 1999 (with O. Ekin, A. Kogan and P. Winter).

178. On the stability number of claw-free P_5-free and more general graphs. In: Discrete Applied Mathematics 95, 1999 (eds: A. Brandstaedt, K. Engel, H-D. Gronau, R. Labahn), Proceedings of the Conference on Optimal Discrete Structures and Algorithms, ODSA '97, September 1997, Rostock, Germany (with A. Brandstadt).

179. On connected Boolean functions. Discrete Applied Mathematics 96-97, 1999, 337-362 (with O. Ekin and A. Kogan).

180. Equational characterizations of Boolean function classes. Discrete Mathematics 211, 2000, 27-51 (with O. Ekin, S. Foldes and L. Hellerstein).

181. Monotone, Horn and Quadratic Pseudo-Boolean Functions. Journal of Universal Computer Science 6, no. 1, 2000, 97-104 (with S. Foldes).

182. An implementation of Logical Analysis of Data. IEEE Transactions on Knowledge and Data Engineering 12, no. 2, 2000, 292-306 (with E. Boros, T. Ibaraki, A. Kogan, E.Mayoraz and I. Muchnik).

183. Boolean normal forms, shellability and reliability computations. SIAM Journal on Discrete Mathematics 13, no. 2, 2000, 212-226 (with E. Boros, Y. Crama, O. Ekin, T. Ibaraki and A. Kogan).

184. Convexity and Logical Analysis of Data. Theoretical Computer Science 244, 2000, 95-116 (with O. Ekin and A. Kogan).

185. Evaluation, strength, and relevance of variables of Boolean functions. SIAM Journal on Discrete Mathematics 13, no. 3, 2000, 302-212 (with A. Kogan and U. Rothblum).

186. Disjunctive and conjunctive normal forms of pseudo-Boolean functions. Discrete Applied Mathematics 107, 2000, 1-26 (with S. Foldes).

187. Saturated systems of homogeneous boxes and the Logical Analysis of Numerical Data. In: Proc 24th Annual Conference, German Gesellschaft fur Klassifikation, Passau, 2000 (with Y. Liu, B. Simeone and S. Szedmak).

188. Maximally disjoint solutions of the set covering problem. Journal of Heuristics 7, 2001, 131-144 (with D. Rader).

189. Prediction of Protein Secondary Structure Using Logical Analysis of Data. Computational Methods in Science and Technology, 7, (1), 2001, 7-25 (with J. Blazewicz and P. Lukasiak).

190. Combinatorial problems related to origin-destination matrices. Discrete Applied Mathematics 115, 2001, 15-36 (with E. Boros, F. Ricca and B. Simeone).

191. Pseudo-Boolean Optimization. In: Handbook of Applied Optimization (P. Pardalos and M. Resende, Eds.), Oxford University Press, New York, 2002 (with Y. Crama).

192. Use of the Logical Analysis of Data Method for Assessing Long-Term Mortality Risk After Exercise Electrocardiography. Circulation 106, 2002, 685-690 (with M.S. Lauer, MD, FACC; S. Alexe, MS; E.H. Blackstone, MD, FACC; H. Ishwaran, Sc.D., and C. Pothier Snader, MA).

193. Pseudo-Boolean Optimization - A Survey. Discrete Applied Mathematics 123, 2002, 155-225 (with E. Boros).

194. Maximizing the product of two linear functions in 0-1 variables. Optimization 51 (3), 2002, 511-537 (with P. Hansen, P. Pardalos and D. Rader).

195. Cutting and surrogate constraint analysis for improved multidimensional knapsack solutions. Annals of Operations Research 117, 2002, 71-93 (with M.A. Osorio and F.Glover).

196. Disjunctive and conjunctive representations in finite lattices and convexity spaces. Discrete Mathematics 258, 2002, 13-25 (with S. Foldes).

197. The maximum box problem and its application to data analysis. RRR 4-2002. To appear in Computational Optimization and Applications (with J. Eckstein, Y. Liu, M. Nediak and B. Simeone).

198. Coronary risk prediction by Logical Analysis of Data. Annals of Operations Research 119, 2003, 15-42 (with S. Alexe, E. Blackstone, H. Ishwaran, M. Lauer and C. Pothier Snader).

199. A heuristic for Boolean optimization problems. Journal of Heuristics 9, 2003, 229-247 (with T. Davoine and B. Vizvari).

200. Struction revisited. Discrete Applied Mathematics 132, 2004, 27-46 (with G. Alexe, V. Lozin and D. de Werra).

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206. Splitoids. Graph Theory Notes of New York XLVI, 2004, 36-40 (with I. Zverovich).

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210. Computational approach in proteomics. IEEE Engineering in Biology and Medicine 24 (3), 2005, 88-94 (with J. Blazewicz and P. Lukasiak).

211. Logical Analysis of Data. Encyclopedia of Data Warehousing and Mining, *Idea Group Reference*, Hershey, London, Melbourne, Singapore, 2005, 689-692 (with E. Boros and T. Ibaraki).

212. Bisplit Graphs. Discrete Mathematics 299, 2005, 11-32 (with A. Brandstadt, Van Bang Le, and V.V. Lozin).

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