

January 2017

**Curriculum Vitae & List of Publications
Moshe Dror**

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EDUCATION

1979-83 Ph.D. - University of Maryland, Major: Management Science
Minors: Transportation/Civil Engineering & Computer Science
1974-75 I.E. - Columbia University: Industrial Engineering & Management
1972-74 M.Sc. - Columbia University: Mathematical Methods & Operations Research

ACADEMIC EXPERIENCE

1990 - present The University of Arizona; Eller Prof. of Management Information Systems; Prof. of Systems & Industrial Engineering (courtesy); Prof. of Applied Mathematics (courtesy); Eller Prof. 2001-present, Prof. 1993-present, Associate Prof. (1990-93), Decision Sciences Program Head (1990-92).

2012 (Jan.-July) Operations & Logistics Division, Sauder School of Business, University of British Columbia, Vancouver, Canada, Visiting Faculty.

2010 - 2011 OPIM, The Wharton School, University of Pennsylvania, Philadelphia, Pennsylvania, Visiting Faculty (on leave; The University of Arizona).

2006 (Jan.-Aug.) IEOR, University of California at Berkeley, Berkeley, California, Visiting Scholar.

2005 (Jan.-Aug.) Operations Research Center, Massachusetts Institute of Technology, Cambridge, Massachusetts, Visiting Scholar (on leave; The University of Arizona).
2003 - 04

1996 - 97 Laboratoire Productique Logistique, Ecole Centrale Paris, Chatenay-Malabry, France, Invited Prof. (on leave; The University of Arizona).

1975 - 92 Dept. of Industrial Engineering & Management, Ben Gurion University of the Negev, Beer Sheva, Israel. Associate Prof. (1991-92), Senior Lecturer (1988-91), Lecturer (1983-88), Instructor (1975-83).

1986 - 88 INRS-Telecommunications, Universite du Quebec, Verdun, Canada. Research Prof. (on leave; Ben Gurion University of the Negev).

1985 - 86 Dept. of Industrial Engineering, Tel Aviv University, Israel. Adjunct Senior Lecturer.
1985 (Spring)

1979 - 83 College of Business & Management, University of Maryland, TA (1979-83), Instructor (Summer 1981).

1977 - 79 Practical Technological College of Beer Sheva, Israel. Adjunct Senior Lecturer.

RESEARCH INTERESTS: Applied Game Theory; Applied Combinatorial Optimization; Scheduling & Applied Logistics.

VISITING

- Invited Prof., Universita' di Siena, Dipart. di Ingegneria dell'Informazione, Italy, Jan., 2000, Nov.- Dec., 2016.
- Visiting Faculty, Booth School of Business, University of Chicago, July-Aug., 2015.
- Invited Prof., University of Elche & University of Valencia, Spain, Feb. 2006.
- **EPSRC Research Fellow**, School of Computer Science & Information Technology, University of Nottingham, U.K. 2002-03; Invited Prof., Aug. 2007, July 2008, July 2009.
- Invited Prof., Ecole Polytechnique de Tunisie, La Marsa, Tunisia, May 1997, Feb.-March 2002.
- Invited Prof., ENSGI, INPGrenoble, Grenoble, France, Summer 2001.
- Invited Prof., Technion, Industrial Engineering & Management, Israel, Dec. 2000-Jan., 2001.
- Invited Prof., Hong Kong University of Science & Technology, Industrial Engineering & Engineering Management, Hong Kong, May 2000.
- Invited Prof., INRIA, Rocquencourt, France, March 1998, Dec. 1998, March 2000.
- Invited Prof., Laboratoire PRISM, Université de Versailles, Versailles, France, March 1997.
- Invited Prof., IASI-CNR, Istituto di Analisi dei Sistemi ed Informatica, Consiglio Nazionale Delle Ricerche, Roma - Viale Manzoni, Italy, Dec. 1994-Jan., 1995.
- Invited Guest, Institute of Control Engineering, Technical University of Poznan & Institute of Telecommunication, Technical University of Warsaw, Poland, April 1989.
- Invited Researcher, Centre de recherche sur les transports, Université de Montréal, Montreal, Canada. Invited Scholar: 1987-92, Invited Prof., Summer 1984, 1985, 1986.
- **Honorary Research Fellow - British Council**, Operational Research, University of Lancaster, U.K. Winter 1985.

CONFERENCE INVITED SPEAKER - (plenary and tutorials)

- Invited Speaker, "Managing Decentralized Inventory and Transshipments", DOMinant Workshop on Inventory Routing and Fleet-Size-and-Mix Problems, Molde, Norway, Sep. 2009.
- **Plenary Speaker**, "'Strong' - 'Weak' Precedence in Job Scheduling", Conference on Scheduling: Theory and Applications (MISTA 2009), Dublin, Ireland, Aug. 2009.
- Invited Tutorial, "Cooperative and Mixed Inventory Games", INFORMS Western Regional Conference 2009, Tempe, Arizona, April 2009.
- **Plenary Speaker**, "Another Look at Euclidian TSP and Packing", International Symposium on Combinatorial Optimization (CO 2008), University of Warwick, UK, March 2008.
- Invited Tutorial, Industrial Engineering Research Conference (IERC), "Inventory Games: The Cooperative Aspect", Nashville, TN, May 2007.
- International Symposium on Mathematical Programming for Decision Making, "Combinatorial Optimization with Explicit Delineation of the Ground Set by a Collection of Subsets", Platinum Jubilee Celebration, Indian Statistical Institute -- Delhi Center, Jan. 2007.
- **Plenary Speaker**, Plains Nutrition Council, "Optimizing Efficiency of Feed Milling and Delivery", San Antonio, Texas, April 2004.
- Tippie Seminar Series in Transportation, "Combinatorial Optimization with Collection of Subsets", University of Iowa, March 2004.
- Meetings of Management Science Society of Tunisia, "Routing Problems", Cartage Palace, Tunisia, Feb. 2002.
- **Plenary Speaker**, "Combinatorial Generalizations in the Subset Form", European Chapter on Combinatorial Optimization (ECCO-XIV), Bonn, Germany, May 2001.
- International Workshop on Parallel Computation and Scheduling in Computers, "Generalized Combinatorial Optimization", PCS '99, Ensenada, Baja, Mexico, Aug. 1999.

