Abridged CV – Jordi Castro
January 2013

▷ **Personal data**

    Name: Jordi Castro-Pérez

    Civil Status: Married, two children (7 and 11 years old)

    Birth

        City: Lleida (Catalonia)

        Date: 3 April 1968

    Work

        University: Universitat Politècnica de Catalunya

        Department: Dept. of Statistics and Operations Research

        School: Faculty of Mathematics and Statistics, and Faculty of Computer Sciences.

        Position: Associate Professor with Full Professor Accreditation.

        Other Positions: Head of the PhD Program in Statistics and Operations Research of the Universitat Politècnica de Catalunya (PhD program with Mention of Excellence MEE2011-0384).

        Address: Jordi Girona 1–3, Campus Nord, Office C5-218, 08034 Barcelona.

        Phone: 93 401 58 54

        Fax: 93 401 58 55

        e-mail: `jordi.castro@upc.edu`

        URL: `http://www-eio.upc.es/~jcastro`

    Spoken languages: Catalan, Spanish, English and French.

▷ **Accreditations**

- Accreditation of Advanced Research, September 2010. Agency for the Quality of the University System in Catalonia.

- Accreditation of Full Professor, May 2011. Spanish Agency for Evaluation of Quality and Accreditation.

▷ **Positions**

- **May 2011–present**. Associate Professor with Full Professor Accreditation, Dept. of Statistics and Operations Research, Universitat Politècnica de Catalunya, Barcelona. Faculty of Mathematics and Statistics, and Faculty of Computer Sciences.

- **December 1998–May 2011**. Associate Professor, Dept. of Statistics and Operations Research, Universitat Politècnica de Catalunya, Barcelona. Faculty of Mathematics and Statistics, and Faculty of Computer Sciences.

- **March 1998–December 1998**. Associate Professor, Dept. of Chemical Engineering, Universitat Rovira i Virgili, Tarragona. School of Chemical Engineering.

- **July 1996–March 1998**. Tenure track position, Dept. of Chemical Engineering, Universitat Rovira i Virgili, Tarragona. School of Chemical Engineering.
- **November 1995–June 1996**. Part-time assistant professor, Dept. of Statistics and Operations Research, Universitat Politècnica de Catalunya, Barcelona.
- **January 1996–June 1996**. Computer programmer, Computing Services of the Universitat Politècnica de Catalunya.
- **November 1992–October 1995**. Teaching-PhD contract, Universitat Politècnica de Catalunya.
- **January 1992–October 1992**. PhD Student supported by FPI grant, Universitat Politècnica de Catalunya,

▷ **Education**

- **1995**. Ph.D. in Computer Sciences (Operations Research), Dept. of Statistics and Operations Research, Universitat Politècnica de Catalunya. Mark: Cum Laude. PhD thesis: *Efficient methods for the solution of multicommodity network flow problems.*
- **1991**. Five years Degree ("llicenciatura") in Computer Sciences, Faculty of Computer Sciences of Barcelona, Universitat Politècnica de Catalunya. Mark: 9/10 (best mark of the 1991 class).

▷ **Teaching experience**

- Supervision of 14 Masters thesis.
- Supervision of 4 Ph.D. thesis (two finished, two in progress).
- About 27 different undergraduate and graduate courses of Statistics and Operations Research, imparted in Catalan, Spanish and English, at the Universitat Politècnica de Catalunya (Barcelona) and Universitat Rovira i Virgili (Tarragona). Some courses: Mathematical Programming, Large-Scale Optimization, Statistical Data Protection, Interior-point Methods, Stochastic Programming, Modelling in Mathematical Programming, Simulation, Queuing Theory, Operations Research, Applications of Nonlinear Programming, Applied Mathematics, Statistics I and II, Probability, Statistical Software.
- Recognition of merits of special quality for his teaching activities by the Rector of the Universitat Politècnica de Catalunya, February 5, 2010.

▷ **Research interests**

- Methodological: Computational optimization, large-scale optimization, continuous and discrete optimization, linear and nonlinear network optimization, multicommodity network flows, interior-point methods, mathematical programming methods for structured problems.
- Applications: statistical disclosure control (current), routing of data in multicommodity networks, optimization of electrical generation (past).

▷ **Competitively funded research projects**

As leading researcher

1. "Optimization of large-scale structured problems. Applications to data confidentiality". Project MTM2012-31440, funded by the Spanish Ministry of Economy and Competitiveness. 1.1.2013-31.12.2015.

2. "Data without Boundaries (DwB)". Project INFRA-2010-262608, of the VII Mark Program funded by the European Union. Leading researcher of the partner UPC (project involves 28 European research centers and universities). 1.5.2011-30.4.2014.

3. "Very large-scale optimization for data privacy". Project MTM2009-08747, funded by the Spanish Ministry of Science and Innovation. 1.1.2010–31.12.2012.

4. Consolidated and funded research group SGR-2009-1122 recognized by the Generalitat de Catalunya. 3.7.2009–31.12.2013.

5. "Interior-point methods for large-scale optimization. Application to statistical data protection". Project MTM2006-05550, funded by the Spanish Ministry of Science and Education. 1.10.2006–30.9.2009.

6. "Optimization techniques for statistical data protection". Project TIC2003-00997, funded by the Spanish Ministry of Science and Technology. 1.12.2003–31.11.2006.

