

## Referencias

- Alumur, S. Kara, B.Y. (2008) Network hub location problems: The state of the art. *European Journal of Operational Research* 190: 1-21.
- Alvarez, J. (2006) A Heuristic For vessel Planning in a reach stacker terminal. *Journal of Maritime Research* 11: 3-16.
- Ambrosino, D. Sciomachen, A. Tanfani, E. (2004) Stowing a containership: the master bay plan problem. *Transportation Research Part A* 38: 81-99.
- Ambrosino, D. Sciomachen, A. Tanfani, E. (2006) A decomposition heuristics for the container ship stowage problem. *Journal of Heuristics* 12: 211-233.
- Andersen, J. Gabriel, T. Christiansen, M. (2009) Service network design with management and coordination of multiple fleets. *European Journal of Operational Research* 193: 377-389.
- Arango, C. Cortés, P. Onieva, L. Guadix, J. (2010a) Análisis DAFO del Puerto de Sevilla en el marco del transporte marítimo de corta distancia. IX Congreso de Ingeniería de transporte. Madrid-España.
- Arango, C. Cortés, P. Muñuzuri, S. (2010b) Operativa de transferencia y programación de grúas en la terminal de contenedores del puerto de Sevilla. XIV Congreso de ingeniería de organización, Donostia-España.
- Baird, A.J. (2006) Optimising the container transshipment hub location in northern Europe. *Journal of Transport Geography* 14: 195-214.
- Bjørner, D. (2007) A container line industry domain. Working paper, Department of Computer Science and Engineering, Institute of Informatics and Mathematical Modelling, Technical University of Denmark.
- Boesel, J. Glover, F. Bowden, R. Kelly, J. Westwig, E. (2001) Future of simulation optimization. Winter Simulation Conference.
- Camarero, A. Gonzales, N. (2005) *Cadenas Integradas de Transporte*, España, Fundación Agustín Betancourt.
- Caris, A. Janssens, G. (2008) A local search heuristic for the pre- and end- haulage of intermodal container terminals. *Computers & Operations Research*, doi: 10.1016/j.cor.2008.12.007
- Carson, Y. Maria, A. (1997) Simulation optimization: methods and applications. Winter Simulation Conference.

- Chang, T-S. (2008) Best routes selection in international intermodal networks. *Computers & Operations Research* 35: 2877–2891.
- Chao, IM. (2002) A tabu search method for the truck and trailer routing problem. *Computers and Operation Research* 29: 33–51.
- Chen, C. Huang, S-Y. Hsu, W-J. Toh, AC. Loh, CK. (2003) Platform-based AS/RS for container storage. The 2003 IEEE international conference on robotics and automation, Taipei, September 14–19.
- Chen, P. Fu, Z. Lim, A. (2002) The yard allocation problem. The 18th national conference on artificial intelligence, Edmonton, July 28–Aug 01. AAAI Press, Menlo Park.
- Chen, P. Fu, Z. Lim, A. Rodrigues, B. (2003) The general yard allocation problem. The Genetic and evolutionary computation—GECCO 2003: Part II of proceedings of genetic and evolutionary computation conference, Chicago, July 12–16.
- Chen, P. Fu, Z. Lim, A. Rodrigues, B. (2004) Port yard storage optimization. *IEEE Transactions on Automation Science and Engineering* 1: 26–37.
- Chen, ZL. Lei, L. Zhong, H. (2007) Container vessel scheduling with bi-directional flows. *Operation Research Letters* 35:186–194
- Chu, C-Y. Huang, W-C. (2005) Determining container terminal capacity on the basis of an adopted yard handling system. *Transport Reviews* 25: 181–199
- Cordeau, J-F. Gaudioso, M. Laporte, G. Moccia, L. (2007) The service allocation problem at the Gioia Tauro maritime terminal. *European Journal of Operational Research* 176: 1167–1184.
- Cordeau, J-F. Laporte, G. Legato, P. Moccia, L. (2005) Models and tabu search heuristics for the berth-allocation problem. *Transportation Science* 39: 526–538.
- Corry, P. Kozan, E. (2006) An assignment model for dynamic load planning of intermodal trains. *Computers and Operation Research* 33: 1–17.
- Cortés, P. Muñozuri, J. Ibañez, N. Guadix, J. (2007) Simulation of freight traffic in the Seville inland port. *Simulation Modelling Practice and Theory* 15: 256-271.
- Coslovich, L. Pesenti, R. Ukovich, W. (2006) Minimizing fleet operating costs for a container transportation company. *European Journal of Operational Research* 171: 776–786
- Cullinane, KPB. Wang, T-F. (2006) The efficiency of European container ports: a cross-sectional data envelopment analysis. *International Journal of Logistics Research and Application* 9: 19–31.