- International Workshop on Parallel Computation and Scheduling in Computers, "Weak and Strong Precedence Scheduling for Chains and Trees", PCS '97, Ensenada, Baja, Mexico, Aug. 1997.
- Transportation Workshop, "Rural Propane Distribution & Feed Distribution in a Large Cattle Yard", Ecole d'Administration des Affaires, Universite de Liege, Belgium, March 1997.
- afcet - Association Française pour les Sciences et Technologies de l'Information et des Systèmes, Journée du Groupe Combinatoire (annual workshop), "Propane Distribution: Mathematical Models and Practical Experience", Paris, France, Dec. 1996.
- **118** Invited University Seminars: Ben-Gurion U., Berkeley, U. Chicago, Columbia U., Cornell, Dartmouth, Ecole Centrale Paris, Georgia In. Tech, INSEAD, LSE, MIT, U. Michigan, Northwestern, U., NYU, U. Penn, Technion, Tel-Aviv U., UBC, Yale,.....

CONFERENCES (chairperson)

- Organized & Chaired (with Greys Susic) an **NSF & AFOSR/RSL Sponsored Workshop** on Behavioral & Quantitative Game Theory, Newport Beach, CA; May 2010.

GRADUATE THESIS SUPERVISION - (Advisor)

- Shuo Zeng, Ph.D., Principal-agent Contracts for Repair Service, University of Arizona, 2015.
- Katherine Carl, Ph.D., Route Generation for Bicycle Tours, University of Arizona, 2014.
- Nichalin C, Suakkaphong, Ph.D., Inventory Management Games, University of Arizona, 2010.
- Agustin Bompadre, Ph.D., Exact and Approximate Algorithms for Combinatorial Optimization Problems, (co-advised with J.B. Orlin) MIT, Cambridge, Massachusetts, 2005.
- Kristin M. Tolle, Ph.D., Domain Independent Semantic Concept Extraction Using Corpus Linguistics, Statistical & Artificial Intelligence Techniques, University of Arizona, 2002.
- Gary W. Knotts, Ph.D., Agent-Based Heuristics for Multiple-Mode, Resource-Constrained Project Scheduling, University of Arizona, 1998.
- Paul, A. Mullaseril, Ph.D., Time Window Arc Routing, University of Arizona, 1996. Awarded **Dwight Eisenhower Graduate Fellowship** – F.H.A, Washington, D.C.
- Bruce Hartman, Ph.D., Cost Allocation in Centralized Inventory, University of Arizona, 1994.
- Russell Anderson, Ph.D., Decision Analysis with MOLP: System Design, (co-advised with O. Liu-Sheng) University of Arizona, 1994.

M.Sc. Students:

- Menglu Pei, M.Sc., Creating a Topographic Metric for 'Effort' directed route/path selection for vehicles and people, MIS, University of Arizona, - current.
- Abhinav Sharma, M.Sc., Creating a Topographic Metric for 'Effort' directed route/path selection for vehicles and people, MIS, University of Arizona, - current.
- Meng-Hua Tsai, M.Sc., Creating a Topographic Metric for 'Effort' directed route/path selection for vehicles and people, MIS, University of Arizona, - current.
- Seung Woo Lee, M.Sc., Real-Time Transfers in Cross-Docking Network, University of Arizona, 2005.
- Luis G. Choboya, M.Sc., A Multi-Property Scheduling Algorithm (co-advised with K. Fenstermacher), University of Arizona, 2004.
- Dan Hester, M.Sc., Heuristic Rules in Real-Life Jobshop Scheduling, University of Arizona, 1998.
- Kristina I. Anastasova, M.Sc., Intelligent Scheduler for Processing 'Help' Messages in an Online Computer Support System, University of Arizona, 1998.
- Brian Benson, M.Sc., Linear Time Procedure for Two Job Flowshop, University of Arizona, 1997.
- Marianne Tracey, M.Sc., Computerized Visualization Tools for Arc Routing Cattle Yard Feed Delivery, University of Arizona, 1995.
- Alexandra Yellin, M.Sc., Interactive Solution to MOLP with Weak Order on Variables and Objectives, Ben Gurion University of the Negev, 1985.

- Tzvi Shoval, M.Sc., Scheduling Jobs with Precedence and Resource Constraints, Ben Gurion University of the Negev, 1985.

POST-DOC

Kamil Popiela, Warsaw University of Technology, Aug. 2015 – Feb. 2016.

PATENTS

- Dror, M. and K., Carl, (December 2015). US Patent 9,217,649, 2015. Systems and methods for providing topographical graphs and travel routes based on perceived exertion.

PUBLICATIONS

BOOKS

- FORMULATING PRINCIPAL-AGENT SERVICE CONTRACTS FOR A REVENUE GENERATING UNIT, *Zeng, S., M. Dror, Springer Briefs in Operations Management*, 2016.
- MODELING UNCERTAINTY: An Examination of Stochastic Theory, Methods, and Applications, (eds.) M. Dror, P. L'Ecuyer, F. Szydarovszky, Kluwer Academic Publishers, 2002.
- ARC ROUTING: Theory, Solutions, Applications, (ed.) M. Dror, Kluwer Academic Publishers, 2000.

EDITED JOURNAL VOLUMES

- APPLICATIONS OF GAME THEORY IN INDUSTRY, *IIE Transactions on Operations Engineering* Vol. 31, 1999 (with B.C. Hartman).
- LARGE-SCALE, HIGH-PRICED APPLICATIONS, *European J. of Operational Research* Vol. 97, 1997.
- STOCHASTIC AND DYNAMIC MODELS IN TRANSPORTATION, *Operations Research* Vol. 41, 1993 (with W. Powell).