7. "Computational Aspects of Statistical Confidentiality (CASC)". Project IST-2000-25069 of the V Mark Program funded by the European Union. Leading researcher of the partner UPC (project involved 14 European research centers and universities). 1.1.2001–31.12.2003.

8. "Optimization methods for network and nonlinear optimization problems by interior-point methods. Applications to electrical generation planning and transmission in telecommunications networks". Project TAP1999-1075-C02-02, funded by the Spanish Council for Science and Technology (CICyT). 31.12.1999–31.12.2002.

9. "Application of interior-point methods for network optimization to the short and long-term hydrothermal coordination problem". Project Iberdrola 95–05, funded by Iberdrola S.A. within the program "Iberdrola grants for scientific research and technology". 1.12.1995–30.7.1998.

10. "Efficient methods for the solution of multicommodity network flow problems". Three years grant-contract for development of a PhD within the program of Teaching PhDs funded by the Government of Catalonia. 1.11.1992–31.10.1995. Grant total: 72000 €.

11. "Thematic network on statistical inference control". Network 2004/XT/00004 funded by the Government of Catalonia. Leading researcher of the partner UPC. 21.12.2004–20.12.2006.

12. "Thematic network on statistical inference control". Network 2002/XT/00111 funded by the Government of Catalonia. Leading researcher of the partner UPC. 21.12.2002–20.12.2004.

As member of the research team

13. "Mathematical Optimization in the Decision Support Systems for Efficient and Robust Energy Networks". Information and Communication Technologies COST (European Cooperation in Science and Technology) Action TD1207, funded by the European Union. 12.2012-11.2016. Involves 71 participants/experts from 16 countries.

Only participant/expert from Catalonia; one of the five participants/experts from Spain.

14. "Large-scale optimal planning of short-term hydrothermal generation". Project TAP96-1044-J02-93, funded by the Spanish Council for Science and Technology (CI-CyT). 1.7.1996–30.6.1999.

15. "Short and long-term optimization of electricity generation and trading in a competitive market (SLOEGAT)". Project ESPRIT 22652 of the IV Mark Program funded by the European Union. 1.12.1996–31.5.1999.

16. "Thematic network on stochastic optimization". Network funded by the Ministry of Science and Education. 1.6.2005–31.5.2006.

▷ **Research contracts**

As leading researcher

1. "Safe configuration of tabular data using CTA". Contract UPC C08517 with IDESCAT (National Statistical Institute of Catalonia). 1.9.2011–31.12.2011.

2. "Extension of CTA package for statistical confidentiality SBS3". Contract UPC C08516 with Statistics Netherlands, (in collaboration with Statistics Germany, to work on Eurostat framework contract 22100.2006.002-226.532 competitively obtained by Statistics Netherlands, UPC participating as research partner and subcontractor). 1.9.2011–30.11.2011.

3. "Safe configuration of tabular data". Contract UPC C08182 with IDESCAT (National Statistical Institute of Catalonia). 1.10.2010–31.12.2010.

4. "License of package PPRN, for linear multicommodity network flows with side constraints", License UPC Y-00121 for eWater Ltd (Canberra, Australia). September 2009.

5. "Extension of CTA package for statistical confidentiality of European aggregates for animal production statistics". Contract UPC C07809 with Statistics Netherlands, (in collaboration with Statistics Germany, to work on Eurostat framework contract 22100.2006.002-226.532 competitively obtained by Statistics Netherlands, UPC participating as research partner and subcontractor). 1.9.2009–31.3.2010.

6. "Development of CTA package for statistical confidentiality of European aggregates for structural business statistics". Contract UPC C07254 with Statistics Netherlands, (in collaboration with Statistics Germany, to work on Eurostat framework contract 22100.2006.002-226.532 competitively obtained by Statistics Netherlands, UPC participating as research partner and subcontractor). 1.1.2008–31.12.2008.

7. "Consultation and technical assistance in statistical confidentiality of European aggregates for structural business statistics". Contract UPC C07120 with Statistics Netherlands, (in collaboration with Statistics Germany, to work on Eurostat framework contract 22100.2006.002-226.532 competitively obtained by Statistics Netherlands, UPC participating as research partner and subcontractor). 1.1.2007–31.12.2007.

8. "Consultation and technical assistance in statistical confidentiality of tabular data". Contract UPC C07305 with IDESCAT (National Statistical Institute of Catalonia). 1.4.2008–31.12.2008.

As member of the research team

9. "Development of a code for optimal capacity expansion of an electricity transportation network at different voltage levels". Contract UPC C1958 with Electra de Viesgo (Santander). 10.1993–6.1995.

10. "Development of a set of routines for short-term hydrothermal coordination of electricity generation by multicommodity network flows with side constraints". Contract UPC C0919 with FECSA-ENHER-HECSA (Barcelona). 9.1989–12.1992.

11. "Development of a software for long-term hydrothermal coordination of electricity generation by multicommodity network flows". Contract UPC C0606 with Red Eléctrica de España, S.A. 1.1989–12.1992.

