

Curriculum vitae

**Elena Fernández
November-2013**

a) Personal Data

Surname: Fernández	Name: Elena	Postcode: 08034
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Current professional position

Position:	Full professor	Since: 23-03-2007
Institution:	Universitat Politècnica de Catalunya (UPC)	
Faculty:	Facultat d'Informàtica de Barcelona	
Departament:	Statistics and Operations Research	
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Academic degrees

Degree	Institution	Date
Bachelor in Mathematics	Faculty of Science Univ. Zaragoza	June 1979
Msc. in Mathematics	Fac. Mathematics Univ. Valencia	June 1985
PhD. Computer Science	UPC	January 1988

Previous scientific professional activities

Position	Institution	Date
Teaching Assistant	Fac. Informàtica. San Sebastián. U. Pais Vasco	01-12-82 / 30-09-83
Assistant Professor	Fac. Informàtica. San Sebastián. U. Pais Vasco	01-10-83 / 30-11-84
Assistant Professor	Fac. Informàtica. Barcelona. UPC	01-12-84 / 30-09-89
Associate Professor	Dpt. EIO. UPC	01-02-89 / 22-03-07
Full Professor	Dpt. EIO. UPC	23-03-07 / ...

b) Publications

b.1 Papers published or accepted in journals listed in Journal Citation Reports (JCR)

- [1] Albareda-Sambola M., A. Alonso-Ayuso, L.F. Escudero, E. Fernández, C. Pizarro (2013), Fix-and-Relax-Coordination for a Multi-period Location-Allocation Problem under Uncertainty, *Computers & Operations Research* Volume 40 (12) 2878–2892.
- [2] Aráoz, J., E. Fernández, C. Franquesa, (2013), GRASP and Path Relinking for the Clustered Prize-collecting Arc Routing Problem, *Journal of Heuristics* 19(2) 343-371, DOI:10.1007/s10732-011-9183-1.
- [3] E. Fernández, J. Puerto, A. Rodríguez-Chía (2013), Discrete Optimization with ordering. *Annals of Operations Research* 207 83-96, DOI: 10.1007/s10479-011-1044-7.
- [4] Fernández, E., J. Kalcsics, S. Nickel (2013), The Maximum Dispersion Territory Design, *Omega* 41 721–730.
- [5] Contreras, I., E. Fernández, G. Reinelt, (2012), The center facility location/network design problem with budget constraint. *Omega* 40 847–860.
- [6] Contreras, I., E. Fernández, (2012), General Network Design: A Unified View of Combined Location and Network Design Problems, *European Journal of Operational Research* 219 680-697.
- [7] Albareda-Sambola, M., E. Fernández, S. Nickel, (2012), Multiperiod Location-Routing with Decoupled Time Scales, *European Journal of Operational Research* 217 248–258.
- [8] Corberán, Á., E. Fernández, C. Franquesa, J.M. Sanchis (2011), The Windy Clustered Prize-collecting Arc Routing Problem, *Transportation Science* 45(3) 317-334.
- [9] Albareda-Sambola, M., E. Fernández, F. Saldanha da Gama (2011), The Facility Location Problem with Bernoulli Demand, *Omega* 39 335–345, doi:10.1016/j.omega.2010.08.002.
- [10] Contreras, I., J.A. Díaz, E. Fernández, (2011), Branch-and-Price for Large-Scale Capacitated Hub Location Problems with Single Assignment, *INFORMS Journal on Computing* 23, 42-55, doi:10.1287/ijoc.1100.0391.
- [11] Albareda-Sambola, M., E. Fernández, G. Laporte, (2011), A Computational Comparison of Several Models for the Exact Solution of the Capacity and Distance Constrained Plan Location Problem, *Computers & Operations Research* 38 1109–1116, doi: 10.1016/j.cor.2010.10.030.
- [12] Contreras, I., E. Fernández, A. Marín, (2010), The tree-of-hubs location problem: A comparison of formulations, *European Journal of Operational Research* 202 390-400.
- [13] Albareda-Sambola, M., J.A. Díaz, E. Fernández (2010), Lagrangean Duals and Exact Solution to the Capacitated p-Center Problem, *European Journal of Operational Research* 201 71-81.
- [14] Fernández, E. Kalcsics, J., Nickel, S., Ríos-Mercado, R. (2010). A novel territory design model arising in the implementation of the WEEE-Directive, *JORS* 61, 503 -514.
- [15] Contreras, I., E. Fernández, A. Marín, (2010), The optimum communication spanning tree problem. *TOP* 18 140-157. doi: 10.1007/s11750-009-0112-5.
- [16] Albareda-Sambola, M., E. Fernández, Y. Hinojosa, J. Puerto (2010), The Single Period Coverage Facility Location Problem: Lagrangean heuristic and column generation approaches, *TOP* 18 43-61. doi:10.1007/s11750-009-0102-7.
- [17] Albareda-Sambola, M., A. Alonso-Ayuso, L.F. Escudero, E. Fernández, Y. Hinojosa, C. Pizarro, (2010), A Computational comparison of several formulations for the multi-period incremental service facility location problem, *TOP* 18 62-80. doi:10.1007/s11750-009-0106-3.
- [18] Aráoz, J., E. Fernández, C. Franquesa, (2009), The Clustered Price-collecting Arc-routing Problem, *Transportation Science*, 43(3) 287-300.