BY the AREA of INTEREST

Game Theory

- Dror, M., G. Kendall, A. Rapoport, Elicitation of Strategies in Four Variants of a Round-Robin Tournament: The Case of Goofspiel, *IEEE Transactions on Computational Intelligence & AI in Games* 8, 209-217, 2016.
- Dror, M., D. Granot, M. Yaeger-Dror, Teaching & Learning Guide for: Speech Variation, Utility, and Game Theory, *Language & Linguistics Compass* 8/6, 230-242, 2014.
- Dror, M., G. Kendall, Repeated Goofspiel – Game of Pure Strategy: Results of the First Round-Robin Competition, *IEEE Transactions on Computational Intelligence & AI in Games* 5, 312-325, 2013.
- Dror, M., D. Granot, M. Yaeger-Dror, Speech Variation, Utility, & Game Theory, *Language & Linguistics Compass* 7/11, 561-579, 2013.
- Summerfield, N.S., M. Dror, Biform Game: Reflection as a Stochastic Programming Problem, *I.J. of Production Economics* 142, 124 -129, 2013.
- Burer, S., M. Dror, Newsvendor Games: Convex Optimization of Centralized Inventory Operations, *TOP – J. of Spanish Statistical & Operations Research Society* 20,707-728, 2012.
- Summerfield, N.S., M. Dror, Stochastic Programming Framework for Decentralized Inventory with Transshipment, *I.J. of Production Economics* 137, 292-303, 2012.
- Dror, M., B.C. Hartman, W. Cheng, The Cost Allocation Issue in Joint Replenishment, *I.J. of Production Economics* 135, 242-254, 2012.
- Suakkaphong, N.S., M. Dror, Managing Decentralized Inventory and Transshipment, *TOP – J. of Spanish Statistical & Operations Research Society* 19, 480-506, 2011.
- Dror, M., B.C. Hartman, Survey of Cooperative Inventory Games & Extensions, *J. of Operational Research Society* 62, 565-580, 2011.
- Dror, M., L.A. Guardiola, A. Meca, J. Puerto, Realization Games in Newsvendor Inventory Centralization, *I.J. of Game Theory* 37, 139-153, 2008.

- Dror, M., B.C. Hartman, Shipment Consolidation: Who Is Going to Pay for it and How Much? *Management Science* 53, 78-87, 2007.
- Hartman, B.C., M. Dror, Allocation of Gains from Inventory Centralization in Newsvendor Environments, *IIE Transactions on Scheduling & Logistics* 37, 93 -107, 2005.
- Hartman, B.C., M. Dror, Optimizing Centralized Inventory Operations in Cooperative Game Theory Setting, *IIE Transactions on Operations Engineering* 35, 243-257, 2003.
- Hartman, B.C., M. Dror, M. Shaked, Cores of Inventory Centralization Games, *Games & Economic Behavior* 31, 26-49, 2000.
- Hartman, B.C., M. Dror, Cost Allocation in Continuous Review Inventory Models, *Naval Research Logistics* 43, 549-561, 1996.
- Dror, M., Cost Allocation: The Traveling Salesman, Binpacking & the Knapsack, *Applied Mathematics & Computation* 35, 191-207, 1990.
- Dror, M., Simple Proof for Goofspiel: The Game of Pure Strategy, *Advances in Applied Probability*, A Note, 21, 711-712, 1989.

Combinatorial Optimization

- Berger, L., M. Dror, J Lynch, Universal Number Partition Problem with Divisibility, *Discrete Mathematics* 312,1693 -1698, 2012.
- Dror, M., J.B. Orlin, M. Zhu, Packing Shelves with Items that Divide the Shelf's Length: A Case of a Universal Number Partition Problem, *Discrete Mathematics, Algorithms & Applications* 2, 189-198, 2010.
- Dror, M., G. Steiner, 'Strong'-'Weak' Precedence in Scheduling: Extensions to Series-parallel Orders, *Discrete Applied Mathematics* 158, 1767-1776, 2010.
- Burke, E.K., M. Dror, J.B. Orlin, A Note on Scheduling Malleable Tasks with Interdependent Processing Rates: Comments & Observations, *Discrete Applied Mathematics* 156, 620-626, 2008.
- Dror, M., J.B. Orlin, Combinatorial Optimization with Explicit Delineation of the Ground Set by Collection of Subsets, *SIAM J. on Discrete Mathematics*, 21, 1019 -1034, 2007.
- Bompadre, A., M. Dror, J.B. Orlin, Probabilistic Analysis of Equal Demand Vehicle Routing Problem, *J. of Applied Probability* 44, 259-278, 2007.
- Dror, M., Y. Lee, J.B. Orlin, V. Polishchuk, The Metric TSP & the Sum of its Marginal Values, *I.J. of Computational Geometry & Applications* 16, 333-343, 2006.
- Bompadre, A., M. Dror, J.B. Orlin, Improved Bounds for Split Delivery, *Discrete Optimization* 3, 299 -316, 2006.
- Haouari, M., J. Chaouachi, M. Dror, Solving Generalized Spanning Tree Problems by a Branch and Bound Algorithm, *J. of Operational Research Society* 56, 382-389, 2005.
- Dror, M., A. Efrat, A. Lubiw, J. S. B. Mitchell, Touring a Sequence of Polygons, Proceedings of the 35th ACM Symposium on Theory of Computing (STOC-2003), 473-482, 2003.
- Leung, J.Y-T, M. Dror, G.H. Young, A Note on an Open-end Bin Packing Problem, *J. of Scheduling* 4, 201-207, 2001.
- Dror, M., D. Fortin, C. Roucairol, Complexity Issues for a Redistribution Problem, (eds.) D. Gardy and A. Makkadem, MATHEMATICS & COMPUTER SCIENCE, ALGORITHMS, TREES, COMBINATORIC and PROBABILITIES (Trends in Mathematics), Birkhauser Verlag Basel, Switzerland, 165 -176, 2000.
- Dror, M., Arc Routing: Complexity and Approximability, (ed.) M. Dror, ARC ROUTING: THEORY, SOLUTIONS, & APPLICATIONS, Kluwer Academic Publishers, 133 -169, 2000.
- Dror, M., M. Haouari, J. Chaouachi, Generalized Spanning Trees, *European J. of Operational Research* 120, 583-592, 2000.
- Dror, M., M. Haouari, Generalized Steiner Problems and Other Variants, *J. of Combinatorial Optimization* 4, 415-436, 2000.