▷ **Editorial and reviewing activity in journals**

- Associate editor of *EURO Journal on Computational Optimization*. Springer. 2012–
- Editor of an special issue of *EURO Journal on Computational Optimization* on Nonlinear Programming (in progress).
- Associate editor of *Transactions on Data Privacy*. CSIC. 2008–
- Technical editor of *Mathematical Programming Computation*. Springer. 2008–
- Referee, among others, for: *SIAM Review, Computational Optimization and Applications, Management Science, Computers & Operations Research, TOP, European Journal of Operational Research, Mathematical Programming, INFORMS Journal on Computing, Operations Research, Optimization Methods and Software, Optimization Letters, Mathematical Methods of Operations Research, Journal of Mathematical Analysis and Applications, Transactions on Data Privacy, SORT.*

▷ **Conference organization, program committees**

- Member of Program Committee of Privacy in Statistical Databases 12', Palermo, (Sicily, Italy), September 2012.
- Organizer of stream "Data Protection" (2 invited sessions, 4 talks per session), XXV European Conference on Operational Research, Vilnius (Lithuania), July 2012.
- Member of Program Committee of Privacy in Statistical Databases 10', Corfu (Greece), September 2010.
- Chairman of session "Optimization II" at XXXI Spanish Congress of Statistics and Operations Research, Murcia, February 2009.
- Member of Program Committee of Privacy in Statistical Databases 08', Istanbul, September 2008.
- Member of Program Committee of Privacy in Statistical Databases 06', Roma, December 2006.

- Reviewer of Modeling Decisions for Artificial Intelligence 2006, Tarragona, April 2004.

- Member of Program Committee of Privacy in Statistical Databases 04', Barcelona, June 2004.

- Reviewer of Modeling Decisions for Artificial Intelligence 2004, Barcelona, August 2004.

- Session organizer of "Optimization Methods and Applications" at conference Computational Management Science Conference, Neuchâtel, Switzerland, April 2004.

- Chairman of session "Production Planning I" of XXVII Spanish Congress of Statistics and Operations Research, LLeida, April 2003.

- Reviewer of Statistical Data Protection 98', Lisbon, March 1998.

▷ **Reviewer for Science Foundations**

- Reviewer for NSERC (Natural Sciences and Engineering Research Council, Canada).

- Reviewer for ANEP (Spanish National Evaluation Agency).

- Reviewer for AGAUR (Catalan Scientific Evaluation Agency).

- Reviewer for ACSUCYL (Castilla y León Scientific Evaluation Agency).

▷ **Ph.D. programs positions**

- Head of the Ph.D. Program on Statistics and Operations Research of the Universitat Politècnica de Catalunya. 9.2010 – present. PhD Program with Mention of Excellence MEE2011-0384 (October 2011) by the Spanish Ministry of Education, and verification (October 2012) by the Spanish Commission for evaluation of official PhD programs.

▷ **Ph.D. thesis supervised**

- Jordi Cuesta, *Contributions to interior-point methods based on iterative solvers using quadratic regularizations*, Universitat Politècnica de Catalunya, 29 September 2009.

- Dulce Rosas, *Using ACCPM for the general traffic assignment problem*, Universitat Politècnica de Catalunya, 30 May 2003.

- In progress:
    - Stefano Nasini, *Mathematical and computational analysis of the social interaction structure.* Thesis proposal presented June 2011.
    - Daniel Baena, *Exact and heuristic methods for controlled tabular adjustment.* Thesis proposal presented June 2009.

▷ **Reviewer and committees for tenure positions**

- External reviewer for tenure position, Department of Mathematical Sciences, Georgia Southern University, US (July 2012).

- External member of tenure committee, Dept. of Statistics, Universidad Carlos III de Madrid (November 2009).

- ▷ **Ph.D. Committees**

  - Universitat Autònoma de Barcelona (2008).
  - Universitat Politècnica de Catalunya; Dept. of Statistics and Operations Research (2001, 2003, 2004, 2006, 2011), Dept. of Applied Mathematics IV (2003), Dept. of Telematics (2007).
  - Universidad de Castilla-La Mancha (2006).
  - Universidad Carlos III de Madrid (2000).
  - Universitat de Barcelona (1998).

- ▷ **Grants and scholarships**

  - Ph.D. Scholarship "Artur Suqué" awarded by Universitat Politècnica de Catalunya (equivalent to Ph.D. scholarship by Ministry of Science and Education, but reserved to students with outstanding marks). 1.1.1992–31.12.1994 (declined 31.10.1992 for accepting an alternative better grant-contract).
  - Ph.D. grant-contract awarded by the Government of Catalonia, to students with outstanding marks (only 16 grants were conceded). 1.11.1992–31.10.1995.
  - Postdoc Iberdrola grant 95-005, awarded by Iberdrola S.A. 1.12.1995–30.7.1998.
  - Grant awarded by Universitat Politècnica de Catalunya for writing of book *Nonlinear optimization models with MINOS*. 1995–1996.