- [19] Contreras, I., E. Fernández, A. Marín, (2009), Tight bounds from a path based formulation for the Tree-of-Hubs Location Problem, *Computers & Operations Research* 36(12) 3117-3127.
- [20] Contreras, I., J.A. Díaz, E. Fernández, (2009), Lagrangean Relaxation for the Capacitated Hub Location Problem with Single Assignment, *OR-Spectrum* 31 483-505.
- [21] Aráoz, J. E. Fernández, and O. Meza (2009), An LP based algorithm for the Privatized Rural Postman Problem, *European Journal of Operational Research* 196(3) 886 – 896.
- [22] Albareda-Sambola, M., E. Fernández, Y. Hinojosa, J. Puerto (2009), The multi-period sequential coverage facility location problem, *Computers and Operations Research* 36 1356-1375.
- [23] Albareda-Sambola, M., E. Fernández, G. Laporte, (2009), Capacity and Distance Constraint Plant Location Problem. *Computers & Operations Research* 36(2) 597-611.
- [24] Ríos-Mercado, R., E. Fernández, (2009), A Reactive GRASP for a Sales Territory Design Problem with Multiple Balancing Requirements. *Computers & Operations Research* 36 755 – 776.
- [25] Bautista, J., E. Fernández, J. Pereira (2008), Solving an urban waste collection problem using ants heuristics, *Computers & Operations Research* 35(9) 3030-3033.
- [26] Irigoien, I., E. Fernandez, S. Vives, and C. Arenas, (2008) Glum: a cluster program for analyzing microarray data, *Russian Journal of Genetics (Genetika)* 44 (8):1137-40.
- [27] Albareda-Sambola, M., E. Fernández, G. Laporte (2007), Heuristic and Lower bounds for a Stochastic Location Routing Problem, *European Journal of Operational Research* 179 940-955.
- [28] Aráoz, J., E. Fernández, C. Zoltan (2006), Privatized Rural Postman Problems, *Computers & Operations Research*, 33, 3432-3449.
- [29] Albareda-Sambola, M., M.H. van der Vlerk, E. Fernández (2006), Exact Solutions to a Class of Stochastic Generalized Assignment Problems, *European Journal of Operational Research* 173(2) 465-487.
- [30] Garfinkel, R., E. Fernández, T. Lowe (2006) The k-Centrum Shortest Path Problem, *TOP*, 14 279-292.
- [31] Díaz, J.A., E. Fernández (2006) Hybrid Scatter Search and Path Relinking for the Capacitated p-Median Problem, *European Journal of Operational Research* 169(2) 570-585.
- [32] Albareda-Sambola, M., J.A. Díaz, E. Fernández (2005), A compact model and tight bounds for a combined Location-Routing Problem, *Computers & Operations Research* 32 407-428.
- [33] Fernández, E., Y. Hinojosa, J. Puerto (2005), Filtering policies in loss queuing-location problems, *Annals of Operations Research* 136 (1), 259-283.
- [34] Fernández, E., O. Meza (2004), Even cycles and perfect matching problems with side constraints, *Journal of Combinatorial Optimization* 8(3) 381-396.
- [35] Fernández, E., O. Meza, R. Garfinkel, M. Ortega (2003), On the Undirected Rural Postman Problem: Tight bounds based on a new formulation, *Operations Research*, 51 (2) 281-291.
- [36] Garfinkel, R., E. Fernández, O. R. Gopal (2003), Design of an Interactive Spell Checker: Optimizing the List of Offered Words, *Decision Support Systems* 35 (3) 385-397.
- [37] Fernández, E., J. Puerto (2003), The multiobjective solution of the uncapacitated plant location problem, *European Journal of Operational Research* 145(3) 509- 529.
- [38] Díaz, J.A., E. Fernández (2002), A Branch and Price Algorithm for the Single Source Capacitated Plant Location Problem, *Journal of Operational Research Society* 53(7) 728-748.
- [39] Corberán, A., E. Fernández, R. Martí, M. Laguna (2002), Heuristic Solutions to the Problem of Routing School Buses with Multiple Objectives, *Journal of Operational Research Society* 53 427- 435.
- [40] Díaz, J.A., E. Fernández (2001), A Tabu Search Heuristic for the Generalized Assignment Problem, *European Journal of Operational Research* 132(1) 22- 38.

- [41] Albareda-Sambola, M. and E. Fernández (2000). The stochastic generalised assignment problem with Bernoulli demands. *TOP* 8, 165–190.
- [42] Delmaire, H., J.A. Díaz, E. Fernández, M. Ortega (1999), Reactive GRASP and Tabu Search Based Heuristics for the Single Source Capacitated Plant Location Problem, *Information Systems and Operational Research (INFOR)* 37 194-225.
- [43] Fernández, E., R. Martí (1999), GRASP for Seam Drawing in Mosaicking of Aerial Photographic Maps, *Journal of Heuristics* 5 181-197.
- [44] Fernández, E., R. Garfinkel, R. Arbiol (1998), Mosaicking of Aerial Photographic Maps via Seams Defined by Bottleneck Shortest Paths, *Operations Research* 46(3) 293-304.
- [45] Fernández, E., K. Jörnsten (1994), Partial Cover and Complete Cover Inequalities, *Operations Research Letters* 15 19-33.
- [46] Barceló, J., E. Fernández, K. Jörnsten (1991), Computational Results From a New Lagrangean Relaxation Algorithm for the Capacitated Plant Location Problem, *European Journal of Operational Research* 53 38-45.
- [47] Barceló, J., Å. Hallefjord, E. Fernández, K. Jörnsten (1990), Lagrangean Relaxation and Constraint Generation Procedures for Capacitated Plant Location Problems, *Operations Research Spektrum* 12 79-88.