- Dror, M., G. Finke, S. Gravier, W. Kubiak, On the Complexity of a Restricted List-Coloring Problem, *Discrete Mathematics* 195, 103 -109, 1999 (also in Graph Coloring and Applications, CRM Proceedings & Lecture Notes 23, 1999, 35-41, eds. P. Hansen and O. Marcotte, AMS).
- Dror, M., Polygon Plate-Cutting with a Given Order, *IIE Transactions on Operations Engineering* 31, 271-274, 1999.
- Krings A.W., M. Dror, Real-Time Dispatching: Scheduling Stability and Precedence, *I.J. of Foundations of Computer Science* 10, 313-327, 1999.
- Dror, M., W. Kubiak, J.Y-T. Leung, Tree Precedence in Scheduling: The Strong-Weak Distinction, *Information Processing Letters* 71, 127-134, 1999.
- Dror, M., J.M.Y. Leung, Combinatorial Optimization in a Cattle Yard: Feed Distribution, Vehicle Scheduling, Lot Sizing, & Dynamic Pen Assignment, (ed.) G. Yu, INDUSTRIAL APPLICATIONS OF COMBINATORIAL OPTIMIZATION, Kluwer Academic Publishers, 142-171, 1998.
- Kubiak, W., J. Blazewicz, M. Dror, N. Katoh, H. Rock, Resource Constrained Chain Scheduling of UET Jobs on Two Machines, *Operations Research* 46, 742-746, 1998.
- Dror, M., W. Kubiak, P. Dell'Olmo, 'Strong'-'Weak' Chain Constrained Scheduling, *Ricerca Operativa: J. of Italian Operations Research Society* 27, 35-49, 1998.
- Benson, B., M. Dror, Linear Time Procedure for Two Job Flowshop, *Foundation of Computing & Decision Sciences* 23, 179-186, 1998.
- Dror, M., Chains and Trees: Strong-Weak Orders in Job Scheduling, *ORDER* 14, 211-228, 1997.
- Dror, M., W. Kubiak, P. Dell'Olmo, Scheduling Chains to Minimize Mean Flow Time, *Information Processing Letters* 61, 297-301, 1997.
- Dror, M., B.T. Smith, M. Trudeau, Utilizing Shelf Slots: Sufficiency Conditions for Some Easy Instances of Hard Problems, *J. of Complexity* 10, 216-229, 1994.
- Dror, M., Note on the Complexity of the Shortest Path Model for Column Generation in VRPTW, *Operations Research* 42, 977-978, 1994.
- Dror, M., G. Laporte, P. Trudeau, Vehicle Routing with Split Delivery, *Discrete Applied Mathematics* 50, 239-254, 1994.
- Dror, M., Openshop Scheduling with Machine Dependent Processing Times, *Discrete Applied Mathematics* 39, 197-205, 1992.
- Dror, M., B. Gavish, J. Choquette, Directed Steiner Tree Problem on Graph: Models, Relaxations, and Algorithms, *INFOR-Information Systems & Operational Research* 28, 266-281, 1990.
- Dror, M., H.I. Stern, J.K. Lenstra, Parallel Machine Scheduling: Production Rates Dependent on Number of Jobs in Operation, *Management Science* 33, 1001-1009, 1987.
- Dror, M., H.I. Stern, P. Trudeau, Postman Tour on Graph with Precedence Relation on Arcs, *Networks* 17, 283-294, 1987.

Logistics

- Carl, K., M. Dror, GIS-based Construction of a Topographical Road Graph for Bicycle Tour Routes, *Sports Technology*, (early view), 2016.
- Summerfield, N.S., M. Dror, M.A. Cohen, City Streets Parking Enforcement Inspection Decisions: The Chinese Postman's Perspective, *European J. of Operational Research*, 242, 149 -160, 2015.
- Carl, K., M. Dror, Multi-Day Bicycle Tour Route Generation, *J. of Quantitative Analysis in Sports* 11, 85-96, 2015.
- Carl, K., S. Brown, M. Dror, A. Durcikova, Bicycle Tours: Perceived Exertion of a Daily Path, *J. of Quantitative Analysis in Sports* 9, 203-216, 2013.
- Dror, M., Routing Propane Deliveries, (eds.) A. Langevin and D. Riopel, LOGISTICS SYSTEMS: DESIGN & OPTIMIZATION, Springer, 299-322, 2005.
- Jaillet, P., L. Huang, J.F. Bard, M. Dror, Delivery Cost Approximations for Inventory Routing Problems in a Rolling Horizon Framework, *Transportation Science* 36, 292-300, 2002.