- ▷ **Optimization software packages**

  - PPRN. A package for solving linear and nonlinear multicommodity problems with or without side constraints. Since 1995 it is recommended in the Linear Programming FAQs (`http://www.neos-guide.org/NEOS/index.php/Linear_Programming_FAQ`). Freely available for research purposes from `http://www-eio.upc.es/~jcastro/pprn.html`.
  - IPM. A package for solving large scale linear multicommodity problems, based on a specialized interior-point algorithm. Freely available for research purposes from `http://www-eio.upc.es/~jcastro/ipm.html`.
  - PRBLOCK_IPM. A MATLAB/SCILAB package for solving large scale linear or separable quadratic primal block-angular problem by a specialized interior-point algorithm. Freely available for research purposes from `http://www-eio.upc.es/~jcastro/-prblock_ip.html`.
  - HTCOOR. A package for long-term hydrothermal optimization. Freely available for research purposes from `http://www-eio.upc.es/~jcastro/htcoor.html`.
  - Shortest-paths based heuristic for solving the cell suppression problem (statistical disclosure control method) in hierarchical tables, developed in the scope of the European CASC project. It is included in the τ-Argus package, free de facto standard used by National Statistical Agencies for statistical tabular data protection.
  - RCTA package for controlled tabular adjustment (statistical disclosure control method), developed in the scope of Eurostat framework project. It is going to be included in the τ-Argus package, free de facto standard used by National Statistical Agencies for statistical tabular data protection.

▷ **Research Statistics**

- According to Google scholar (January 2nd, 2013):
  - Citations: 603
  - h-index: 13

- According to ISI-Web of Knowledge (January 2nd, 2013):
  - Citations: 152
  - h-index: 6

▷ **Publications**

Journal papers

1. S. Nasini, J. Castro, P. Fonseca, Bartering integer commodities with exogenous prices, *Mathematical Social Sciences*, submitted (2012).

2. S. Bocanegra, J. Castro, A.R.L. Oliveira, Mix preconditioners to improve an interior-point approach for large block-angular problems, *European Journal of Operational Research*, first revision in progress (2012).

3. J. Castro, A. Frangioni, C. Gentile, Perspective reformulations of the CTA problem with L_2 distances, *Operations Research*, first revision in progress (2012).

4. J. Castro, J. Cuesta, Solving L_1-CTA in 3D tables by an interior-point method for primal block-angular problems, *TOP*, doi:10.1007/s11750-011-0247-z, (2012), in press.

5. J. Castro, On assessing the disclosure risk of controlled adjustment methods for statistical tabular data, *International Journal of Uncertainty, Fuzziness and Knowledge-Based Systems*, 20 (2012) 921–941.

6. J. Castro, Comparing L_1 and L_2 distances for CTA, *Lecture Notes in Computer Science*, 7556 (2012) 35–46.

7. J. Castro, A computational evaluation of optimization solvers for CTA, *Lecture Notes in Computer Science*, 7556 (2012) 11–21.

8. J. Castro, J. Cuesta, Improving an interior-point algorithm for multicommodity flows by quadratic regularizations, *Networks*, 59 (2012) 117–131.

9. J. Castro, Recent advances in optimization techniques for statistical tabular data protection, *European Journal of Operational Research*, 216 (2012) 257–269.

10. J. Castro, J. Cuesta, Quadratic regularizations in an interior-point method for primal block-angular problems, *Mathematical Programming*, 130 (2011) 415–445

11. D. Baena, J. Castro, Using the analytic center in the feasibility pump, *Operations Research Letters*, 39 (2011) 310-317.

12. J. Castro, Extending controlled tabular adjustment for non-additive tabular data with negative protection levels, *Statistics and Operations Research Transactions–SORT*, 35 (2011) 3-20.

13. J.A. González, J. Castro, A heuristic block coordinate descent approach for controlled tabular adjustment, *Computers and Operations Research*, 38 (2011) 1826-1835.

14. J. Castro, J.A. González, A tool for analyzing and fixing infeasible RCTA instances, *Lecture Notes in Computer Science*, 6344 (2010) 17–28.

15. J. Castro, J. Cuesta, Existence, uniqueness and convergence of the regularized primal-dual central path, *Operations Research Letters*, 38 (2010) 366–371.

16. D. Rosas, J. Castro, L. Montero, Using ACCPM in a simplicial decomposition algorithm for the traffic assignment problem, *Computational Optimization and Applications*, 44 (2009) 289-313.

17. A. Alabi, J. Castro, A mathematical model of refinery operations characterised by complete horizontal integration of subsystems from purchase to product distribution, *Hydrocarbon World*, 4(2) (2009), 55-56.

18. A. Alabi, J. Castro, Dantzig-Wolfe and block coordinate-descent decomposition in large-scale integrated refinery-planning, *Computers and Operations Research*, 36 (2009) 2472–2483.

19. J. Castro, A stochastic programming approach to cash management in banking, *European Journal of Operational Research*, 192 (2009) 963–974.

20. J. Castro, D. Baena, Using a mathematical programming modeling language for optimal CTA, *Lecture Notes in Computer Science*, 5262 (2008) 1–12.

21. J. Castro, A shortest paths heuristic for statistical disclosure control in positive tables, *INFORMS Journal on Computing* 19(4) (2007) 520–533.

22. J. Castro, An interior-point approach for primal block-angular problems, *Computational Optimization and Applications*, 36 (2007) 195–219.

23. J. Castro, Minimum-distance controlled perturbation methods for large-scale tabular data protection, *European Journal of Operational Research*, 171 (2006) 39–52.

24. J. Castro, D. Baena, Automatic structure detection in constraints of tabular data, *Lecture Notes in Computer Science*, 4302 (2006) 12–24.

25. J. Castro, Quadratic interior-point methods in statistical disclosure control , *Computational Management Science*, 2(2) (2005) 107–121.

26. J. Castro, Discussion on On regular IPMS by M. Salahi, R. Sotirov and T. Terlaky, *TOP*, 12(2) (2004) 276–277.

27. J. Castro, J. A. González, A nonlinear optimization package for long-term hydrothermal coordination, *European Journal of Operational Research*, 154 (2004) 641–658.