b.2 Other published scientific papers

- [48] Fernández, E. C. Luna-Mota, A. Hildenbrandt, G. Reinelt, S. Wiesberg (2013), A Flow Formulation for the Optimum Communication Spanning Tree, *Electronic Notes in Discrete Mathematics*, 1523 85-92, 10.1016/j.endm.2013.05.079.
- [49] Irigoien, I., C. Arenas, E. Fernández, F. Mestres, GEVA: geometric variability-based approaches for identifying patterns in data, *Comput Stat* (2010) 25:241–255.
- [50] Irigoien, I., E. Fernández, S. Vives, C. Arenas (2006) CLAPPER: A clustering algorithm based on path-distances for experimental replicates, *Advances and Applications in Statistics*, 6(3) 377-398.
- [51] Fernández, E. (2006), Algunos problemas discretos de localización de servicios, *Boletín de la Sociedad Española de Investigación Operativa*, 22(1).
- [52] M.Badell, E.Fernández, J.Bautista, L.Puigjaner (2004), Empowering financial tradeoff in joint financial and supply- chain scheduling and planning modeling, *Lecture Series on Computational Methods in Sciences & Engineering* 1(11) 653-656. (ISSN 1573-4196)
- [53] Badell, M., E. Fernández, L. Puigjaner (2000), Advanced Enterprise Resource Management Systems with Tic-tac-toe Algorithm, *Proceedings of the SPIE Conference on Intelligent Systems*, Boston, Massachusetts, November 2000. (ISSN 0277-786X; ISBN 0-8194-3857-X)
- [54] Delmaire, H., J.A. Díaz, E. Fernández, M. Ortega (1999), Comparing New Heuristics for the Pure Integer Capacitated Plant Location Problem, *Investigación Operativa* 8 217-242.
- [55] Barceló, J., E. Fernández (1990), Métodos duales y algoritmos híbridos para problemas de ‘Set Partitioning’, *Trabajos de Investigación Operativa* 5(1) 35-60.
- [56] Barceló, J., E. Fernández (1988b), Heurísticas, planos secantes y optimización subgradiente para ‘Set Partitioning’, *Questiió* 12(2) 209-250.
- [57] Barceló, J., E.Fernández (1988a), Problemas knapsack con una restricción adicional, *Questiió* 12(2) 175-208.

b.3 Papers under revisión in JCR journals

- [58] Contreras, I., E. Fernández (2012), Hub Location as the Minimization of a Supermodular Set Function. (minor revision in Operations Research).
- [59] Ordered Weighted Average Combinatorial Optimization: Formulations and their properties. (minor revision Discrete Applied Mathematics)
- [60] E. Fernández C. Luna-Mota (2012), Monte-Carlo Heuristics for the Optimum Communication Spanning Tree Problem.
- [61] M. Roca-Riu, E. Fernández, M. Estrada, Parking slot assignment for urban distribution: models and formulations.
- [62] G. García Ayala, J.L. González-Velarde, R. Ríos-Mercado, E. Fernández, A Novel Model for Arc Territory Design: Promoting Eulerian Districts.
- [63] M. Albareda-Sambola, E. Fernández, G. Laporte, The Dynamic Multiperiod Vehicle Routing Problem with Probabilistic Information.

b.4 Book Chapters

- [64] Albareda-Sambola, M., Juan A. Díaz, E. Fernández, C. Martínez-Ojea, Problemas combinados de localización de plantas y rutas de vehículos: modelos y algoritmos, en Avances en Localización de Servicios y sus Aplicaciones, Editado por la Universidad de Murcia, ISBN: 84-8371-495-7, 2004.
- [65] Albareda -Sambola, M., E. Fernández, Algunos problemas estocásticos de localización discreta: un enfoque unificador, en Optimización en incertidumbre, Editado por ASEPUMA, ISBN: 84-8456-100-3, 2004.

b.6 Other Publications

- [66] Fernández, E. (2012) Editorial, IFORS Nesletter, September 2012.
- [67] Ríos-Mercado, R.Z., E. Fernández, J.L. González-Velarde, L. Pradenas (2012), Preface: Operations research and systems (ALIO/INFORMS Joint International Meeting), Annals of Operations Research, 199 (1) 1-2.
- [68] Fernández, E. (2011) Editorial, BEIO 27 (2) 88-90.
- [69] Fernández, E (2011), La comisión de Mujeres y Matemáticas de la RSME, Boletín de la Titulación de Matemáticas de la UAL, 4(2) 12-13.
- [70] Fernández, E. (2010) Editorial, BEIO 26 (2) 1-3. Fernández, E. (2006), Comentarios sobre las decisiones de localización, logiCEL 56, 20-22.

c) Presentations in Conferences

c.1 Keynote invited talks in international conferences

- [1] Fernandez, E., Invited plenary speaker. XVII Conferencia Latino Ibero Americana de Investigación de Operaciones (CLAIO) Monterrey, México, October 2014.
- [2] Fernandez, E., Location problems on networks with routing. Invited keynote speaker, 24th European Conference on Operational Research (EURO XXIV), Lisbon, July 2010.

c.1 Keynote invited talks in national conferences

- [3] Fernández, E., El problema de rutas por arcos generalizado. Invited plenary speaker. Congreso Bial de la Real Sociedad Matemática Española, Santiago de Compostela, January 2013.
- [4] Fernández, E., An overview of hub location, Invited plenary conference. XVI Congresso da Associação Portuguesa de Investigação Operacional. June 2013.

c.2 Other invited talks in conferences

- [5] Fernández E., Prize-Collecting Arc Routing Problems, Conference on Numerical Optimization and Applications in Engineering (NUMOPEN-2010), Centre de Recerca Matemática, October 2010.
- [6] Fernández, E., Location Problems on Networks with Routing, Toric Geometry Seminar, Jarandilla, November, 2010.
- [7] Fernández, E., Problemas Combinados de Localización de Plantas y Rutas de Vehículos, Invited plenary speaker in IV Seminario Español de Localización, Lorca, November 2003.