- Dror, M., Routing with Stochastic Demands: A Survey, (eds.) M. Dror, P. L'Ecuyer, F. Szydarovszky, MODELING UNCERTAINTY: AN EXAMINATION OF STOCHASTIC THEORY, METHODS, & APPLICATIONS, Kluwer Academic Publishers, 629-653, 2002.
- Dror, M., A. Langevin, Transformations and Exact Solutions for Arc and Node Routing by Column Generation, (ed.) M. Dror, ARC ROUTING: THEORY, SOLUTIONS, & APPLICATIONS, Kluwer Academic Publishers, 277-326, 2000.
- Dror, M., J.M.Y. Leung, P.A. Mullaseril, Arc Routing Application in Cattle Feed Distribution, (ed.) M. Dror, ARC ROUTING: THEORY, SOLUTIONS, & APPLICATIONS, Kluwer Academic Publishers, 443-474, 2000.
- Bard, J.F., L. Huang, M. Dror, P. Jaillet, A Branch and Cut Algorithm for the VRP with Satellite Facilities, *IIE Transactions on Operations Engineering* 30, 821-834, 1998.
- Bard, J.F., L. Huang, P. Jaillet, M. Dror, A Decomposition Approach to the Inventory Routing Problem with Satellite Facilities, *Transportation Science* 32, 189-203, 1998.
- Mullaseril, P.A., M. Dror, J.M.Y. Leung, Split Delivery Routing Heuristic in Livestock Feed Distribution, *J. of Operational Research Society* 48, 107-116, 1997.
- Dror, M., A. Langevin, A Generalized Traveling Salesman Problem Approach to the Directed Clustered Rural Postman Problem, *Transportation Science* 31, 187-192, 1997.
- Dror, M., P. Trudeau, Cash Flow Optimization in Delivery Scheduling, *European J. of Operational Research* 88, 504-515, 1996.
- Bouzaiene-Ayari, B., M. Dror, G. Laporte, Vehicle Routing with Stochastic Demand & Split Deliveries, *Foundation of Computing & Decision Sciences* 18, 63-69, 1993.
- Dror, M., Modeling Vehicle Routing with Uncertain Demands as a Stochastic Program: Properties of the Corresponding Solution, *European J. of Operational Research* 64, 432 – 441, 1993.
- Dror, M., G. Laporte, V.F. Louveaux, Vehicle Routing with Stochastic Demands & Restricted Failures, *Mathematical Methods of Operations Research* 37, 273-283, 1993.
- Trudeau, P., M. Dror, Stochastic Inventory Routing: Stockout and Route Failure, *Transportation Science* 26, 172-184, 1992.
- Dror, M., P. Trudeau, Split Delivery Routing, *Naval Research Logistics* 37, 383-402, 1990.
- Dror, M., G. Laporte, P. Trudeau, Vehicle Routing with Stochastic Demands: Properties and Solution Framework, *Transportation Science* 23, 166-176, 1989.
- Dror, M., P. Trudeau, Savings by Split Delivery Routing, *Transportation Science* 23, 141-145, 1989.
- Dror, M., P. Trudeau, S. Ladany, Network Models for Seat Allocation on Flights, *Transportation Research B* 22, 239-250, 1988.
- Dror, M., P. Trudeau, Inventory Routing: Operational Design, *Business Logistics* 9, 165-183, 1988.
- Dror, M., M.O. Ball, Inventory/Routing: Reduction from an Annual to a Short Period Problem, *Naval Research Logistics* 34, 891-905, 1987.
- Dror, M., L. Levy, A Vehicle Routing Improvement Algorithm: Comparison of a Greedy & a Matching Implementation for Inventory Routing, *Computers & Operations Research* 13, 33-45, 1986.
- Dror, M., P. Trudeau, Stochastic Vehicle Routing with Modified Savings Algorithm, *European J. of Operational Research* 23, 228-235, 1986.
- Dror, M., M.O. Ball, B. Golden, Computational Comparison of Algorithms for Inventory Routing, *Annals of Operations Research* 4, 3-23, 1985.
- Stern, H.I., M. Dror, Comment: Transportation Routing Problem, *(A)IIE Transactions* 11, 264, 1979.
- Stern, H.I., M. Dror, Routing Electric Meter Readers, *Computers & Operations Research* 6, 209-223, 1979.

Applied Scheduling

- Abdullah, S., S. Ahmadi, E.K. Burke, M. Dror, Investigating Ahuja-Orlin's Large Neighborhood Search Approach for Examination Timetabling, *OR Spectrum* 29, 351-372, 2007.

- Abdullah, S., S. Ahmadi, E.K. Burke, M. Dror, B. McCollum, A Tabu Based Large Neighborhood Search Methodology for the Capacitated Examination Timetabling Problem, *J. of Operational Research Society* 58, 1494 -1502, 2007.
- Petrovic, S., Y. Yang, M. Dror, Use of Case Based Reasoning in Solving Examination Timetabling Problems, *Expert Systems with Applications* 33, 772-785, 2007.
- Zeng, D.D., M. Dror, H. Chen, Efficient Scheduling of Periodic Information Monitoring Requests, *European J. of Operational Research* 173, 583-599, 2006.
- Burke, E., M. Dror, S. Petrovic, R. Qu, Hybrid Graph Heuristics in Hyper-Heuristics Applied to Exam Timetabling Problems, (eds.) B.L. Golden, S. Raghavan, E.A. Wasil, *THE NEXT WAVE IN COMPUTING, OPTIMIZATION, & DECISION TECHNOLOGIES*, Springer, 79-91, 2005.
- Petrovic, S., Y. Yang, M. Dror, Case-based Initialization of Metaheuristics for Examination Timetabling. (eds.) G.Kendall, E.Burke, S.Petrovic, M.Gendreau, *MULTIDISCIPLINARY SCHEDULING THEORY & APPLICATIONS*, Springer, 289-308, 2005.
- Knotts, G., M. Dror, Agent-based Project Scheduling: Computational Study of Large Problems, *IIE Transactions on Scheduling & Logistics* 35, 143 -159, 2003 (Featured in IIE Solutions).
- Knotts, G., M. Dror, B.C. Hartman, Agent-based Project Scheduling, *IIE Transactions on Scheduling & Logistics* 32, 387-401, 2000.
- Knotts, G., M. Dror, B.C. Hartman, An Improved Project Scheduling Methodology Derived as an Analogue of Digital Circuit Technology, *Annals of Operations Research* 82, 9-27, 1998.
- Dror, M., P.A. Mullaseril, Three Stage Generalized Flowshop: Scheduling Civil Engineering Projects, *J. of Global Optimization* 9, 321-344, 1996.
- Agnetis, A., M. Dror, A.J. Vakharia, F. Rossi, Tool Handling & Scheduling in a Two Machine Flexible Manufacturing Cell, *IIE Transactions on Scheduling & Logistics* 28, 425-437, 1996.
- Askin, R., M. Dror, A.J. Vakharia, Electronic Circuit Board Family Grouping & Component Allocation for a Multimachine Openshop Assembly Cell, *Naval Research Logistics* 41, 587-608, 1994.
- Blazewicz, J., M. Dror, G. Pawlak, K.E. Stecke, Scheduling Parts in a Two Stage Flow Shop, *Foundation of Computing & Decision Sciences* 19, 159 -172, 1994.
- Blazewicz, J., M. Dror, J. Weglarz, Mathematical Formulations for Machine Scheduling: A Survey, *European J. of Operational Research* 51, 283-300, 1991 (Invited review).
- L'Ecuyer, P., M. Mayrand, M. Dror, Dynamic Scheduling of a Robot Servicing Machines on a One-Dimensional Line, *IIE Transactions* 23, 371-382, 1991.
- Ben-Arieh, D., M. Dror, Intelligent Heuristic for FMS Scheduling Using Grouping, *J. of Intelligent Manufacturing* 2, 387-395, 1991.
- Ben-Arieh, D., M. Dror, Parts Assignment to Electronic Insertion Machines: Two Machine Case, *I.J. of Production Research* 28, 1317-1327, 1990.
- Ben-Arieh, D., M. Dror, Group Scheduling Using Group Technology Measures, *I.J. of Computer Integrated Manufacturing* 2, 186 -193, 1989.
- Schweitzer, P., M. Dror, P. Trudeau, Periodic Loading Problem: Formulation and Heuristics, *INFOR-Information Systems & Operational Research* 26, 40-61, 1988.
- Dror, M., A. Stulman, Optimizing Robot's Service Movement: A One Dimensional Case, *Computers & Industrial Engineering* 12, 39-46, 1987.

