Arie TAMIR

LIST OF PUBLICATIONS

ARTICLES

1. A. Tamir
   On an efficient algorithm for minimizing barrier and penalty functions.

2. A. Tamir
   On a characterization of $P$-matrices.

3. A. Tamir
   Minimality and complementarity properties associated with $Z$-functions and $M$-functions.

4. R. Fox, A. Lasdon, A. Tamir, M. Ratner
   An efficient one dimensional search.

5. A. Tamir
   Line search techniques based on interpolating polynomials using function values only.

6. A. Tamir
   An application of $Z$-matrices to a class of resource allocation problems.

7. A. Tamir
   On the number of solutions to the linear complementarity problem.

8. A. Tamir
   On totally unimodular matrices.
   Networks 6, 1-9 (1976).

9. A. Tamir
   Further note on market equilibrium with fixed supply.

10. A. Tamir
    Ergodicity and symmetric mathematical programs.
11. N. Megiddo, A. Tamir
   An O(N log N) algorithm for a class of matching problems.

12. A. Tamir
   Rates of convergence of a one dimensional search based on interpolating polynomials.

13. A. Tamir
   Scheduling jobs to two machines subject to batch arrival ordering.
   Naval Research Logistic Quarterly 26, 521-525 (1979).

14. A. Felzenbaum, A. Tamir
   Cyclic permutations and nearly symmetric integer vectors.
   Linear Algebra and Its Applications 27, 159-166 (1979).

15. A. Tamir
   Efficient algorithms for a selection problem with nested constraints and its application
   to a production sales planning model.
   SIAM J. on Control and Optimization 18, 282-287 (1980).

16. M. Kress, A. Tamir
   The use of Jacobi’s lemma in unimodularity theory.
   Mathematical Programming 18, 344-348 (1980).

17. R. Chandrasekaran, A. Tamir
   An O(n^2 log^2 p) algorithm for the continuous p-center problem on a tree.
   SIAM J. on Algebraic and Discrete Methods 1, 370-375 (1980).

18. T. Agmon, A.R. Ofer, A. Tamir
   Variable rate debt instruments and corporate debt policy.

19. N. Megiddo, A. Tamir, E. Zemel, R. Chandrasekaran
   An O(n log^2 n) algorithm for the K-th longest path in a tree with applications to
   location problems.

20. M. Barel, A. Tamir
   Nested matrices and the existence of least majorized elements.

21. R. Chandrasekaran, A. Tamir
   Polynomially bounded algorithms for locating p-centers on a tree.
   Mathematical Programming 22, 304-315 (1982).

22. A. Tamir, E. Zemel
   Locating centers on a tree with discontinuous supply and demand regions.
23. A. Tamir
   On the solution of discrete bottleneck problems.

24. A. Tamir
   A class of balanced matrices arising from location problems.

25. N. Megiddo, A. Tamir
   Finding least distance lines.

26. N. Megiddo, A. Tamir
   On the complexity of locating linear facilities in the plane.

27. N. Megiddo, A. Tamir
   New results on the complexity of \( p \)-center problems.

28. I. Meilijson, A. Tamir
   Minimizing flow time on identical processors with variable processing rate.

29. R. Chandrasekaran, A. Tamir
   Polynomial testing of the query “Is \( a^b > c^d \)?” with application to finding a minimal cost reliability ratio spanning tree.

30. R. Chandrasekaran, A. Tamir
   Optimization problems with algebraic solutions: quadratic fractional programs and ratio games.

31. R. Chandrasekaran, A. Tamir
   On the integrality of an extreme solution to pluperfect graph and balanced systems.

32. A. Tamir
   A finite algorithm for the continuous \( p \)-center location problem on a graph.

33. W.W. Bein, P. Brucker, A. Tamir
   Minimum cost flow algorithms for series-parallel networks.

34. R. Hassin, A. Tamir
   Efficient algorithms for optimization and selection on series-parallel graphs.
35. A. Tamir
   On the solution value of the continuous $p$-center location problem on a graph.