c.3 Communications in invited sessions in international conferences

- [8] Albyeg, A. I. Contreras, E. Fernández Hub Location with Benefits, 26th European Conference on Operational Research (EURO XXVI), Rome, July 2013.
- [9] Fernández, E., J., Kalcsics, C. Nuñez, S. Nickel, Policies for the multi-period collection scheduling problem, 26th European Conference on Operational Research (EURO XXVI), Rome, July 2013.
- [10] Fernández, E., Some results on the Generalized Arc Routing Problem, 1st Workshop on Arc Routing Problems, Copenhagen May 2013.
- [11] Contreras, I., Fernández, E., The hub arc location problem, 25th European Conference on Operational Research (EURO XXV), Vilnius, Lithuania, July 2012.
- [12] Aráoz, J., Fernández, E., C. Franquesa, C., The generalized arc routing problem, Conference of the International Federation of Operational Research Societies (IFORS 2011). Melbourn. July 2011.
- [13] Aráoz, J., Fernández, E., C.Franquesa, C., The generalized arc routing problem, ROUTE 2011, Sitges, June 2011.
- [14] Contreras, I., Fernández, E., El problema de localización de arcos concentradores, XXXII congreso de la Sociedad Española de Estadística e Investigación Operativa, A Coruña, September 2010.
- [15] Albareda-Sambola, M., Fernández, E., Saldanha da Gama, F., The solution to the facility location problem with Bernoulli demand, Network Optimization Workshop (NOW), Ajaccio, August 2010.
- [16] Corberán, A., Fernández, E., Franquesa, C., Sanchis, J.M., The windy clustered prize-collecting problem, 24th European Conference on Operational Research (EURO XXIV), Lisbon, July 2010
- [17] Contreras, I., Fernández, E., Reinelt, G., The center facility location/network design problem with budget constraint. Joint ALIO INFORMS June 2010
- [18] Albareda-Sambola, M., Fernández, E., Nickel, S., Routing costs estimation in a multiperiod location routing problem, EURO XIII 2009, Bonn, July 2009.
- [19] Contreras, I., Fernández, E., Reinelt, G., The center facility location/network design problem with budget constraint, EURO XIII 2009, Bonn, July 2009.
- [20] Fernández, E., J.Puerto, A. Rodríguez-Chía, Discrete Optimization with Ordering, 13th Combinatorial Optimization Workshop, Aussois, France, 11-17. January 2009

- [21] Aráoz, J., E. Fernández, C. Franquesa, The Clustered Price-collecting Arc Routing Problem, Graph Optimization Meeting GOM2008, Saint-Maximim La Sainte Baume, August 2008.
- [22] Albareda-Sambola, M., E. Fernández, F. Saldanha da Gama, The Facility Location Problem with Bernoulli demands, Conference of the International Federation of Operation Research Societies IFORS 2008, Sandton, Sudafrica, July 2008.
- [23] Aráoz, J., E. Fernández, C. Franquesa, The exact solution to the Clustered Price-collecting Arc Routing Problem, Conference of the International Federation of Operation Research Societies IFORS 2008, Sandton, Sudafrica, July 2008.
- [24] Albareda-Sambola, M., Fernández, E., Saldanha da Gama, F., *The Facility Location Problem with Bernoulli Demands*, Intl. Workshop on Operational Research IWOR08, Madrid, June 2008.
- [25] Contreras, I., Fernández, E., Marín, A., Models and algorithms for the optimum communication spanning tree problem; Intl. Workshop on Operational Research (IWOR08). Madrid, June 2008.
- [26] Díaz, J.A., E. Fernández, Tight bounds and optimal solution to the capacitated p-center problem, EURO 2006, Reykjavik, July 2006.
- [27] Ríos-Mercado, R., E. Fernández, Efficient planning of sales territory design with multiple balancing requirements, EURO 2006, Reykjavik, July 2006.
- [28] Aráoz, J., E. Fernández, O. Meza, Cotas inferiores y superiores para el Problema del Cartero Rural Privatizado. 1er Congreso Conjunto de Matemáticas RSME-SCM-SEIO-SEMA Mat.es. Valencia, January 2005.
- [29] Albareda-Sambola, M., E. Fernández, Problemas de Localización-Rutas con limitaciones de capacidad en los vehículos: Resolución exacta via generación de columnas. 1er Congreso Conjunto de Matemáticas RSME-SCM-SEIO-SEMA Mat.es. Valencia, January 2005.
- [30] Fernández, E., C. Martínez-Ojea, R. Garfinkel, Un algoritmo exacto para el Problema de Rutas por Arcos con Capacidades. 1er Congreso Conjunto de Matemáticas RSME-SCM-SEIO-SEMA Mat.es. Valencia, January 2005.
- [31] Fernández, E., Y. Hinojosa, J. Puerto, An integer simplex algorithm for the minimum weight perfect matching problem, The European Conference on Combinatorial Optimization (ECCO XVII), Beirut, July 2004.
- [32] Díaz, J.A., E. Fernández, Búsqueda Dispersa y re-encadenamiento de trayectorias para el problema de la p-Mediana capacitado, Tercer Congreso Español de Metaheurísticas, Algoritmos Evolutivos y Bioinspirados (MAEB 04), Córdoba, February 2004. (ISBN:84-688-4224-9)
- [33] Barceló, J., E. Fernández, C. López and C. Martínez, A decision support system for the design and evaluation of logistic systems, XX EURO-INFORMS Joint Intl. Meeting, Estambul, July 2003.
- [34] Albareda-Sambola, M., J.A. Díaz, E. Fernández, Column Generation for a Combined Location Routing Problem, XX EURO-INFORMS Joint International Meeting, Estambul, July 2003.
- [35] Albareda-Sambola, M., E. Fernández, G. Laporte, A Solution Approach for a Stochastic Location Routing Problem, XX EURO-INFORMS Joint International Meeting, Estambul, July 2003.
- [36] Díaz, J.A., E. Fernández, A Tabu Search Heuristic for the Generalized Assignment Problem, 7th INFORMS Computing Society Conference, Cancún, January 2000.

c.3 Other comunicaciones in international conferences

- [28] Fernández, E., On the Generalized Arc Routing Problem, 8th Triennial Symposium on Transportation Analysis (TRISTAN VIII), Atacama (Chile) June 2013.
- [29] Fernández, E. C. Luna-Mota, A. Hildenbrandt, G. Reinelt, S. Wiesberg, A Flow Formulation for the Optimum Communication Spanning Tree, International Network Optimization Conference, Tenerife, May 2013