Dai, J. Lin, W. Moorthy, R. Teo, C-P. (2004) Berth allocation planning optimization in container terminal. Working paper, Georgia Institute of Technology, Atlanta; National University of Singapore.

Das, SK. Spasovic, LN. (2003) Scheduling material handling vehicles in a container terminal. *Production Planning and Control* 14: 623–633.

Dorndorf, U. Herbers, E. Panascia, E. Zimmermann, H-J. (2007) Ports o'call for O.R. problems. *OR/MS Today*: 36-40.

Duinkerken, MB. Dekker, R. Kurstjens, ST. Ottjes, JA. Dellaert, NP. (2006a) Comparing transportation systems for inter-terminal transport at the Maasvlakte container terminals. *OR Spectrum* 28: 469–493.

Duinkerken, MB. Ottjes, JA. Lodewijks, G. (2006b) Comparison of routing strategies for AGV systems using simulation. The 2006 winter simulation conference (WSC 2006), Monterey, December 3–6.

Evers, JJM. De Feijter, R. (2004) Centralized versus distributed feeder ship service: the case of the Maasvlakte harbour area of Rotterdam. *Transportation Planning and Technology* 27: 367–384.

Fagerholt, K. (2004) Designing optimal routes in a liner shipping problem. *Maritime Policy Management* 31:259–268.

Foregning Policy (2008) The 2008 global cities index.

Fu, M. (2001) Simulation Optimization. Winter Simulation Conference.

Fu, M. (2002) Optimization for Simulation: Theory vs. Practice. *INFORMS Journal on Computing* 14: 192-215.

Goodchild, AV. Daganzo, CF. (2006) Double-cycling strategies for container ships and their effect on ship loading and unloading operations. *Transportation Science* 40: 473–483.

Goodchild, AV. Daganzo, CF. (2007) Crane double cycling in container ports: planning methods and evaluation. *Transportation Research Part B* 41: 875–891.

Grunow, M. Günther, H-O. Lehmann, M. (2004) Dispatching multi-load AGVs in highly automated seaport container terminals. *OR Spectrum* 26: 211–235.

Hansen, IA. (2004) Automated shunting of rail container wagons in ports and terminal areas. *Transportation Planning and Technology* 27: 385–401.

Ho, YC. Chien, SH. (2006) A simulation study on the performance of task-determination rules and delivery-dispatching rules for multiple-load AGVs. *International Journal of Production Research* 44: 4193–4222.

Hsu, C-I. Hsieh, Y-P. (2007) Routing, ship size, and sailing frequency decision-making for a maritime hub-and-spoke container network. *Mathematical and Computing Modeling* 45: 899–916

Imai, A. Nishimura, E. Hattori, M. Papadimitriou, S. (2007) Berth allocation at indented berths for megacontainerships. *European Journal of Operational Research* 179: 579–593

Imai, A. Nishimura, E. Papadimitriou, S. (2001) The dynamic berth allocation problem for a container port. *Transportation Research Part B* 35: 401–417.

Imai, A. Nishimura, E. Papadimitriou, S. (2003) Berth allocation with service priority. *Transportation Research Part B* 37: 437–457.

