



### CURRICULUM VITAE (CVA)

**IMPORTANT – The Curriculum Vitae cannot exceed 4 pages. Instructions to fill this document are available in the website.**

#### Part A. PERSONAL INFORMATION

CV date	19/10/2022
---------	------------

First name	José David		
Family name	Canca Ortiz		
Gender (*)	Male	Birth date (dd/mm/yyyy)	
Social Security, Passport, ID number			
e-mail		URL Web:	
Open Researcher and Contributor ID (ORCID) (*)			

(\*) Mandatory

#### A.1. Current position

Position	Full Professor		
Initial date	16/11/2018		
Institution	University of Seville		
Department/Center	Industrial Engineering and Management Science (Organización Industrial y Gestión de Empresas I)		
Country	Spain	Teleph. number	
Key words			

#### A.2. Previous positions (research activity interruptions, art. 14.2.b))

Period	Position/Institution/Country/Interruption cause

#### A.3. Education

PhD, Licensed, Graduate	University/Country	Year
Industrial Engineering	University of Seville	1991
Ph. D. Industrial ENgineering	University of Seville	1996

#### Part B. CV SUMMARY (max. 5000 characters, including spaces)

I am full professor of Operations Research and Production Systems at the University of Seville. I obtained my PhD in Industrial Engineering in 1996. As a teaching activity I teach research subjects of operations and production systems in various degrees at the Higher Technical School of Engineers of the University (Degrees of Industrial Engineering, Aeronautics, Telecommunications and Management Science) as well as in the Official Master of Management Science and in the Master of Global Supply Chain and Aeronautical Industry Operations (Univ. Sevilla Airbus Military) of which I am currently deputy director. I am a member of the EURO Working Group on Transportation, the Euro Working Group on Locational Analysis, The Spanish Society of Operations Research, the Institute of Transportation Engineers and the Institute of Mathematics of the University of Seville. I have directed/co-directed four doctoral theses, fifteen research works (DEA) and more than seventy final degree projects. I have participated in 16 competitive research projects with public funding, 4 of them



as IP, in another 10 R&D projects with public funding (Profit and Junta Andalucía), 4 as IP, 7 European projects, 21 technology transfer projects, 8 of them as IP and in 4 research networks of excellence.

**My scientific career is focused on research in two fundamental fields:**

- a) Analysis and planning of transportation networks, in recent years in the context of railway transport. This field has been developed within the scope of several research projects involving the collaboration with transportation companies and authorities: Structural Analysis of Mathematical Models of Optimization in Location and Transport Planning, Methodologies for Design, Robust Network Planning and Mixed Operation of Rail Transport. Intermodal Aspects and Convergence with EU Policies (P09-TEP-5022). Optimization models applied to the robust planning and management of metropolitan public transport services in case of emergency (PT-2007-003-08CCPP). Evaluation and decision-support systems for the implementation of ITS alternatives (FOM/2003/14); Integrated system for intermodal transport analysis (TRA2004-07186); Analysis, impact and recommendations for the improvement of intermodality in Andalusia (P06-TEP-02219).
- b) Design, planning and implementation of production systems. This second field has focused on the study of production systems through the design of planning models. This field is being developed in two R&D contracts with companies (Airbus Military and Inhiset) and historically in several research projects of the national plan associated with the study of continuous flow manufacturing systems, cellular manufacturing and reconfigurable manufacturing.

**Summary and key indicators of the global research and teaching activities:**

6 Periods of positive teaching assessment (University of Seville): 1990-1996; 1996-2001, 2001-2006, 2006-2011; 2011-2016, 2016-2021

5 periods (maximum) of positive evaluation Teaching/Research (Andalusian commission for the evaluation of regional academic-professional merits).

4 six years positive research periods assessment CNEAI Spanish National evaluation of the Research activity-(1997-2002; 2003-2008; 2009-2014, 2014-2020).

1 positive 6 years period transference assessment CENAI (1999-2004)

66 indexed publications. 40 publications Journal of Citation Reports + [26 first quartile, Q1].