36. A. Tamir
   Totally balanced and totally unimodular matrices defined by center location problems.

37. O. Berman, D. Simchi-Levi, A. Tamir
   The minimax multistop location problem.

38. A. Tamir
   Improved complexity bounds for center location problems on networks by using dynamic data structures.

39. R. Hassin, A. Tamir
   Maximizing classes of two parameter objectives over matroids.

40. E. Erkut, R.L. Francis, T.J. Lowe, A. Tamir
   Equivalent mathematical programming formulations of monotonic tree network location problems.

41. A. Tamir
   On the core of a traveling salesman cost allocation game.

42. R. Chandrasekaran, A. Tamir
   Open questions concerning Weiszfeld’s algorithm for the Fermat-Weber location problem.

43. R. Chandrasekaran, A. Tamir

44. A. Tamir
   On the core of network synthesis games.

45. A. Tamir
   Obnoxious facility location on graphs.
46. R. Hassin, A. Tamir  
Improved complexity bounds for location problems on the real line.  

47. E. Erkut, R.L. Francis, A. Tamir  
Distance constrained multifacility minimax location problems on tree networks.  

48. A. Tamir, T. Lowe  
The generalized $p$-forest problem on a tree network.  

49. R. Hassin, A. Tamir  
Minimal length curves that are not embeddable in an open planar set: The problem  
of a lost swimmer with a compass.  

50. A. Tamir  
On the complexity of some classes of location problems.  

51. R. Rabinovitch, A. Tamir  
On a tree-shaped facility location problem of Minieka.  

52. A. Tamir  
On the core of cost allocation games defined on location problems.  
Transportation Science 27, 81-86 (1993).

53. A. Tamir  
A strongly polynomial algorithm for minimum convex separable quadratic cost flow  
problems on two-terminal series parallel graphs.  

54. N. Megiddo, A. Tamir  
Linear time algorithms for some separable quadratic programming problems.  

55. Y. Kaufman, A. Tamir  
Locating centers with precedence constraints.  

56. A. Tamir  
A unifying location model on tree graphs based on submodularity properties.  

57. D.S. Hochbaum, N. Megiddo, J. Naor, A. Tamir  
Tight bounds and 2-approximations algorithms for integer programs with two variables
per inequality.

58. A. Tamir
The least element property of center location on tree networks with applications to
distance and precedence constrained problems.
Mathematical Programming 62 (1993), 475-496.

59. A. Tamir
Complexity results for the p-median problem with mutual communication.

60. A. Tamir
A distance constrained \( p \)-facility location problem on the real line.
Mathematical Programming 66 (1994), 201-204.

61. A. Tamir
Least majorized elements and generalized polymatroids.

62. R. Hassin, A. Tamir
On the minimum diameter spanning tree problem.

63. P. Mirchandani, R. Kohli, A. Tamir
Capacitated location problems on a line.
Transportation Science 30 (1996), 75-80.

64. T.U. Kim, T.J. Lowe, A. Tamir, J.E. Ward
On the location of a tree-shaped facility.
Networks 28 (1996), 167-175.

65. A. Tamir
An \( O(pn^2) \) algorithm for the \( p \)-median and related problems on tree graphs.

66. F. Granot, J. Skorin-Kapov, A. Tamir
Using quadratic programming to solve high multiplicity scheduling problems on parallel
machines.
Algorithmica 17 (1997), 100-110.

67. R. Hassin, S. Rubinstein, A. Tamir
Approximation algorithms for maximum facility dispersion.

68. V.N. Hsu, T.J. Lowe, A. Tamir
Structured \( p \)-facility location problems on the line solvable in polynomial time.
69. A. Tamir

70. A. Tamir, J.S.B. Mitchell
   A maximum b-matching problem arising from median location models with applications to the roommates problem.

71. Y. Konforty, A. Tamir
   The rectilinear single facility location problem with minimum distance constraints.

72. A. Tamir
   Fully polynomial approximation schemes for locating a tree-shaped facility: A generalization of the knapsack problem.