28. J. Castro, A fast network flows heuristic for cell suppression in positive tables, *Lecture Notes in Computer Science*, 3050 (2004), 136–148.

29. J. Castro, Computational experiments with minimum-distance controlled perturbation methods, *Lecture Notes in Computer Science*, 3050 (2004), 73–86.

30. J. Castro, Solving difficult multicommodity problems through a specialized interior-point algorithm, *Annals of Operations Research*, 124 (2003), 35–48.

31. J. Castro, Network flows heuristics for complementary cell suppression: an empirical evaluation and extensions, *Lecture Notes in Computer Science*, 2316 (2002), 59–73.

32. J. Castro, A. Frangioni, A parallel implementation of an interior-point algorithm for multicommodity network flows, *Lecture Notes in Computer Science*, 1981 (2001), 301–315.

33. J. Castro, A specialized interior-point algorithm for multicommodity network flows, *SIAM Journal on Optimization*, 10 (2000), 852–877.

34. J. Castro, An interior-point algorithm for quadratic programming through separable equivalent problems, *Qüestiió*, 22 (1998), 117–142.

35. J. Castro, An implementation of a higher-order primal-dual interior-point algorithm using a predictor-corrector method for linear programming, *Qüestiió*, 22 (1998), 103–116.

36. J. Castro, N. Nabona, An implementation of linear and nonlinear multicommodity network flows, *European Journal of Operational Research*, 92 (1996), 37–53.

37. J. Castro, An implementation of a primal-dual interior-point algorithm with upper-bounded variables, *Qüestiió*, 19 (1995), 223–257.

38. N. Nabona, J. Castro, J. A. González, Optimum long-term hydrothermal coordination with fuel limits, *IEEE Transactions on Power Systems*, 10(2) (1995), 1054–1062.

39. A. Montes, J. Castro, Solving the load flow problem using the Gröbner basis, *SIGSAM Bulletin of the ACM*, 1995, 29(1), 1–13.

40. J. Castro, N. Nabona, Nonlinear multicommodity network flows through primal partitioning and comparison with alternative methods, *Lecture Notes in Control and Information Sciences*, 197 (1994), 875–884.

Books and books chapters

1. J. Castro, Statistical disclosure control in tabular data, in *Privacy and Anonymity in Information Management Systems: New Techniques for New Practical Problems*, Springer, 2010, 113-131. ISBN 978-1849962377.

2. S. Giessing, A. Hundepool, J. Castro, Rounding methods for protecting EU-aggregates, in *Worksession on statistical data confidentiality. Eurostat methodologies and working papers*, Eurostat-Office for Official Publications of the European Communities, Luxembourg, 2009, 255–264. ISBN 978-92-79-12055-8.

3. J. Castro, S. Giessing, Testing variants of minimum distance controlled tabular adjustment, in *Monographs of Official Statistics. Work session on Statistical Data Confidentiality*, Eurostat-Office for Official Publications of the European Communities, Luxembourg, 2006, 333–343. ISBN 92-79-01108-1.

4. J. Castro, Solving quadratic multicommodity problems through an interior-point algorithm, in *System Modelling and Optimization XX*, eds. E.W. Sachs and R. Tichatschke, Kluwer, Boston, 2003, 199–212. ISBN 1-4020-7565-0.

5. J. Castro, Recent advances in the solution of the multicommodoty flow problem, in *Técnicas de Ayuda a la Decisión en la Defensa*, 2001, 213–224, ISBN 84-7823-831-X.

6. J. Castro, Computational experience with a parallel implementation of an interior-point algorithm for multicommodity network flows, in *System Modelling and Optimization. Methods, Theory and Applications*, eds. M.J.D. Powell and S. Scholtes, Kluwer, Boston, 2000, 75–95. ISBN 0-7923-7881-4.

7. J. Castro, *Efficient methods for the solution of multicommodity flow problems*, PhD thesis, Dept. of Statistics and Operations Research, Universitat Politècnica de Catalunya, 1995. ISBN 84-688-8146-5.

8. J. Castro, N. Nabona, Primal-dual interior-point method for multicommodity network flows with side constraints and comparison with alternative methods , in *System Modelling and Optimization*, eds. J. Dolezal and J. Fidler, Kluwer, Boston, 1996, 451-458. ISBN 0-412-71880-4.

9. N. Nabona, J. Castro, J. A. González, Long-term hydrothermal coordination of electricity generation with power and energy constraints, in *Numerical Methods in Engineering '92*, eds. Ch. Hirsch, O.C. Zienkiewicz and E. Oñate, Elsevier Science, 1992, 445-452. ISBN 0-444-89794-1.

Technical and research reports (unpublished manuscripts)

1. J. Castro, J.A. González, D. Baena, User's and programmer's manual of the RCTA package, Technical Report DR 2009/01, Dept. of Statistics and Operations Research, Universitat Politècnica de Catalunya, 2009.

2. J. Castro, User's and programmer's manual of the network flows heuristic package for cell suppression in 1H2D tables, Research Report DR 2004/06, Dept. of Statistics and Operations Research, Universitat Politècnica de Catalunya, 2004.