Quality index (Google Scholar): Documents: 86. Cites: 1740. h index: 23

Quality Index (SCOPUS Elsevier): Documents: 546. Cites: 1176. H index: 19

10 National Research Projects, Ministry of Science and Technology

3 Research projects financed by the Ministry of Development

2 Research projects of Excellence (Andalusian regional government)

5 National excellence Research Networks.

14 Projects of different nature (FEV, CDTI, AEI, PROFIT, Regional) and 4 European projects.

141 Conference communications (79 international, 62 national).

**Part C. RELEVANT MERITS (sorted by typology)**

**C.1. Publications (see instructions)**

1. Panadero, J., Barrera, E., Juan, A. A., Canca, D. (2022) The Stochastic Team Orienteering Problem with Position-Dependent Rewards, *Mathematics* 10 (16), 2856.
2. Leon-Blanco, J. M., Gonzalez-R, P. L., Andrade-Pineda, J. L., Canca, D., Calle, M. (2022) A multi-agent approach to the truck multi-drone routing problem. *Expert Systems with Applications* 195, 1166049.
3. Barrera, E., Canca, D., Coelho, L. C., Laporte, G. (2022) Analysis of the selective traveling salesman problem with time-dependent profits, *TOP*, 1-29.
4. Núñez, F., Canca, D., Arcos-Vargas, A. (2022) An assessment of European electricity arbitrage using storage systems. *Energy* 242, 122916.
5. Canca, D. Laporte. G. (2022) Solving real-size stochastic railway rapid transit network construction scheduling problems. *Computers and Operations Research (JCR-Q1)*, 138, ID: 105600.
6. Canca, D., Andrade-Pineda, J. L., De-Los-Santos, A. González-R, P. L. (2021) A quantitative approach for the long-term assessment of Railway Rapid Transit network construction or expansion projects. *European Journal of Operational Research (JCR-Q1)*, 294(2), 604-621.

7. De-Los-Santos, A., Canca, D., Barrena, E. (2021) Mathematical formulations for the bimodal bus-pedestrian social welfare network design problem. *Transportation research part B: methodological* 145, 302-323
8. González-R, P. L., Canca, D., Andrade-Pineda, J. L., Calle, M., León-Blanco, J. M. (2020) Truck-drone team logistics: A heuristic approach to multi-drop route planning. *Transportation Research C: Emerging Technologies (JCR-Q1)*, 114, 657-680.
9. Andrade-Pineda, J. L., Canca, D., González-R, P. L., Calle, M. (2020) Scheduling a dual-resource flexible job shop with makespan and due date-related criteria. *Annals of Operations Research* 291 (1), 5-35
10. Arcos-Vargas, A., Canca, D., Núñez, F. (2020) Impact of battery technological progress on electricity arbitrage: An application to the Iberian market. *Applied Energy* 260, 114273
11. Canca, D., De-Los-Santos, A., Laporte, L., Mesa, J. A. (2019). The railway rapid transit network construction scheduling problem. *Computers & Industrial Engineering (JCR-Q1)*, 130, ID 106075.
12. Canca, D., De los Santos, A., Laporte, G., Mesa, J.A. (2019). Integrated Railway Rapid Transit Network Design and Line Planning Problem with Maximum Profit. *Transportation Research E: Logistics and Transportation Review (JCR-Q1)*. 127, 1-30.
13. Canca, D., Andrade-Pineda, J.L., De los Santos, A., Calle, M. (2018). The Railway Rapid Transit frequency setting problem with speed-dependent operation costs. *Transportation Research B: Methodological (JCR-Q1)*, 117(A), 494-519.
14. Canca, D., Barrena, E. (2018). The integrated rolling stock circulation and depot location problem in railway rapid transit systems. *Transportation Research. Part E: Logistics and Transportation Review (JCR-Q1)*, 109, 115-138.
15. Canca, D., De-Los-Santos, A., Laporte, G., Mesa, J. A. (2017). An adaptive neighborhood search metaheuristic for the integrated railway rapid transit network design and line planning problem. *Computers & Operations Research (JCR-Q1)*, 78, 1-14.

## **C.2. Conferences**

1. Canca, D. Laporte. G. (2020) An iterated greedy matheuristic for solving real-size stochastic railway rapid transit network construction scheduling problems. 2020 Online Workshop of the Spanish Network of Excellence in Transportation. Barcelona
2. De-los-Santos, A., Canca, D., García, A., Barrena, E. (2019) The Urban Transit Network Design Problem. *Verolog* 2019. Sevilla
3. González-R, P. L., Canca, D., Andrade-Pineda, J. L., Calle-Suárez, M. (2019) Heuristic approach to solve a tandem truck-drone logistic delivery problem. *Verolog* 2019. Sevilla
4. David Canca, Alicia de los Santos, Gilbert Laporte, Juan A. Mesa. (2019) The Railway Rapid Transit Network Construction Scheduling Problem. *International Workshop on Locational Analysis and Related Problems. IWOLOCA* 2019. Cádiz
5. E. Barrena, D. Canca, L.C. Coelho, and G. Laporte. (2019) The selective traveling salesman problem with time-dependent profits. *International Workshop on Locational Analysis and Related Problems. IWOLOCA* 2019. Cádiz
6. Zarzo, A., Canca, D. (2018) Cost evaluation of minimizing energy consumption in railway rapid transit lines timetables. -29th European Conference on Operational. Valencia
7. Canca, D., De Los Santos Pineda, A., Laporte, G., Mesa, J. A. (2018) On solving the integrated network design and line planning problem with elastic demand. 29th European Conference on Operational Research. Valencia
8. Canca, D., Zarzo, A. (2017) Energy-efficient timetables. *Proceedings of the VIII International Workshop on Locational Analysis and Related Problems*. 2017. 27-29 Septiembre. Segovia.