Multiobjective Optimization

- Anderson, R., M. Dror, An Interactive Graphic Presentation for Multiobjective Linear Programming, *Applied Mathematics & Computation* 123, 229-248, 2001.
- Dror, M., M.L. Shakun, Bifurcation and Adaptation in Evolutionary Interactive Multiobjective Linear Programming, *European J. of Operational Research* 93, 602-610, 1996 (also as "Reengineering and Adaptation in Evolutionary Interactive Multi-Objective Linear Programming", HICSS 29, Hawaii, 1996, 502-509).
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- Zeng, D.D., J.C. Cox, M. Dror, Coordination of Purchasing & Bidding Activities Across Posted Offer and Auction Markets, *Information Systems & e-Business Management* 5, 25-46, 2007.
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- Dror, M., B. Hartman, When Monotonicity Implies Differentiability A.E., *I.J. of Mathematical Education in Sciences & Technology* 24, 922-926, 1993.
- Kreimer, J., M. Dror, The Monotonicity of Threshold Detection Probability in Stochastic Accumulation Processes, *Computers & Operations Research* 17, 63-71, 1990.
- Gavish, B., P. Trudeau, M. Dror, M. Gandreau, L. Mason, Circuit Network Design Under Reliability Constraints, *IEEE J-SAC* 6, 1181-1187, 1989.
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IN PROGRESS

- Zeng, S., M. Dror, Serving Many Masters – an Agent and his Principals (submitted for publication).
- Romeijnders, W., G. Sierksma, M. Dror, Off shore Helicopter Routing with Asymmetric Demands (in progress).
- LOGISTIC GAMES, Special Issue Editor, *Games*, (in progress).

PROCEEDINGS

- Payne, K.C. M., M. Dror, (2017), The Development of a Smart Map for Minimum "Exertion" Routing Applications. Proceedings of *HICSS* 50, 1200-1205, (2017), Hawaii, Big Island.
- Grimes, M., M. Dror, (2013). Observations on Strategies for Goofspiel, 2013 IEEE Conference on Computational Intelligence & Games (CIG), *Niagara Falls, Ontario, Canada*. August 11-13.
- Suakkaphong, N., M. Dror, (2011). Stochastic Programming Framework for Decentralized Inventory with Transshipment, *Proceedings of 2011 MSOM Conference*, Ann Arbor (3 p.).
- Dror, M., G. Steiner, (2009). 'Strong'-'Weak' precedence in scheduling: Extended order implications, *Proceedings of MISTA 2009*, 28-42 (Plenary Paper, August 2009, Dublin, Ireland).
- Dror, M., B.C. Hartman, (2005). Shipment Consolidation: Who pays for it and how much, *Proceedings of 2005 MSOM Conference*, Northwestern, Evanston (6 p.).

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- Abdullah, S., S. Ahmadi, E.K. Burke, M. Dror, (2004). Applying Ahuja-Orlin's Large Neighborhood for Constructing Examination Timetabling Solution, *Proceedings of PATAT*, Pittsburgh, PA, 413-420.
- Dror, M. (2004). Logistic and Operational Issues in a Large Cattle Yard, *Proceedings of Plains Nutrition Council Conference*, San Antonio, Texas, 68-79.
- Petrovic, S., Y. Yang, M. Dror, (2003). Case-Based Initialization of Metaheuristics for Examination Timetabling, *Proceedings of MISTA 2003*, Nottingham, UK, 137-154.
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- Anastasova, K., M. Dror, (1998). Intelligent Scheduler for Processing Help Requests on Unrelated Parallel Machines in Computer Support Administration System, *SMC '98 Conference Proceedings*, San Diego, CA, 372-377.
- Dror, M., M.F. Shakun (1996). Reengineering and Adaptation in Evolutionary Interactive Multi-Objective Linear Programming, *Proceeding of HICSS 29*, Hawaii, Vol. III, 502-509, (also as Bifurcation and Adaptation in Evolutionary Interactive Multiobjective Linear Programming, *European J. of Operational Research* 93, 602-610).
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- Assad, A., B. Golden, R. Dahl, M. Dror, (1983). Evaluating the Effectiveness of an Integrated System for Fuel Delivery, *Proceedings of Southeast TIMS Conference*, (Ed. J. Eatman), 153-160.
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- Dror, M., E. Wasil, B. Golden, A. Assad, (1982). Comparing Forecasting Methods: Expected Utility Approach, *Proceedings of Southeast TIMS Conference*, (Ed. C. Golding), 87-92.