73. A. Tamir, D. Perez-Brito, J.A. Moreno-Perez
   A polynomial algorithm for the p-centdian problem on a tree.

74. M.B. Rayco, R.L. Francis, A. Tamir
   A p-center grid-positioning aggregation procedure.

75. R.L. Francis, T.J. Lowe, A. Tamir
   Aggregation error bounds for a class of location models.

76. S. Bespamyatnikh, K. Kedem, M. Segal, A. Tamir
   Optimal facility location under various distance functions.

77. A. Tamir
   The k-centrum multi-facility location problem.

78. A. Tamir, J. Puerto, D. Perez-Brito
   The centdian subtree on tree networks.
   Discrete Applied Mathematics 118 (2002), 263-278.

79. R.L. Francis, T.J. Lowe, A. Tamir
   Worst-case incremental analysis for a class of p-facility location problems.
   Networks 39 (2002), 139-143.
80. J. Kalcsics, S. Nickel, J. Puerto, A. Tamir
   Algorithmic results for ordered median problems defined on networks and the plane.

81. W. Ogryczak, A. Tamir
   Minimizing the sum of the $k$-largest functions in linear time.

82. J.A. Mesa, J. Puerto, A. Tamir
   Improved algorithms for several network location problems with equality measures.
   Discrete Applied Mathematics 130 (2003), 437-448.

83. R.L. Francis, T.J. Lowe, M.B. Rayco, A. Tamir
   Exploiting self-canceling demand point aggregation error for some planar rectilinear
   median problems.
   Naval Research Logistics 50 (2003), 614-637.

84. A. Barvinok, S.P. Fekete, D.S. Johnson, A. Tamir, G.J. Woeginger, R. Woodroofe
   The geometric maximum traveling salesman problem.
   J. ACM 50 (2003), 641-664.

85. A. Tamir
   Sorting weighted distances with applications to objective function evaluations in single
   facility location problems.

86. N. Halman, A. Tamir
   Continuous bottleneck tree partitioning problems.

87. R.L. Francis, T.J. Lowe, A. Tamir
   Demand point aggregation analysis for a class of constrained location models: A
   penalty function approach.

88. R.L. Francis, T.J. Lowe, A. Tamir, H. Emir-Farinas
   A framework for demand point and solution space aggregation analysis for location
   models.

89. A. Tamir
   An improved algorithm for the distance constrained $p$-center location problem with
   mutual communication on tree networks.
   Networks 44 (2004), 38-40.

90. R.L. Francis, T.J. Lowe, A. Tamir, H. Emir-Farinas
   Aggregation decomposition and aggregation guidelines for a class of minimax and cov-
   ering location models.
91. J. Puerto, A. Tamir  
Locating tree-shaped facilities using the ordered median objective.  
Mathematical Programming, 102 (2005), 313-338.

**Accepted for publication**

1. A. Tamir, N. Halman  
One-way and round-trip center location problems.  
Discrete Optimization.

2. A. Tamir, J. Puerto, J.A. Mesa, A.M. Rodriguez-Chia  
Conditional location of path and tree shaped facilities on trees.  
J. of Algorithms.

3. A. Tamir  
Locating two obnoxious facilities using the weighted maximin criterion.  

**Submitted for publication**

1. J. Puerto, A.M. Rodriguez-Chia, A. Tamir, D. Perez-Brito  
The Pareto set for the doubly weighted center-median path problem on a tree.

2. R.L. Francis, T.J. Lowe, M.B. Rayco, A. Tamir  
Aggregation error for location models: Survey and analysis.

3. J. Puerto, A. Tamir, J.A. Mesa, D. Perez-Brito  
Center location problems on tree graphs with subtree-shaped customers.

**Unpublished Technical Reports**

1. N. Megiddo, A. Tamir  
An $O(p^2 \log^2 n)$ algorithm for the unweighted $p$-center problem on the line, (1981).  

2. A. Tamir  

3. A. Tamir  

4. A. Tamir  
Facility location problems on tree graphs with different speeds for customers and servers: A study on covering problems defined by families of subtrees, (2000).
CHAPTER IN BOOK

1. A. Kolen, A. Tamir
   Covering Problems.

2. R.L. Francis, T.J. Lowe, A. Tamir
   Demand Point Aggregation for Location Models.