- [30] Albareda-Sambola, M., J.A. Díaz, E. Fernández, An exact algorithm for the capacitated p-center problem with multiple allocation, International Workshop on Locational Analysis and Related Problems, Torremolinos, June 2013.
- [31] Albareda-Sambola, M., A. Alonso-Ayuso, L. Escudero, E. Fernández, C. Pizarro Fix-and-relax-coordination for multi-period location-allocation problem under uncertainty, International Workshop on Locational Analysis and Related Problems, Torremolinos, June 2013.
- [32] Fernández, E., J., Kalcsics, C. Nuñez, S. Nickel, Policies for the multi-period collection scheduling problem, International Workshop on Locational Analysis and Related Problems, Torremolinos, June 2013.
- [33] Fernández, E., C. Luna, G.Reinelt, A compact formulation for the Optimum Communication Spanning Tree Problem, 21st. Mathematical Symposium on Mathematical Programming, Berlin, August 2012.
- [34] Albareda-Sambola, M., Fernández, E., Saldanha-da-Gama, F., Facility location with heterogeneous Bernoulli demands and facility outsourcing, Meeting of the EURO Working Group on Location Analysis EWGLA XVIII, Nantes, October 2011.
- [37] Albareda-Sambola, M., Alonso-Ayuso, A., Escudero, L., Fernández, E., Pizarro, C., On solving the multi-period location-assignment problem under uncertainty. Meeting of the EURO Working Group on Location Analysis EWGLA XVIII, Nantes, October 2011.
- [38] Corberán, A., Fernández, E., Franquesa, C., Sanchis, J.M., The windy clustered prize-collecting problem, Seventh Triennial Symposium on Transportation Analysis (TRISTAN VII), Tromsø, Norway, June 2010
- [39] Contreras, I., Fernández, E., Reinelt, G., The center facility location/network design problem with budget constraint: comparison of formulations and solution algorithms, EWGLA, Naples, 2010.
- [40] Contreras, I., Fernández, E., Reinelt, G., On the center facility location/network design problem, Location and Network Design Workshop (LAND09), Pucon, Chile, March 2009.
- [35] Hinojosa, Y., Albareda-Sambola, M., Fernández, E., Puerto, J., The Single Period Coverage Facility Location Problem. Meeting of the EURO Working Group on Location Analysis EWGLA XVII, Elche, September 2008.
- [36] Contreras, I., Fernández, E., Marín, A., Models and Algorithms for the Optimum Communication Spanning Tree Problem, Meeting of the EURO Working Group on Location Analysis EWGLA XVII, Elche, September 2008.
- [37] Albareda-Sambola, M., Fernández, E., and Saldanha-da-Gama, F., The Facility Location Problem with Bernoulli Demands, Meeting of the EURO Working Group on Location Analysis EWGLA XVII, Elche, September 2008.
- [38] Contreras, I., J.A. Díaz, E. Fernández, Solving the Capacitated Hub Location Problems with Single Assignment with Branch-and-Price, International Symposium on Locational Decisions ISOLDEXI, Santa Barbara, California, June 2008.
- [39] Albareda-Sambola, M., J.A. Díaz, E. Fernández, The Capacitated p-Center Problem with Multiple Assignment, International Symposium on Locational Decisions ISOLDEXI, Santa Barbara, California, June 2008.
- [40] Contreras, I., E. Fernández, A. Marín, The Tree of Hubs Location Problem, International Symposium on Locational Decisions ISOLDEXI, Santa Barbara, California, June 2008.
- [41] J. Bautista, E. Fernández, J. Pereira, Modeling and Solving an Urban Waste Collection Problem, APMOD 2006, Madrid, June 2006.
- [42] Ríos-Mercado, R., E. Fernández, Efficient planning of sales territory design with multiple balancing requirements, ODYSSEUS 2006, Altea, May 2006.
- [43] Albareda-Sambola, M., E. Fernández, G. Laporte, The Capacitated and Distance Constrained Plant Location Problem, ODYSSEUS 2006, Altea, May 2006.