3. J. Castro, F. J. Heredia, Using modelling languages for the complementary cell suppression problem through network flows , Research Report DR 2001/03, Dept. of Statistics and Operations Research, Universitat Politècnica de Catalunya, 2001.

4. J. Castro, J.A. González, HTCOOR Program documentation , Technical Report DR 2000/12, Dept. of Statistics and Operations Research, Universitat Politècnica de Catalunya, 2000.

5. J.A. González, J. Castro, The long-term hydrothermal coordination model implemented in the HTCOOR package , Research Report DR 2000/11, Dept. of Statistics and Operations Research, Universitat Politècnica de Catalunya, 2000.

6. J. Castro, An introduction to the affine scaling algorithm for linear programming (in Spanish), Research Report DR 2000/02, Dept. of Statistics and Operations Research, Universitat Politècnica de Catalunya, 2000.

7. N. Nabona, J.A. González, J. Castro, F.J. Heredia, Optimum transmission and distribution network expansion at several voltage levels through multicommodity network flows , Research Report DR 96/07, Dept. of Statistics and Operations Research, Universitat Politècnica de Catalunya, 1996.

8. N. Nabona, J.A. González, J. Castro, F.J. Heredia, Reference manual for the electric expansion codes (in Spanish), Technical Report DR 96/06, Dept. of Statistics and Operations Research, Universitat Politècnica de Catalunya, 1996.

9. J. Castro, PPRN 1.0, User's Guide , Technical Report DR 94/06, Dept. of Statistics and Operations Research, Universitat Politècnica de Catalunya, 1994.

10. J. Castro, N. Nabona, Computational tests of a nonlinear multicommodity network flow code with linear side constraints through primal partitioning , Research Report DR 94/05, Dept. of Statistics and Operations Research, Universitat Politècnica de Catalunya, 1994.

11. J. Castro, N. Nabona, Computational tests of a linear multicommodity network flow code with linear side constraints through primal partitioning , Research Report DR 94/02, Dept. of Statistics and Operations Research, Universitat Politècnica de Catalunya, 1994.

12. J. Castro, Efficient computation and updating of the working matrix of the primal partitioning method for multicommodity flow problems with side constraints (in Catalan), Research Report DR 93/03, Dept. of Statistics and Operations Research, Universitat Politècnica de Catalunya, 1993.

▷ **Seminar presentations and short courses**

1. J. Castro, Improving iterative solvers in IPMs: regularizations and hybrid preconditioners, Edinburgh Research Group in Optimization Seminars, School of Mathematics, University of Edinburgh, October 10 2012. Invited presentation.

2. J. Castro, Workshop on Techniques for tabular data protection, IDESCAT Workshop, IDESCAT, the National Statistical Institute of Catalonia, Barcelona, May 23 2012. Invited presentation.

3. J. Castro, Statistical disclosure control in tabular data. Universitat de Lleida, June 1 2010. Invited presentation.

4. J. Castro, Advances on statistical disclosure control: tabular data protection of business data. IDESCAT seminar/technical session, IDESCAT, the National Statistical Institute of Catalonia, Barcelona, July 17 2009. Invited presentation.

5. J. Castro, A stochastic programming approach to cash management in banking, Seminar of the Faculty of Mathematics, Universidad de Sevilla, Sevilla (Spain), November 18, 2008. Invited presentation.

6. J. Castro, Improving iterative solvers in IPMs for structured problems through quadratic regularizations, Research seminar of the Department of Statistics, Universidad Carlos III de Madrid, Getafe (Spain), October 3, 2008. Invited presentation.

7. J. Castro, Iterative solvers in interior-point methods for structured problems, Research seminar of The Computer and Automation Research Institute, Hungarian Academy of Sciences, Budapest (Hungary), April 17 2008. Invited presentation.

8. J. Castro, Interior point methods for LP, QP and convex problems: theory, implementation, and applications, First Intensive School on Mathematical Programming and Applications, CIEM Castro-Urdiales, Universidad de Cantabria (Spain), January 30–31 2008. Invited presentation.

9. J. Castro, Statistical tables and privacy, Summer School of the Universitat Rovira i Virgili, Tarragona, June 26 2007. Invited presentation.

▷ **Conference presentations**

1. J. Castro. Joint UNECE/Eurostat Work Session on Statistical Data Confidentiality, Ottawa (Canada), October 2013. Two invited presentations (definitive titles to be decided).

2. J. Castro, J. Cuesta. Protecting three-dimensional tables of data: an application of interior-point methods to statistical disclosure control. International Conference on Continuous Optimization, Lisbon (Portugal), July-August 2013. Invited presentation.

3. J. Castro, A computational evaluation of optimization solvers for CTA, Privacy in Statistical Databases 2012, Palermo (Italia), September 2012.

4. J. Castro, Comparing L_1 and L_2 distances for CTA, Privacy in Statistical Databases 2012, Palermo (Italia), September 2012.

5. J.A. González, J. Castro, Improving the solution of CTA through valid inequalities, 25th European Conference on Operational Research-EURO 2012, Vilnius University, Vilnius (Lithuania), July 2012. Invited presentation.

6. D. Baena, J. Castro, A fix and relax heuristic for controlled tabular adjustment, 25th European Conference on Operational Research-EURO 2012, Vilnius University, Vilnius (Lithuania), July 2012. Invited presentation.