Imai, A. Nishimura, E. Papadimitriou, S. (2005a) Corrigendum to “The dynamic berth allocation problem for a container port” [*Transportation Research Part B* 35 (2001) 401–417]. *Transportation Research Part B* 39: 197.

Imai, A. Nishimura, E. Papadimitriou, S. (2006a) Berthing ships at a multi-user container terminal with a limited quay capacity. *Transportation Research Part E* 44: 136-151.

Imai, A. Sasaki, K. Nishimura, E. Papadimitriou, S. (2006b) Multi-objective simultaneous stowage and load planning for a container ship with container rehandle in yard stacks. *European Journal of Operational Research* 171 :373–389.

Imai, A. Sun, X. Nishimura, E. Papadimitriou, S. (2005b) Berth allocation in a container port: using a continuous location space approach. *Transportation Research Part B* 39: 199–221.

Jawahar, N. Balaji, A.N. (2009) A genetic algorithm for the two-stage supply chain distribution problem associated with a fixed charge. *European Journal of Operational Research* 194: 496-537.

Jula, H. Dessouky, M. Ioannou, P. Chassiakos, A. (2005) Container movement by trucks in metropolitan networks: modeling and optimization. *Transportation Research Part E* 41: 235–259.

Jung, SH. Kim, KH. (2006a) Load scheduling for multiple quay cranes in port container terminals. *Journal of Intelligent Manufacturing* 17:479–492.

Jung, DH. Park, Y-M. Lee, BK. Kim, KH. Ryu, KR. (2006b) A quay crane scheduling method considering interference of yard cranes in container terminals. *The MICAI 2006: advances in artificial intelligence, proceedings of the fifth Mexican international conference on artificial intelligence, Apizaco, November 13–17.*

Kim, K.H. Kim, H.B. (1998) The optimal determination of the space requirement and the number of transfer cranes for import containers. *Computers and Industrial Engineering* 35: 427-430.

Kim, K.H. Park, Y.M. Ryu, K.-R. (2000) Deriving decision rules to locate export containers in container yards. *European Journal of Operational Research* 124: 89-101.

Kim, KH. Won, SH. Lim, JK. Takahashi, T. (2004a) An architectural design of control software for automated container terminals. *Computers and Industrial Engineering* 46: 741-754.

Kim, KH. Park, Y-M. (2004b) A crane scheduling method for port container terminals. *European Journal of Operational Research* 156: 752-768.

Kim, K-H. Bae, J. W. (2004c) A Look-Ahead Dispatching Method for Automated Guided Vehicles in Automated Port Container Terminals. *Transportation Science* 38: 224-234.

Kim, K-H. Günther, H-O. (2005) *Container Terminals and Automated Transport Systems*, Springer, New York.

Kim, KH. Moon, KC. (2003a) Berth scheduling by simulated annealing. *Transportation Research Part B* 37: 541-560.

Kim, K-H. Park, K.T. (2003b) A note on a dynamic space-allocation method for outbound containers. *European Journals of Operational Research* 148: 92-101.

Laganá, D. Legato, P. Pisacane, O. Vocaturo, F. (2006) Solving simulation optimization problems on grid computing systems. *Parallel Computing* 32: 688-700

Lai, K. Shih, K. (1992) A study of container berth allocation. *Journal of Advanced Transportation* 26: 45-60.

Lee, Y. Hsu, N-Y. (2007a) An optimization model for the container pre-marshalling problem. *Computers & Operation Research* 34: 3295-3313.

Lee, D-H. Cao, Z. Meng, Q. (2007b) Scheduling of two-transtainer systems for loading outbound containers in port container terminals with simulated annealing algorithm. *International Journal of Production Economics* 107: 115-124.

Lee, D-H. Wang, HQ. Miao, L. (2006a) Quay crane scheduling with non-interference constraints in port container terminals. *Transportation Research Part E* 44: 124-135.