9. Canca, D., De los Santos, A., Laporte, G., Mesa, J. A. (2017) A matheuristic for the rapid transit network design problem with elastic demand. Proceedings of the VIII International Workshop on Locational Analysis and Related Problems. 2017. 27-29 Septiembre. Segovia.
10. González-R, P. L., Canca, D: Calle, M. (2017) A hub location-allocation model for wireless data transmission in public service networks. XXIII EURO Working Group on Locational Analysis. VII International Workshop on Locational Analysis and Related Problems.

### **C.3. Research projects**

1. Modelos matemáticos de optimización en redes multicapa. Aplicación en sistemas multimodales de transporte en áreas metropolitanas. PROGRAMA OPERATIVO FEDER ANDALUCÍA 2014-2020. CONVOCATORIA 2018. IPs: J. A. Mesa López-Colmenar, J. David Canca Ortiz. Inicio: 01-01-2021/ Fin: 31-12-2022. Financiación: 78.400,00 euros.
2. Análisis estructural de modelos matemáticos de optimización en problemas de localización y planificación del transporte. Ministerio de Economía y Competitividad, MTM2015-67706-P. IP: J. A. Mesa López-Colmenar. Inicio: 01-01-2016 / Fin: 31-12-2019. Financiación: 65.300,00 euros.
3. Metodologías para el diseño, la planificación robusta de redes y la operación mixta del transporte por ferrocarril. Aspectos intermodales y convergencia con las políticas de la UE. Junta de Andalucía (Proyecto de excelencia), P09-TEP-5023. IP: J.A. Mesa López-Colmenar. Inicio: 01-01-2010 / Fin: 31-12-2014. Financiación: 475.855,68 euros.
4. Modelos de optimización aplicados a la planificación robusta y la gestión de los servicios metropolitanos de transporte público en caso de emergencia. Ministerio de Fomento, PT-2007-003-08CCPP. IP: F. A. Ortega Riejos. Inicio: 30-10-2007 / Fin: 26-11-2010. Financiación: 140.992,00 euros, para el nodo Universidad de Sevilla.
5. Red Nacional de Excelencia en Localización y Problemas Afines. MINECO. MTM2016-81874-REDT. Varias Universidades. Antonio Rodríguez Chía (UCA). 2017-2019
6. Red Nacional de Excelencia en Localización y Problemas Afines. MINECO. MTM2014-53828-REDT. Varias Universidades. Antonio Rodríguez Chía (UCA). 2014-2016
7. Modelos dinámicos difusos en la perspectiva tecnológica. Ministerio de Educación y Ciencia ECO2009-12853. Universidad Pablo de Olavide. Universidad de Sevilla. 2010- 2012. Investigador principal: J. Antonio Salmerón Silvera.

### **C.4. Contracts, technological or transfer merits**

1. Diagnosis of the traffic congestion in the city of Tagaytay (Philippines) (ES-1747/33/2017). ATI KONSULTA. IP: J. David Canca Ortiz. Inicio: 01-06-2017 / Fin: 01-07-2018. Financiación: 12.000,00 euros.
2. Encuentro Tecnológico para el estudio del modelo Brugge utilizando tecnología matemática. Red Española Matemática-Industria, Contrato Arts. 68/83 LOU. IP: Francisco A. Ortega Riejos. Inicio: 12-12-2013 / Fin: 12-02-2014. Financiación: 1.452,00 euros.
3. Optimización de planificación de la producción de electricidad en centrales de ciclo combinado. (1903/0531) Haya Energy Solutions S.A.S. IP: J. David Canca Ortiz. Inicio: 01-06-2013 / Fin: 30-10-2013. Financiación: 9.000,00 euros.
4. Desarrollo de Sistemas Productivos Eléctricos (PI-1009/2012). INHISSET. IP: J. David Canca Ortiz, Gabriel Villa Caro. Inicio: 01-01-2012 / Fin: 31-12-2014. Financiación: 65.000,00 euros.
5. ODISEO. Proyecto de Investigación en Sistemas Eléctricos (PI-1010/2012). Airbus Military. IP: J. David Canca Ortiz, Gabriel Villa Caro. Inicio: 01-01-2012 / Fin: 31-12-2014. Financiación: 70.000,00 euros.
6. ROBLIMPES: Estudio de la viabilidad de robots autónomos para la limpieza de espejos. Fundación Corporación Tecnológica de Andalucía (PI-0365/2010). IP: J. David Canca Ortiz. Inicio: 18-11-2009 / Fin: 30-04-2011. Financiación: 10.000,00 euros.



7. Encuentro Tecnológico para el estudio del Modelo Brugge utilizando tecnología matemática (2138/0712 - Investigador). CDTI. Ref: PI-1010/2012. REPSOL. Red Española Matemática-Industria. Investigador principal: Francisco A. Ortega. (US).
8. Informe sobre la viabilidad de la mejora del proceso de reparto en una empresa de distribución de agua embotellada. IMP Consultores. 2012. Investigador ppal.: J. David Canca Ortiz.