7. J. Castro, A. Frangioni, C. Gentile, Solving L_2-CTA by perspective reformulations, 25th European Conference on Operational Research-EURO 2012, Vilnius University, Vilnius (Lithuania), July 2012. Invited presentation.

8. J. Cuesta, J. Castro, Solving L_1-CTA in 3D tables by an interior-point method for block-angular problems, 25th European Conference on Operational Research-EURO 2012, Vilnius University, Vilnius (Lithuania), July 2012. Invited presentation.

9. D. Baena, J. Castro, The analytic center feasibility pump, XXXIII Congreso Nacional de Estadística e Investigación Operativa, Madrid, Spain, April 2012.

10. J. Castro (in collaboration with A. Frangioni, C. Gentile, and J.A. González), MILP and MIQP optimization problems from the statistical disclosure control field. Optimization, Theory, Algorithms and Applications in Economics. Workshop in applications of Optimization in Engineering, Centre de Recerca Matemàtica (CRM), Bellaterra (Catalonia), October 2011. Invited presentation.

11. J. Castro, J.A. González, Present and future research on controlled tabular adjustment. Joint UNECE/Eurostat Work Session on Statistical Data Confidentiality, Universitat Rovira i Virgili, Tarragona (Catalonia), October 2011. Invited presentation.

12. C. Gentile, J. Castro, A. Frangioni, Minimum Euclidean distance controlled adjustment problems by perspective reformulations, 42th Annual Conference of the Italian Operational Research Society - AIRO 2011 , Brescia (Italia), September 2011.

13. J. Castro, Panel discussion Challenges and Applications of MINLP, Exploratory Workshop on Mixed Integer Non-Linear Programming, Mathematical Research Institute, Universidad de Sevilla (Spain), December 2010. Invited participant to panel discussion.

14. J. Castro, A class of interior-point methods for structured problems: theory and applications, Numerical Optimization and Applications in Engineering, Centre de Recerca Matemàtica, Universitat Autònoma de Barcelona, October 2010. Invited talk.

15. J. Castro, J.A. González, A tool for analyzing and fixing infeasible RCTA instances, Privacy in Statistical Databases 2010, Corfu (Greece), September 2010.

16. J. Castro, J. Cuesta, Existence, uniqueness and convergence of the regularized primal-dual central path, XXXII Congreso Nacional de Estadística e Investigación Operativa, A Coruña, Spain, September 2010.

17. J. A. González, J. Castro, Solving tough instances of the controlled tabular adjustment problem, 24th European Conference on Operational Research-EURO 2010, Session on Large-scale Mixed Optimization Problems, Universidade de Lisboa, Lisboa (Portugal), July 2010. Invited presentation.

18. J. Castro, J. Cuesta, Improving a class of PCG-based interior-point methods by quadratic regularizations, SIMAI 2010 Conference, Cagliari (Italia), June 2010. Invited presentation.

19. J. Castro, J.A. González, A package for L_1 controlled tabular adjustment. Joint UNECE/Eurostat Work Session on Statistical Data Confidentiality, Bilbao (Basque Country), December 2009. Invited presentation.

20. J. Castro, J. Cuesta, Improving an interior-point algorithm for multicommodity flows by quadratic regularizations, International Network Optimization Conference 2009, Pisa, Italia, April 2009. Invited presentation.

21. J. Castro, A. Ouorou, An interior-point algorithm for routing in data telecommunications networks, International Network Optimization Conference 2009, Pisa, Italia, April 2009. Invited presentation.

22. J. Castro, J.A. González, Métodos heurísticos y exactos para el problema de ajuste controlado de tablas, XXXI Congreso Nacional de Estadística e Investigación Operativa, Murcia, Spain, February 2009.

23. J. Castro, J. Cuesta, Mejora de métodos iterativos en algoritmos de punto interior

a través de regularizaciones cuadràticas, XXXI Congreso Nacional de Estadística e Investigación Operativa, Murcia, Spain, February 2009.

24. J. Castro, D. Baena, Using a Mathematical Programming Modeling Language for Optimal CTA, Privacy in Statistical Databases 2008, Istanbul (Turkey), September 2008.

25. J. Castro, J. Cuesta, Improving iterative solvers in IPMs for structured problems through quadratic regularizations, International Conference on Applied Mathematical Programming and Modelling APMOD, Bratislava (Slovak Republic), May 2008. Invited presentation.

26. S. Giessing, A. Hundepool, J. Castro, Rounding methods for protecting EU-aggregates, Joint UNECE/Eurostat Work Session on Statistical Data Confidentiality, Manchester (United Kingdom), December 2007. Invited presentation.

27. J. Castro, A. Ouorou, An interior-point approach for convex routing problems in data telecommunication networks, Second Mathematical Programming Society International Conference on Continuous Optimization , McMaster University, Hamilton (Ontario, Canada), August 2007. Invited presentation.

28. J. Castro, J. Cuesta, Improving preconditioners in interior-point methods for optimization through quadratic regularizations, 2007 International Conference On Preconditioning Techniques For Large Sparse Matrix Problems In Scientific And Industrial Applications, Toulouse (France), July 2007.

29. J. Castro, D. Baena, Automatic structure detection in constraints of tabular data, Privacy in Statistical Databases 2006, Roma (Italia), December 2006.

30. J. Cuesta, J. Castro, Quadratic regularizations in an interior-point method based on iterative solvers, Applied Mathematical Programming and Modelling APMOD 2006, Madrid (Spain), June 2006.