Lee, LH. Chew, EP. Tan, KC. Han, Y. (2006b) An optimization model for storage yard management in transshipment hubs. *OR Spectrum* 28: 539-561.

Lee, Y. Chao, S-L. (2009) A neighborhood search heuristic for pre-marshalling export containers. *European Journals of Operational Research* 196: 469-475.

Legato, P. Canonaco, P. Mazza, R. (2009) Yard management by simulation and optimization. *Maritime Economics and Logistic* 11: 36-57.

Liang, C. Huang, Y. Yang, Y. (2009) A quay crane scheduling problem by hybrid evolutionary algorithm for berth allocation planning. *Computers & Industrial Engineering* 56: 1021-1028.

Lim, A. (1998) The berth planning problem. *Operations research letters* 22: 105-110.

Lim, A. Rodrigues, B. Xiao, F. Zhu, Y. (2004) Crane scheduling with spatial constraints. *Naval Research Logistics* 51: 386-406.

Lim, A. Xu, Z. (2006) A critical-shaking neighborhood search for the yard allocation problem. *European Journal of Operational Research* 174: 1247-1259.

Liu, C-I. Jula, H. Ioannou, P. (2002) Design, Simulation, and Evaluation of Automated Container Terminals. *IEEE Transactions on Intelligent Transportation Systems* 3: 12-26.

Liu, C-I. Jula, H. Vukadinovic, K. Ioannou, P. (2004) Automated guided vehicle system for two container yard layouts. *Transportation Research Part C* 12: 349-368.

Liu, J. Wan, Y-w. Wang, L. (2006) Quay crane scheduling at container terminals to minimize the maximum relative tardiness of vessel departures. *Naval Research and Logistics* 53: 60-74.

Lokuge, P. Alahakoon, D. (2007) Improving the adaptability in automated vessel scheduling in container ports using intelligent software agents. *European Journal of Operational Research* 177: 1985-2015.

Maritn, M. Guitierrez, J. (2009) *Logística integral*: 12-13.

Mattfeld, DC. Orth, H. (2006) The allocation of storage space for transshipment in vehicle distribution. *OR Spectrum* 28: 681-703.

Meisel, F. Bierwirth, C. (2009) Heuristic for the integration of crane productivity in the berth allocation problem. *Transportation Research Part E* 45: 196-209.

Moccia, L. Cordeau, J-F. Gaudioso, M. Laporte, G. (2006) A branch-and-cut algorithm for the quay crane scheduling problem in a container terminal. *Naval Research Logistics* 53: 45-59.



- Moorthy, R. Teo, C-P. (2006) Berth management in container terminal: the template design problem. *OR Spectrum* 28: 495–518.
- Moya, D. Gómez, P. (2009) “Proyecto INTERNODAL, entregable D5.2 Informe de evaluación de resultados de la simulación”, Ministerio de fomento de España.
- Musso, F. González, C. Pierre, Barros, A. (2004) *Gestión portuaria y tráfico marítimos*. A Coruña., Netbiblio.
- Namboothiri, R. Erera, A. (2008) Planning local container drayage operations given a port access appointment system. *Transportation Research Part E* 44: 185-202.
- Ng, W.C. Mac, K.L. (2005a) Yard crane scheduling in port container terminals. *Applied Mathematical Modelling* 29: 263-576.
- Ng, W.C. (2005b) Crane scheduling in container yards with inter-crane interference. *European journal of Operational Research* 164: 64-78.
- Ng, WC. Mak, KL. (2006) Quay crane scheduling in container terminals. *Engineering Optimization* 38: 723–737.
- Ngai, EWT. Cheng, TCE. Au, S. Lai, K-h. (2007) Mobile commerce integrated with RFID technology in a container depot. *Decision Support Systems* 43: 62–76.
- Nguyen, VD. Kim, KH. (2009) A dispatching method for automated lifting vehicles in automated port container terminals. *Computers & Industrial Engineering* 56: 1002-1020.
- Nishimura ,E. Imai, A. Papadimitriou, S. (2005) Yard trailer routing at a maritime container terminal. *Transportation Research Part E* 41: 53-76.
- Nishimura, E. Imai, A. Papadimitriou, S. (2001) Berth allocation planning in the public berth system by genetic algorithms. *European Journal of Operational Research* 131: 282–292.
- Notteboom, T. (2004) Containers Shipping and Ports: An Overview. *Review of Network Economics* 3: 86-106.
- Notteboom, T. (2006) Strategic challenges to container ports in a changing market environment. *Research in transportation economics* 17: 29–52.
- Notteboom ,T. (2007) Strategic Challenges to Container ports in a changing market environment. *Research in Transportation Economics* 17: 29-52
- Notteboom, T. Rodrigue, J-P. (2005) Port regionalization: towards a new phase in port development. *Maritime Policy Manage* 32: 297–313.

