**CURRICULUM VITAE (CVA)**

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

| **CV date** | 10/01/2022 |
|---|---|

## Part A. PERSONAL INFORMATION

| | | | |
|---|---|---|---|
| First name | Luis | | |
| Family name | Cadarso Morga | | |
| Gender (*) | Male | Birth date (dd/mm/yyyy) | |
| Social Security, Passport, ID number | | | |
| e-mail | luis.cadarso@urjc.es | URL Web | |
| Open Research and Contributor ID (ORCID)(*) | | 0000-0002-5382-2927 | |

*(*) Mandatory*

### A.1. Current position

| | | | |
|---|---|---|---|
| Position | Associate Professor (Titular de Universidad) | | |
| Initial date | 12/2019 | | |
| Institution | King Juan Carlos University | | |
| Departament/Center | Department of Signal Theory and Communications / Technical School of Electrical Engineering in Telecommunications | | |
| Country | Spain | Teleph. number | 914888775 |
| Key words | Transportation, Operations Research, Guidance, Navigation and Control | | |

### A.2. Previous positions (research activity interruptions, art. 45.2.c))

| Period | Position/Institution/Country/Interruption cause |
|---|---|
| 2019-Today | Associate Professor/King Juan Carlos University/Spain |
| 2013-2019 | Assistant Professor/King Juan Carlos University/Spain |
| 2009-2013 | Research assistant/ Universidad Politécnica de Madrid/Spain |

### A.3. Education

| PhD, Licensed, Graduate | University/Country | Year |
|---|---|---|
| PhD Aerospace Engineering | Universidad Politécnica de Madrid/Spain | 2013 |
| MSc Aerospace Engineering | Universidad Politécnica de Madrid/Spain | 2011 |
| BSc/MSc Aerospace Engineering | Universidad Politécnica de Madrid/Spain | 2009 |

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

Luis Cadarso received the B.Sc. degree in Aerospace Eng., the M.Sc. degree in Aerospace Eng., and the doctorate degree graduating with the highest honors ("premio extraordinario"), from Technical University of Madrid, in 2009, 2011 and 2013, respectively. During his Ph.D. program, research stays were carried out at the Erasmus University in the Netherlands and at the Massachusetts Institute of Technology in the USA. Since then, he has actively collaborated

with different foreign research groups, especially at the Massachusetts Institute of Technology and the Dartmouth College, carrying several research stays. In 2013, he became a faculty of the King Juan Carlos University (Madrid, Spain), where he currently develops his research and teaching activities as an Associate Professor and serves as director of the group Aerospace Systems and Transport and of the European Institute for Aviation Training and Accreditation.

His broad interests lie in the areas of transportation, operations research, guidance, navigation and control, with applications to passenger transportation and aerial platforms. His early works focused on the application of integrated optimization approaches to the fields of rail and air passenger transportation, looking for system global optimum instead of local ones. Nowadays, he has a growing interest in understating the relationship between transportation system design and planning, and its dynamics in real time. In these areas, Dr. Cadarso is the author of more than 100 conference peer-reviewed papers (including internationally awarded works) and more that 30 journal articles (70% of which in the Q1 quartile of the corresponding JCR), which received more than 800 citations. He has participated in more than 15 competitive projects (2 of them International & 4 as Principal Investigator), been a member of the scientific committee of program of several international conferences and been scientific committee of international research awards. His works have received several best paper conference awards and several national and international transport related associations awards.

Dr. Cadarso is a member of different professional and technical organizations (FIT, INFORMS, SEIO), participating actively in the activities they organize. He has delivered invited talks at the conferences organized by those organizations and also research seminars in universities and research centers. He is also active in knowledge transfer to the industry. He has been the director of more than ten contracts with administrations and companies for an amount exceeding 0,5 million euros, from which a transportation focused startup was founded.

Regarding research mentoring and management tasks, he was/is the doctoral advisor of 4 students, reviewer in more than 10 indexed journals and 15 international conferences, evaluator of R&D programs (Madri+d, Spain, Poland, EU) and agencies (EQA, ACIE), and member of the editorial committee of two journals. He is the founder and current director of the research group “Aerospace Systems and Transport”. He is also in the advisory committee of the Chair of Logistics at the Public University of Navarra.

**Part C. RELEVANT MERITS** *(sorted by typology)*
**C.1. Publications** *(selection)*

1. Cadarso, L., & Vaze, V. (2021). Passenger-Centric Integrated Airline Schedule and Aircraft Recovery. Available at SSRN 3814705.
2. Tenorio, V. M., Marques, A. G., & Cadarso, L. (2021). Signal Processing and Machine Learning for Air Traffic Delay Prediction. Transportation Research Procedia,58, 463-470.
3. Fuentes, M., Cadarso, L., Vaze, V., & Barnhart, C. (2021). The Tail Assignment Problem: A Case Study at Vueling Airlines. Transportation Research Procedia, 52, 445-452.
4. Serrano-Hernandez, A., de la Torre, R., Cadarso, L., & Faulin, J. (2021). Urban e-Grocery Distribution Design in Pamplona (Spain) Applying an Agent-Based Simulation Model with Horizontal Cooperation Scenarios. Algorithms, 14(1), 20.
5. Fuentes, M., Cadarso, L., & Marín, Á. (2019). A hybrid model for crew scheduling in rail rapid transit networks. Transportation Research Part B: Methodological, 125, 248-265.
6. Cadarso, L., Escudero, L. F., & Marín, A. (2018). On strategic multistage operational two-stage stochastic 0–1 optimization for the Rapid Transit Network Design problem. European Journal of Operational Research, 271(2), 577-593.
7. de Armas, J., Cadarso, L., Juan, A. A., & Faulin, J. (2017). A multi-start randomized heuristic for real-life crew rostering problems in airlines with work-balancing goals. Annals of Operations Research, 258(2), 825-848.
8. Cadarso, L., & de Celis, R. (2017). Integrated airline planning: Robust update of scheduling and fleet balancing under demand uncertainty. Transportation Research Part C: Emerging Technologies, 81, 227-245.