NOTES

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- Dror, M., Traveling Salesman Problem, (Ed.) M. Hazewinkel, Encyclopedia of Mathematics, Supplement III, pp. 410-411, CWI, Kluwer Academic Publishers, Amsterdam, 2002.
- Dror, M., W.B. Powell, Meeting Today's Transportation Challenges, *OR/MS Today*, April 1993, 81-82.

OTHER PUBLICATIONS & WORKING PAPERS.

- Grimes, M., M. Dror, Observations on a 'Good' Strategy for Playing Repeated Goofspiel, Working Paper, 2013.
- Safer, H.M., J.B. Orlin, M. Dror, (2006). Fully Polynomial Approximation in Multi-Criteria Optimization, W.P., MIT.
- Dror, M., Y. Lee, J. Orlin, (2004). The Metric TSP and the Sum of its Marginal Values, Abstracts Of The Fall Workshop on Computational Geometry, Nov. 2004, MIT, Boston.
- Dror, M., (2003). Combinatorial Selection Problems Like the Generalized TSP, Extended Abstract, ROUTE 2003, Rolighed, Skodsborg, Denmark, 24-26.
- Gueguen, C., P. Dejax, M. Dror, D. Feillet, D., M. Gendreau, (2000). An Exact Algorithm for the Elementary Shortest Path Problem with Resources Constraints, W.P. CER 00-02A, Laboratoire

Productique Logistique, Ecole Central Paris, W.P. CRT-2000-15, Centre de recherché sur les transports, Universite de Montreal.

- Dror, M., P.A. Mullaseril, Node & Arc Routing Problems with Split Delivery & Time Windows, W.P., University of Arizona, 1999.
- Dror, M., D. Fortin, C. Roucairol, (1998). Redistribution of Self-service Electric Cars: A Case of Pickup and Delivery, W.P. 3543, INRIA-Rocquencourt, Rocquencourt, France.
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REVIEWS: BOOKS & ARTICLES

- Proportional flow shop games. EN (English summary), J. of Scheduling. 11, 2009, 433-447, Estevez, A., M.A. Mosquera, P. Borm, H. Hammers, AMS, Mathematical Reviews, MR2453420 (2009j:91018).
- Proportional scheduling, split-proofness, and merge-proofness, EN (English summary), Games and Economic Behavior 63, 2008, H. Moulin, AMS, Mathematical Reviews, MR2436072 (2009f:90038).
- Combinatorial Optimization, Theory and Algorithms, B. Korte, and J. Vygen, Second edition, Springer, 2002, pp. 530; Interfaces 33(4), 85-86, 2003.
- Operations Scheduling with Applications in Manufacturing & Services, M. Pinedo & X. Chao, Irwin/McGraw-Hill, 1999, pp. 310; IIE Transactions on Operations Engineering 32, 275-277, 2000.
- The Travelling Salesman Problem, E.L. Lawler, J.K. Lenstra, A.H.G. Rinnooy Kan, D.B. Shmoys (eds.), Wiley, 1985, pp. 465; European J. of Operational Research 25, 142-144, 1986.

COMMENTS

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- Dror, M., An Unfair Situation on Our Journals' Editorial Boards, *OR/MS Today*, October 1987, p. 7.
- Dror, M., Comment on Prof. Steuer's Call for Reforms in the Journals Management Science & Operations Research, *MCDM WorldScan*, June 1987.

COURSES TAUGHT: Operations Management, Production Planning & Control, Introduction to Industrial Engineering, Topics in Industrial Engineering, Network Flows, Mathematical Programming, Inventory Theory, Stochastic Dynamic Programming, Machine Scheduling, Linear Programming, Topics in Combinatorial Optimization, Integer Programming, Production & Operations Management, Optimization for Profit, Heuristic Scheduling, Project Management, Quantitative Models, Scheduling -- Raytheon Co. Graduate Program in Engineering, Supply-Chain Management, Production System.

TEACHING: University of Arizona: Dean's Teaching Distinction List: Fall 1990, Spring 1991; Eller Student Council faculty recognition award – 1999, 2001.

AWARDS

- Chinese Academy of Sciences International Collaboration Award, June 2005.
- **Allan N. Nash Award, Distinguished Doctoral Graduate**, Smith School of Business, University of Maryland, 2004.
- Engineering & Physical Sciences Research Council (EPSRC) Fellowship, University of Nottingham, UK, 2002-03.
- Eller MIS Prof., The University of Arizona, Eller College of Management, 2001-present.
- **The British Council Foreign and Commonwealth Scholarship 1984**, University of Lancaster, UK, Winter of 1985.

- **Honorable Mention, ORSA/TIMS (present INFORMS), 1983 - Transportation Sciences Society Dissertation Prize Competition.**
- Graduate Studies Fellowship from Ben-Gurion University of the Negev, 1979-82.
- Henry Leon Weiller Fellowship for Doctoral Studies, 1979; awarded by the President of Israel.
- Prize from Sa-Sha Transportation, Inc., for vehicle routing research (with H. Stern), 1978.
- Pinhas Sapir Prize for research on Chinese Postman Problem with Precedence Relations on Arcs, Mifal Hapais, 1977.