- [44] Aráoz, J., E. Fernández, C. Franquesa, O. Meza, Prize-collecting Arc Routing Problems and Extensions, ODYSSEUS 2006, Altea, May 2006.
- [45] Albareda-Sambola, M., E. Fernández, Location-Routing Problem: Exact solution using Branch and Price , X International Symposium on Location Decisions (ISOLDE X), Sevilla, June 2005.
- [46] Albareda-Sambola, M., E. Fernández, G. Laporte, Capacitated and Distance Constrained Plant Location Problem, X International Symposium Location Decisions (ISOLDEX), Sevilla, June 2005.
- [47] Albareda-Sambola, M. E. Fernández, Y. Hinojosa, J. Puerto, A finite time planning horizon location-allocation model, X International Symposium on Location Decisions (ISOLDE X), Sevilla, June 2005.
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- [53] Albareda-Sambola, M., E. Fernández, G. Laporte, Tools for a Stochastic Location-Routing Problem, XV Conference of the European Working Group on Location Analysis (EWGLA XIV), Corfú, September 2003.
- [54] Albareda-Sambola, M., E. Fernández, Column generation approach for a Location-Routing Problem, Conference on Routing and Location (CORAL 2003),Tenerife, February 2003.
- [55] Fernández, E., M. Albareda-Sambola, J.A. Díaz, A compact model and tight bounds for a combined Location-Routing Problem, International Federation of Operations Research Societies Conference
- [56] Van der Vlerk, M.H., M. Albareda-Sambola, E. Fernández, Exact Solutions to a Class of Stochastic Generalized Assignment Problems Applied Mathematical Programming and Modelling (APMOD 2002), Varenna. Italia, June 2002.
- [57] Albareda-Sambola, M., J.A. Díaz, E. Fernández, A compact model and tight bounds for a combined Location-Routing Problem, IX Internacional Symposium on Location Decisions (ISOLDE IX), Fredericton-New-Brunswick, June 2002.
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- [59] Albareda-Sambola, M., J.A. Díaz, E. Fernández, A compact model and tight bounds for a combined Location-Routing Problem, Optimization Days, Montréal, May 2002.
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- [61] Díaz, J.A., E. Fernández, Branch and Price for the Single Source Capacitated Plant Location, XIV Conference of the European Chapter on Combinatorial Optimization (ECCO XIV), Bonn, May 2001.
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- [70] Fernández, E., R. Garfinkel, Optimal Mosaicking of Aerial Photographic Maps, INFORMS Montreal Spring 1998 Meeting. Montreal, 1998.
- [71] Díaz, J.A., E. Fernández, A heuristic algorithm for the Generalized Assignment Problem using Tabu Search, Combinatorial Optimization'98, Bruselas, March 1998.
- [72] Díaz, J.A., E. Fernández, A hybrid GRASP-Tabu algorithm for the Pure Integer Capacitated Plant Location Problem, X EWGLA Meeting, Murcia, February 1998.
- [73] Delmaire, H., J.A. Díaz, E. Fernández, M. Ortega, Comparing New Heuristics for the Pure Integer Capacitated Plant Location Problem, Xth Meeting of the European Chapter on Combinatorial Optimization (ECCOX), Tenerife, May 1997.
- [74] Delmaire, H., J.A. Díaz, E. Fernández, M. Ortega, Comparing New Heuristics for the Pure Integer Capacitated Plant Location Problem, Second Metaheuristics International Conference (MIC'97), Sophia-Antipolis, July 1997.
- [75] Fernández, E., R. Garfinkel, On Optimal Paths which Pass Through, Between, Around or to a Given Side of Physical Objects in a Network, EURO-INFORMS Intl. Meeting, Barcelona, July 1997.
- [76] Fernández, E., R. Martí, A Tabu Search algorithm for mosaicking of aerial photographic maps, EURO-INFORMS Joint International Meeting, Barcelona, July 1997.

c.4 Communications in regional conferences

- [42] Albareda-Sambola, M., J. Puerto, Y. Hinojosa, El problema de las p-medianas con fallos y servicio en planta. XXXII Congreso de la SEIO. A Coruña, September 2010.
- [43] Ruiz y Ruiz, E., M. Albareda-Sambola, E. Fernández, El problema del árbol de expansión capacitado de coste mínimo como un problema de localización en redes. XXXII Congreso de la SEIO. A Coruña, September 2010.
- [44] Díaz, J.A., E. Fernández, Búsqueda dispersa y re-encadenamiento de trayectorias para el problema de la p-mediana capacitado, I Internacional Andean Conference on Operations research, Cartagena de Indias, March, 2004.
- [45] Fernández, E., O. Meza, Solving Perfect Matching Problems with side constraints, Conferencia Latino Americana de Informática (CLEI), Mérida, Venezuela, September 2001.
- [46] Fernández, E.; J. Puerto (2001) The Multiobjective Solution of the Uncapacitated Plant Location Problem. En: Actas XXVI Congreso Nacional de Estadística e Investigación Operativa. Publicaciones de la Universidad de Jaén, p. 97-97.
- [47] Fernández, E., O. Meza, R. Garfinkel, M. Ortega, On the Rural Postman Problem: Tight Bounds and Efficient Heuristics Based on a New Formulation, Conferencia Latino Americana de Informática (CLEI), Ciudad de México, September 2000.

d) Research Projects

d1. Direction or coordination of research projects with public funding

Title of project:	OPTIMOS3: Modelos y métodos de Programación Matemática y sus aplicaciones. (Mathematical Programming models and methods and their applications)
Funding Institution:	Ministerio de Educación y Ciencia. (MTM2012-36163-C06-05).
Duration:	2012 - 2014
Title of project:	Algoritmos para Localización de Servicios / Diseño de Redes.
Funding Institution:	Ministerio de Educación y Ciencia. Acción Integrada (AIB2010DE-00137).
Duration:	2011-2013
Title of project:	Estudio del itinerario académico de las mujeres matemáticas en España.
Funding Institution:	Ministerio de Educación y Ciencia. Acción Complementaria (MTM2010-09566-E)
Duration:	2011-2012
Title of project:	OPTIMOS2: Modelos y métodos de Programación Matemática y sus aplicaciones. (Mathematical Programming models and methods and their applications)
Funding Institution:	Ministerio de Educación y Ciencia. (MTM2009-14039-C06-05).
Duration:	2010 - 2012
Title of project:	Grup de Recerca Consolidat: Programació Matemàtica, Logística i Simulació. (2009-00999-B)
Funding Institution:	Generalitat de Catalunya
Duration:	2010-2011
Title of project:	Estudio de poliedros asociados a problemas de rutas y problemas relacionados con logística inversa.
Funding Institution:	Ministerio de Ciencia y Educación. Estancia de movilidad de profesores e investigadores seniors en centros extranjeros de enseñanza superior e investigación" (PR2008-0116).
Duration:	September 2008-August 2009
Title of project:	OPTIMOS: Optimización para la Movilidad Sostenible.
Funding Institution:	Ministerio de Educación y Ciencia. (MTM2006-14961-C05-01).
Duration:	2007-2009
Title of project:	Red temática: Análisis y Aplicaciones de Decisiones sobre Localización de Servicios y Problemas Relacionados. (MTM2006-27490-E).
Funding Institution:	Ministerio de Educación y Ciencia.
Duration:	2005-2008
Title of project:	Grup de Recerca Consolidat: Programació Matemàtica, Logística i Simulació. (2005-00772-B)
Funding Institution:	Generalitat de Catalunya
Duration:	2005-2009
Title of project:	SADERYL2: Un sistema de ayuda a la toma de decisiones en problemas de rutas de vehículos y localización de servicios (TIC2003-05982-C05-04) .
Funding Institution:	CICYT
Duration:	2004-2006