Park, Y-M. Kim, KH. (2003) A scheduling method for Berth and Quay cranes. *OR Spectrum* 25: 1–23.

Peterkofsky, R.I. Daganzo, C.A. (1990) A branch and bound solution method for the crane scheduling problem. *Transportation Research Part B* 24: 159-172.

Polo, G. Díaz, D. (2006) A new generation of containerships: cause or effect of the economic development?. *Journal of Maritime Research* 3: 3–18.

Puerto de Sevilla, Memoria anual 2008

Roop, S. (2006) The freight shuttle: the crisis in freight transportation and the opportunity for a green alternative. The METRANS national urban freight conference, Long Beach – USA.

Sagarra, M. Larrucea, R. (2007) *El transporte en contenedor*. 1 ed. Barcelona: MARGE BOOKS.

Scheuerer, S. (2006) A tabu search heuristic for the truck and trailer routing problem. *Computers and Operation Research* 33: 894–909.

Sciomachen, A. Tanfani, E. (2006) A 3D-BPP approach for optimising stowage plans and terminal productivity. *European Journal of Operational Research* 183: 1433-1446.

Sirikijpanichkul, A. Van Dam, K. Ferreira, L. Lukszo, Z. (2007) Optimizing the Location of Intermodal Freight Hubs: An Overview of the Agent Based Modelling Approach. *Journal of Transportation systems engineering and information technology* 7: 71-81.

Soriguera, F. Espinet, D. Robuste, F. (2006) A simulation model for straddle carrier operational assessment in a marine container terminal. *Journal of Maritime Research* 3: 19–34.

Steenken, D. Voß, S. (2008) Operations research at container terminals: a literature update. *OR Spectrum* 30: 1–52.

Steenken, D. Voß, S. Stahlbock, R. (2004) Container terminal operations and operations research - a classification and literature review. *OR Spectrum* 26: 3–49.

Swisher, J. Jacobson, S. Hyden, P. Schruben, L. (2000) A survey of simulation optimization techniques and procedures. *Winter Simulation Conference*

Tavakkoli-Moghaddam, R. Makui, A. Salahi, S. Bazzazi, M. Taheri, F. (2008) An efficient algorithm for solving a new mathematical model for a quay crane scheduling problem in container ports. *Computers & Industrial Engineering*. doi:10.1016/j.cie.2008.05.011.



Tongzon, J. Heng, W. (2005) Port privatization, efficiency and competitiveness: some empirical evidence from container ports (terminals). *Transportation Research Part A* 39: 405–424.

United Nations Conference on Trade and Development, secretariat (2003) Review of maritime transport. UNCTAD/RMT/2003, United Nations publication. [http://www.unctad.org/en/docs/rmt2003\\_en.pdf](http://www.unctad.org/en/docs/rmt2003_en.pdf) Consultada el 12 de agosto de 2009.