31. J. Castro, S. Giessing, Quality issues of minimum distance controlled tabular adjustment, European Conference on Quality in Survey Statistics, Cardiff (Wales, UK), April 2006.

32. J. Castro, S. Giessing, Testing variants of minimum distance controlled tabular adjustment, UNECE Work Session on Statistical Data Confidentiality, Geneva (Switzerland), November 2005. Invited presentation.

33. J. Castro, A fast network flows heuristic for cell suppression in positive tables, Privacy in Statistical Databases, Barcelona (Catalonia), June 2004.

34. J. Castro, Computational experiments with minimum-distance controlled perturbation methods, Privacy in Statistical Databases, Barcelona (Catalonia), June 2004.

35. J. Castro, Large-scale optimization in statistical tabular data protection, Computational Management Science Conference, Neuchatel (Switzerland), April 2004. Chairman of session: Optimization methods and applications.

36. J. Castro, A perturbation method for statistical data protection by interior-point

algorithms, 27 Congreso Nacional de Estadística e Investigación Operativa, Lleida (Catalonia, Spain), April 2003.

37. J. Castro, An interior-point algorithm for quadratic multicommodity flows, 27 Congreso Nacional de Estadística e Investigación Operativa, Lleida (Catalonia, Spain), April 2003.

38. J. A. González, J. Castro, A multicommodity model for transport network planning and combined flows, 27 Congreso Nacional de Estadística e Investigación Operativa, Lleida (Catalonia, Spain), April 2003.

39. J. Castro, Quadratic interior-point methods in statistical disclosure control, International Workshop on Computational Management Science, Economics, Finance and Engineering , Limassol (Cyprus), March 2003. Invited presentation.

40. J. Castro, Network flows heuristics for complementary cell suppression: an empirical evaluation and extensions, Statistical Disclosure Control: from theory to practice, Eurostat, Luxembourg, December 2001. Invited presentation.

41. J. Castro, Solving quadratic multicommodity problems through an interior-point algorithm, 20th IFIP TC7 Conference on System Modelling and Optimization, Trier (Germany), July 2001.

42. J.A. González, J. Castro, A nonlinear optimization package for long-term hydrothermal coordination, EURO 2001 - European Operational Research Conference, Rotterdam (Netherlands), July 2001.

43. D. Rosas, J. Castro, L. Montero, Using ACCPM in the master problem of a restricted simplicial decomposition algorithm for the traffic assignment problem, TRISTAN IV-Triennial Symposium on Transportation Analysis, Azores Islands (Portugal), June 2001.

44. J. Castro, F.J. Heredia, Using modelling languages for the complementary cell suppression problem through network flows, 2nd Joint UNECE/EUROSTAT Work Session on Statistical Data Confidentiality , Skopje (Macedonia), March 2001.

45. J. Castro, Recent advances in the solution of the multicommodity flow problem, RIMO II Conference, Madrid (Spain), December 2000.

46. J. Castro, A. Frangioni, A parallel implementation of an interior-point algorithm for multicommodity network flows, 4th International Meeting on Vector and Parallel Processing VECPAR2000, Faculdade de Engenharia da Universidade do Porto, Porto (Portugal), June 2000.

47. J. Castro, Solving difficult multicommodity problems through a specialized interior-point algorithm, Applied Mathematical Programming and Modelling APMOD 2000, Brunel University, Uxbridge, London (England), April 2000. Invited presentation.

48. J. Castro, Computational experience with a parallel implementation of an interior-point algorithm for multicommodity flows, 19th IFIP TC7 Conference on System Modelling and Optimization, Cambridge (England), July 1999.

49. J. Castro, An interior-point algorithm for multicommodity network flows, CORS-INFORMS Meeting, Montréal (Canada), April 1998. Invited presentation.

50. J. Castro, Using the normal equations in a quadratic interior-point algorithm, Joint International Meeting EURO XV-INFORMS XXXIV, Barcelona (Catalonia, Spain), July 1997. Invited presentation.

51. J. Castro, A parallel implementation of a primal-dual interior-point algorithm for multicommodity network flows, Joint International Meeting EURO XV-INFORMS XXXIV, Barcelona (Catalonia, Spain), July 1997. Invited presentation.

52. J. Castro, Applying interior-point methods to the solution of the short-term hydrothermal coordination problem, 23 Congreso Nacional de Estadística e Investigación Operativa, Valencia (Spain), March 1997.

53. J. Castro, N. Nabona, Primal-dual interior-point method for multicommodity network flows with side constraints and comparison with alternative methods, 17th IFIP TC7 Conference on System Modelling and Optimization, Prague (Czech Republic), July 1995.

54. N. Nabona, J. Castro, J. A. González, Optimum long-term hydrothermal coordination with fuel limits, '94 IEEE Summer Meeting PWRS, San Francisco (U.S.), August 1994.

55. J. Castro, N. Nabona, Nonlinear multicommodity network flows through primal partitioning and comparison with alternative methods, 16th IFIP TC7 Conference on System Modelling and Optimization, Compiègne (France), June 1993.

56. N. Nabona, J. Castro, J. A. González, Long-term hydrothermal coordination of electricity generation with power and energy constraints, First European Conference on Numerical Methods and Engineering, Bruxelles (Belgique), September 1992.