d2. Participation in research projects with public funding

Title of project:	Modelos, Algoritmos y Heurísticas para Logística Inversa.
Funding Institution:	Consejo Nacional de Ciencia y Tecnología (CONACYT) México SEP-CONACYT 130053
Participant Institutions	Instituto Tecnológico Monterrey (ITESM)
Duration:	2011- 2013
Chair of the project:	José Luis González Velarde (ITESM-México)
Title of project:	Ingenio Matemática i-Math.
Funding Institution:	Ministerio de Educación y CE-CSD2006-00032
Participant Institutions	Spanish Universities. Over 300 research groups (see http://www.i-math.org/).
Duration:	3/10/2006 hasta: 3/10/2011
Chair of the project:	Enrique Zuazua Iriondo- Marco Antonio López Cerdá
Title of project:	Red Temática de Metaheurísticas (TIN2004-20061-E).
Funding Institution:	Ministerio de Educación y Ciencia.
Duration:	2005-2005
Coordinator:	Rafael Martí (Universidad de Valencia)
Title of project:	Red Temática en Optimización bajo incertidumbre (MTM2004-21648-E)
Funding Institution:	Ministerio de Educación y Ciencia.
Duration:	2005-2005
Coordinator:	Andrés Ramos (Universidad Pontificia de Comillas)
Title of project:	SESTANTE: Strumenti Telematici per la Sicurezza e l'Eficienza Documentale della Catena Logistica di Porti e Interporti.
Funding Institution:	INTERREG IIIB-Méditerranée Occidentale 3-4: 200202/3.4 1-032
Duration:	2003- 2005
Chair of the project:	Jaime Barceló
Title of project:	Red temática: Análisis de Decisiones sobre Localización de Servicios y Problemas Relacionados. (BFM2002-10418-E)
Funding Institution:	CICYT
Duration:	2003-2004
Coordinator:	Juan Antonio Mesa (Universidad de Sevilla)
Title of project:	Red Temática de Metaheurísticas (TIC2002-10886-E)
Funding Institution:	CICYT
Duration:	2003-2004
Coordinator:	Rafael Martí (Universidad de Valencia)
Title of project:	MEROPE: Strumenti Telematici per Servizi Innovativi di Mobilità e Logistica per le Aree Urbane e Metropolitane
Funding Institution:	INTERREG IIIB-Méditerranée Occidentale 3- 4: 200202/3.4-1-091
Duration:	2003 -2005
Chair of the project UPC group:	Jaime Barceló
Title of project:	SADERYL: Un sistema de ayuda a la toma de decisiones en problemas de rutas de vehículos y localización de servicios (TIC2000175000603)
Funding Institution:	CICYT
Duration:	2001-2003
Chair of the project:	Jaime Barceló

e) Supervision of doctoral theses

Title:	The capacitated spanning tree problem.
PhD Student:	Efrain Ruiz Ruiz
Codirector:	Maria Albareda-Sambola
University:	Universitat Politècnica de Catalunya
Department:	Departament d'Estadística i Investigació Operativa
Date of defense:	July 2013.
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Title:	Network Hub Location: models, algorithms and related problems.
PhD Student:	Ivan Contreras Aguilar
University:	Universitat Politècnica de Catalunya
Department:	Departament d'Estadística i Investigació Operativa
Date of defense:	February 2009.
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Title:	Clustered Price-collecting Arc Routing Problems.
PhD Student:	Carles Franquesa Niubó
University:	Universitat Politècnica de Catalunya
Department:	Departament d'Estadística i Investigació Operativa
Date of defense:	November 2008.
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Title:	Models and Algorithms for Location-Routing and Related Problems.
PhD Student:	Maria Albareda Sambola
University:	Universitat Politècnica de Catalunya
Codirector:	Gilbert Laporte. Centre de Recherche sur les Transports. Université de Montréal
Department:	Departament d'Estadística i Investigació Operativa
Date of defense:	June 2003
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Title:	Algorithmic Approaches for the Single Source Capacitated Plant Location Problem.
PhD Student:	Juan Antonio Díaz García
University:	Universitat Politècnica de Catalunya
Department:	Departament d'Estadística i Investigació Operativa
Date of defense:	July 2001
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f) Editorial activity

- Member of the Editorial Board of the EURO Journal on computation Optimization (EJCO). Since January 2012.
- Invited Co-editor of the special issue of Annals of Operations Research dedicated to the ALIO-INFORMS Joint International Meeting, 2010.
- Member of the Editorial board of Computers and Operations Research. Since January 2003.
- Associate Editor of TOP (journal of the Spanish Society of Statistics and Operational Research-SEIO). 1995-2000 and since January 2007.

g) Stays in international centers (at least one month)

- Institut für Informatik. Universität Heidelberg. Germany. January-February 2011. 5 weeks.
- Chair of Operations Research and Logistics. Universität des Saarlandes, March-July 2009.
- Institut für Informatik. Universität Heidelberg. Germany. September 2008-February 2009.
- Departamento de Ingeniería Industrial y Textil. Universidad de las Américas. Puebla. México. 2003. 9 weeks.
- Operations and Information Management Department. University of Connecticut. Storrs. Connecticut. Estados Unidos de América. 2002. 9 weeks.
- Departamento de Computación y Tecnología de la Información. Universidad Simón Bolívar. Caracas. Venezuela. 2000. 8 weeks.
- Norwegian School of Economics and Business Administration. Bergen. Noruega. 2 months. 1989.

h) Further scientific and academic activity

h1) Representation activities.