United Nations Conference on Trade and Development, secretariat (2004) Review of maritime transport. UNCTAD/RMT/2004, United Nations publication. [http://www.unctad.org/en/docs/rmt2004\\_en.pdf](http://www.unctad.org/en/docs/rmt2004_en.pdf). Consultada el 12 de agosto de 2009.

United Nations Conference on Trade and Development, secretariat (2005) Review of maritime transport. UNCTAD/RMT/2005, United Nations publication. [http://www.unctad.org/en/docs/rmt2005\\_en.pdf](http://www.unctad.org/en/docs/rmt2005_en.pdf). Consultada el 12 de agosto de 2009.

United Nations Conference on Trade and Development, secretariat (2006) Review of maritime transport. UNCTAD/RMT/2006, United Nations publication. [http://www.unctad.org/en/docs/rmt2006\\_en.pdf](http://www.unctad.org/en/docs/rmt2006_en.pdf). Consultada el 12 de agosto de 2009.

United Nations Conference on Trade and Development, secretariat (2007) Review of maritime transport. UNCTAD/RMT/2007, United Nations publication. [http://www.unctad.org/en/docs/rmt2007\\_en.pdf](http://www.unctad.org/en/docs/rmt2007_en.pdf). Consultada el 12 de agosto de 2009.

United Nations Conference on Trade and Development, secretariat (2008) Review of maritime transport. UNCTAD/RMT/2006, United Nations publication. [http://www.unctad.org/en/docs/rmt2008\\_en.pdf](http://www.unctad.org/en/docs/rmt2008_en.pdf). Consultada el 12 de agosto de 2009.

Vidivic, M. Kim, K. (2006) Estimating the cycle time of three-stage material handling systems. *Annals of Operations research* 144: 181-200

Vis, I. Harika, I. (2004) Comparison of vehicle types at an automated container terminal. *OR Spectrum* 26: 117–143.

Wang, F. Lim, A. (2007) A stochastic beam search for the berth allocation problem. *Decision Support Systems* 42: 2186–2196.

Wang, T-F. Cullinane, K. (2006) The efficiency of european container terminals and implications for supply chain management. *Maritime Economics & Logistics* 8: 82–99.

Yang, CH. Choi, YS. Ha, TY. (2004) Simulation-based performance evaluation of transport vehicles at automated container terminals. *OR Spectrum* 26: 149–170.

Yang, J-H. Kim, K-H. (2006) A grouped storage method for minimizing relocations in block stacking systems. *Journal of Intelligent Manufacturing* 17: 453-463.

Yap, WY. Lam, JSL. (2004) An interpretation of inter-container port relationships from the demand perspective. *Maritime Policy and Management* 31: 337–355.

Yap, WY. Lam, JSL. (2006) Competition dynamics between container ports in East Asia. *Transportation Research Part A* 40: 35–51.

Ying-Chin, H. Ping-Fong, H. (2004) A machine-to-loop assignment and layout design methodology for tandem AGV systems with multiple-load vehicles. *International Journal of Production Research* 42: 801-832.

Zhang, C. (2003). Storage space allocation in containers terminals. *Transportation research Part B* 37: 883-903.

Zhang, H. Kim, K-H. (2008) Maximizing the number of dual-cycle operations of quay cranes in container terminals. *Computers & Industrial Engineering*. doi:10.1016/j.cie.2008.09.008.

Zhu, Y. Lim, A. (2004) Crane scheduling with spatial constraints: mathematical model and solving approaches. *The AI&M, eighth international symposium on artificial intelligence and mathematics, Fort Lauderdale, Enero 4–6*

Zyngiridis, I. (2005) Optimizing container movements using one and two automated stacking cranes. Tesis de master, Naval Postgraduate School, Monterey.

ISO. International Organization for Standardization: <http://www.iso.org/iso/en/ISOOnline.frontpage> Consultada el 20 Julio de 2009.

Kalmar Industries: complete range of products and knowhow. <http://www.kalmarind.com>. Consultada el 24 de Julio de 2009.

[www.apsevilla.com](http://www.apsevilla.com)