GRANTS

- PI – Tech Launch Arizona, Proof of Concept Grant for the development of Cyclevation, 2013, \$6,440.
- PI - Federal Highway Administration, DTFH64-12-G-00032, 2012, \$5,000.
- **PI - AFOSR/RSL** support for the Behavioral & Quantitative Game Theory Workshop on Future Directions, Newport Beach, California, 2010, \$30,000.
- **PI - NSF** sponsored Behavioral & Quantitative Game Theory Workshop on Future Directions, Newport Beach, California, 2010, \$50,000.
- MIS Department (University of Arizona) Support for the Behavioral & Quantitative Game Theory Workshop on Future Directions, Newport Beach, California, 2010, \$5,000.
- Eller College of Management Support for the Behavioral & Quantitative Game Theory Workshop on Future Directions, Newport Beach, California, 2010, \$10,000.
- Co-PI, Proposition 301 (State of Arizona) Support for Research on Autonomic Computing, 2003-2004, University of Arizona, - \$ 20,000.
- Faculty Small Grants Program, University of Arizona, 2000, \$ 5,000.
- **NATO** International Scientific Exchange Programs, Collaborative Research Grant - CRG 971490, UVSQ - Universite de Versailles, FRANCE, 1998-99, \$ 5,000.
- PI - Federal Highway Administration, DDEGFP-94-X-00509, 1994-97, \$ 64,282.
- PI - Canadian Natural Sciences & Engineering Research Council, OGPIN 020, 1988-91, \$ 45,000.
- Travel support grants from: Office of International Programs, University of Arizona, Paul Ivanir Center of Robotics, Ben-Gurion University, etc. of over \$ 9,000.

SERVICE

- Editorial Board: *The Scientific Pages of Information Science*, 2016-present.
- Editorial Board: *Decision Making in Manufacturing & Services*, 2006-present.
- Associate Editor: *Journal of Scheduling*, 2003-present.
- Member of EPSRC Peer Review College, Swindon, UK, 2006-present.
- Editorial Board: *Memetic Computing*, 2007-2015.
- Editorial Board: *Foundation of Computing & Decision Sciences*, 1991-2014.
- Associate Editor: *TOP-J. of Spanish Statistical & Operations Research Society*, 2006-2013.
- Invited Reviewer: *Mathematical Reviews*, American Mathematical Society, 2008-2012.
- Associate Editor, *IEEE Transactions on Intelligent Transportation Systems*, 2009-2012.
- Editorial Board: *IIE Transactions on Operations Engineering*, 1993-97, 2005-2008.
- Editorial Board: *Computers & Operations Research*, 1992-2006.
- Area Editor: *Applied Optimization*, *IIE Transactions on Operations Engineering*, 1997-2005.
- External Examiner: Ph.D. Committee, B. Hezarkhani, Memorial University of Newfoundland, St. John's, NL, Canada, 2011.
- External Examiner: Ph.D. Committee, J. Yahav, Ben Gurion University of the Negev, Israel, 2007.
- External Examiner: Ph.D. Committee, Y. Bykov, University of Nottingham, U.K., 2003.
- External Examiner: Ph.D. Committee, T. Zhongjun, The Hong Kong Polytechnic University, 2002.
- External Examiner: Ph.D. Committee, C. M. Rivers, Massey University, New Zealand, 2002.

- Opponent: Ph.D. Committee, S. Engevall, Linkoping Institute of Technology, Sweden, 2002.
- Examineur: Ph.D. Committee, A. Oulamara, Universite J. Fourier - Grenoble I, France, 2001.
- External Examiner: Ph.D. Committee, M. R. Johnston, Massey University, New Zealand, 1999.
- Ph.D. Committee, L. Huang, University of Texas at Austin, Texas, 1996.
- External Examiner: Doctoral Candidacy Committee, O. Hamberg, Technion, Israel, 1985.
- Review for Programme proposal, Isaac Newton Institute for Mathematical Sciences, Cambridge, UK., 2009.
- NSF Review Panels: 1999, 2000, 2002, 2005, 2006.
- Review of NSERC (Canadian) grant proposals.
- Review Research Council K.U.Leuven (Belgium) proposals.
- Review of United States - Israel Bi-National Science Foundations - BSF proposals.
- Review of ISF - Israel Science Foundation proposals.
- Review of Qatar National Research Fund grant proposals.
- Review Research Grants Council - Hong Kong proposals.
- Book reviewer: John Wiley & Sons, McGraw-Hill, Prentice Hall, Kluwer Academic Publishers.
- IIE Transactions Best Paper Award Committee, 2001.
- IIE OR Application Award Committee, 1994.
- ORSA TSS Dissertation Prize Committee, 1991, 1992.
- Nominating Committee, ORSA Special Group on Telecommunication, 1990.
- 164 presentations in conferences -- not including plenary talks, tutorials, and university seminars.
- Organized 8 Conference Clusters.
- Member of program & scientific committees of 24 international conferences.
- Member on 6 conference panels.
- Served on numerous university professional & academic committees.
- External reviewer for promotion & tenure (multiple letters) for 26 different academic institutions.

INDUSTRIAL & ACADEMIC PRACTICE

- Inventory and service level analysis. Apache Nitrogen Product, Inc., Benson, Arizona.
- Developed a proposal for a logistics system for France Distribution Systems (FDS).
- Developed a feed distribution system for a large cattle yard. McElhany Cattle Co. Yuma, AZ.
- Consultant, University Informatics Associates, Conshohocken, PA - Distribution system of home heating oil.
- Tadiran, Inc., Telecommunications Division - Optimization of test assemblies of circuit boards.
- Research Associate, DISTINCT, Inc., Columbia, Maryland, Propane distribution for Amerigas Inc.
- Consultant, S.K.M. Rubber, Inc. Manufacturing information system.
- Consultant, Subsidiary of the Israeli Commerce Ministry, Project and novelties implementation.
- In charge of search and evaluation of industrial projects for Kibbutz Yotvata.
- Statistician at Lever Brothers, Inc., New York City, Marketing research group.
- Academic Consultant, Stuart School of Business, Illinois Institute of Technology. Chicago, Illinois.
- Developed and implemented a decision analysis 9 day executive program, Tucson Electric Power Company..

PROFESSIONAL SOCIETIES

- Institute for Operations Research & Management Science (INFORMS)
- Operations Research Society of Israel (ORSIS), Vice President - 1990-92.
- Game Theory Society
- International Society of Dynamic Games (ISDG)
- Collegiate Honor Societies: Omega Rho - Operations Research Honorary Society

Details of any of the above are available upon request.