- President elect of the Association of European Operational Research Societies (EURO), January 2014-
- Vicepresident of the International Federation of Operational Research Societies (IFORS) for the European Operational Research Societies (EURO), April 2011–December 2013
- Vicepresident of the Sociedad Española de Estadística e Investigación Operativa (SEIO). September 2007-September 2010.
- Representative de la Real Sociedad Matemática Española (RSME) in the Committee for Women in Mathematics of the European Mathematical Society (EMS). October 2009-December 2013.
- President of the Committee for Women and Mathematics of the Real Sociedad Matemática Española (RSME), November 2009- December 2012.
- President of the Committee for Women and Mathematics of the Sociedad Española de Estadística e Investigación Operativa (SEIO), June 2010-September 2011.
- Representative of SEIO in EURO (European Federation of Operational Research Societies) January 2008-September 2011.

h2) Organization of International Conferences.

- President of the Organizing Committee of the 20th Triennial Conference of the International Federation of Operational Research Societies (IFORS), Barcelona, July 2014.
- Member of the Scientific Committee of the 20th Triennial Conference of the International Federation of Operational Research Societies (IFORS), Barcelona, July 2014.
- Member of the Program Committee of the XII International Symposium on Locational Decisions, (ISOLDE XIII), Naples, June 2014.
- Member of the Scientific Committee of the EWGLA XX (Conference of the European Working Group on Locational Analysis). Ankara, April 2013.
- Member of the Program Committee of the 25th European Conference on Operational Research (EURO XXV), Vilnius, Lithuania, July 2012.
- Member of the Scientific Committee of the 5th. Odysseus Workshop (Freight Transportation and Logistics). Mykonos (Greece), May 2012.
- Member of the Scientific Committee of the 1st International Conference on Operations Research and Enterprise Systems (ICORES), February 2012.
- Member of the Scientific Committee of the EWGLA XIX (Conference of the European Working Group on Locational Analysis). Nantes. September 2011.
- Member of the Scientific Committee of the European Conference for Young Researchers (ORP3). Cadiz. September 2011.
- Member of the Scientific Committee of the EWGLA XVIII (Conference of the European Working Group on Locational Analysis). Naples. February 2010.
- Member of Program Committee of the CLAIO/INFORMS Conference, Buenos Aires, June 2010.
- Member of the Scientific Committee of the 4th. Odysseus Workshop (Freight Transportation and Logistics). Izmir (Turkey), May 2009.
- Member of the Scientific Committee of the EWGLA XVII (Conference of the European Working Group on Locational Analysis). Elche. September 2008.
- Member of the Scientific Committee of the International Workshop on Operational Research (IWOR 2008), Madrid, June 2008.
- Member of the Organizing Committee of the 3rd. Odysseus Workshop (Freight Transportation and Logistics). Altea (Alicante), May 2006.
- Member of the Program Committee of the XIII Congreso Latino-Iberoamericano de Investigación Operativa (CLAIO 2006). Montevideo, November 2006.

j) Teaching in Post-graduate and Doctoral Programs

Universitat Politècnica de Catalunya

- Doctoral Program (quality mention): Estadística e Investigación Operativa. (UPC).
 - Integer Programming and Combinatorial Optimization Since 91/92
 - Heuristic Methods in Mathematical Programming. Since 01/02

Other International Institutions

- Efficient Algorithms, Institut für Informatik, Ruprecht-Karls-Universität Heidelberg, January-February 2011. (10 hours)
- Location Problems, Master of Science in Logistics (with Gilbert Laporte), Molde University College, Molde, Noruega, 2-5 June 2008.
- Models and algorithms for multistage location problems, EURO Winter Institute on Location and Logistics, Estoril, 27 January - 10 February, 2007.
- Location of facilities in Reverse Logistics, Proyecto "ALFA-LogInv: Logística inversa y gestión respetuosa con el Medio Ambiente"(II-0491) EU Program ALFA II, Monterrey (México), 9-20 October, 2006, (20 hours).
- Logistic Applications of Combinatorial Optimization, Master in Science, Universidad de las Américas (Puebla. México), June-July 2003. (40 hours).

Other National Institutions

- Optimización Combinatoria, Instituto de Matemáticas Universidad de Sevilla (IMUS), DocCourse Triangularizations and Extremal Graph Theory, 12-17 March 2012. (8 hours).
 - Problemas de rutas de vehículos, Departamento de Matemáticas, Universidad de A Coruña, January 2010. (4 hours)
 - Discrete Optimization in Logistics (with Angel Corberán and Alfredo Marín) in the i-Math Intensive School on Mathematical Programming and its Applications, CIEM Castro Urdiales, 28 February – 8 February, 2008.
 - Modelos y Algoritmos para problemas de localización y rutas. XII Escuela Jacques-Louis Lions Hispano Francesa de Simulación Numérica en Física en Ingeniería. Centro Internacional de Encuentros Matemáticos, Castro Urdiales, 18-22 September, 2006.
 - Investigación Operativa y Programación Entera. Universidad de Zaragoza. Centro Politécnico Superior: Postgrado en Informática, June 1999. (8 hours)
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a) Various

- Adjunt to the coordinator for the area of Mathematics for the Spanish Agency for Evaluation and Prospective (ANEP) for the area of Statistics and Operations Research. February 2012 –
- Member of several evaluation committees of the ANEP, in the area of Mathematics since 2005.
- Reviewer for the Agencia Nacional de Promoción Científica y Tecnológica of Argentina in 2011 and 2012.
- Reviewer for the Canadian National Agency for research projects in 2007.
- External advisor for the Habilitation of Ivana Ljubic, University of Vienna, 2012.
- External reviewer for the PhD Thesis of Stephanie Heller (supervisor H. Hamacher), University of Kaiserslautern, 2012.
- External reviewer for the PhD Thesis of Shanin Gelareh (supervisor S. Nickel), University of Saarbrücken, 2009.