9. Cadarso, L., Codina, E., Escudero, L. F., & Marín, A. (2017). Rapid transit network design: considering recovery robustness and risk aversion measures. Transportation research procedia, 22, 255-264.
10. Cadarso, L., Vaze, V., Barnhart, C., & Marín, Á. (2017). Integrated airline scheduling: considering competition effects and the entry of the high speed rail. Transportation Science, 51(1), 132-154.

**C.2. Congress** (*selection*)

1. Cadarso, L., Serrano, A, Faulin, J. (2019). A Strategic Multistage Tactical Two-Stage Stochastic Optimization Model for the Airline Fleet Management Problem. INFORMS annual meeting, Seattle, USA.
2. Barea, A., de Celis, R., Cadarso, L. (2019). Integration of airport terminal arrival route selection, runway assignment and aircraft trajectory optimization. 22nd EURO Working Group on Transportation Meeting, Barcelona, Spain.
3. Fuentes, M., Cadarso, L., Vaze, V., Barnhart, C. (2019). A novel approach to the tail assignment problem in airline planning. EURO, Dublín, Ireland.
4. Cadarso, L., Vaze, V. (2019). Integrated airline schedule, aircraft and passenger recovery: incorporating passenger response to disruptions. TRISTAN X, Hamilton Island, Australia.
5. Codina, E., Rosell, F., Cadarso, L. (2018). A transit network planning model integrating reliability and recoverability aspects. EURO, Valencia, Spain.
6. Marques, A.G., Cadarso, L., Morgado, E., Figuera, C. (2015). A Decomposition Method for Optimal User Assignment in Cellular Networks with Orthogonal Transmissions. IEEE Intl. Conf. on Acoustics, Speech and Signal Process., Brisbane, Australia.

**C.3. Research projects** (*selection*)

1. Meeting Operations Research and Machine Learning for Efficient Planning, Management and Control at Air Transport Mobility (PID2020-112967GB-C33)
   Funding body: Agencia Estatal de Investigación AEI (National Plan)
   Start-end dates: 01/09/2021-31/08/2025 Budget: EUR 121.000
   Principal researcher: Luis Cadarso (Universidad Rey Juan Carlos). Current status: running.
2. Aprendiendo a ser Autónomos: El Aprendizaje Automático y los Sistemas de Guiado, Navegación y Control (GNC) Aeroespaciales (F663-AAGNSS)
   Funding body: Comunidad de Madrid (Regional plan).
   Start-end dates: 01/01/2020-31/12/2021. Budget: EUR 36.126,32
   Principal researcher: Luis Cadarso (Universidad Rey Juan Carlos). Current status: running.
3. Robustez, eficiencia y recuperación de sistemas de transporte publico (TRA2016-76914-C3-3-P).
   Funding body: Ministerio de Economía y Competitividad (National plan)
   Start-end dates: 30/12/2016-29/09/2021. Budget: EUR 140.360
   Principal researcher: Luis Cadarso (Universidad Rey Juan Carlos). Current status: running.
4. El aeropuerto como un sistema integrado, robusto y recuperable (PEJ-2018-AI/IND-11879).
   Funding body: Comunidad de Madrid (Regional plan)
   Start-end dates: 04/2019-04/2021. Budget: EUR 45.000
   Principal researcher: Luis Cadarso (Universidad Rey Juan Carlos). Current status: running.
5. Robustez, recuperabilidad y congestión en redes de transporte público (TRA2014-52530-C3-1-P).
   Funding body: Ministerio de Economía y Competitividad (National plan)
   Start-end dates: 31/12/2014-31/12/2016. Budget: EUR 150.000
   Principal researcher: Angel Marin (UPM). Role: researcher. Current status: finished.

6. Wireless technologies for isolated rural communities in developing countries based on cellular 3G femtocell deployments (TUCAN3G) (FP7-ICT-2011-9-601102)
   Funding body: Comisión Europea (7th Framework Programme)
   Start-end dates: 01/02/2013-31/05/2016. Budget: EUR 1.365.123
   Principal researcher: Josep Vidal (UPC). Role: researcher. Current status: finished.
7. Robustez, Recuperabilidad y Congestión en Redes de Trasnporte Público (Ref.: TRA2011-27791-C03-01)
   Funding body: Ministerio de Economia y Competitividad (National plan)
   Start-end dates: 01/01/2012-31/12/2014. Budget: EUR 133.100
   Principal researcher: Angel Marin (UPM). Role: researcher. Current status: finished.

**C.4. Contracts, technological or transfer merits** (*selection*)

1. Asistencia en el diseño y desarrollo del software de un sistema de guiado navegación y control para un vehículo aéreo no tripulado. Company: INSTALAZA S.A.
   Start-end dates: 01/10/2020-31/12/2021. Budget: EUR 17.000
   Principal researcher: Raúl de Celis (Universidad Rey Juan Carlos).
2. Desarrollo y transferencia para un entorno operativo del prototipo del Operations Mangement System (TRL7) para una compañía aérea. Company: CISNERIA ENGINEERING S.L.
   Start-end dates: 31/08/2020-30/11/2020. Budget: EUR 30.250
   Principal researcher: Luis Cadarso (Universidad Rey Juan Carlos).
3. Desarrollo y transferencia de una herramienta integrada para la mejora del On Time Performance en tiempo real de una compañía aérea. Objetivo OTP15. Company: CISNERIA ENGINEERING S.L.
   Start-end dates: 17/07/2020-16/12/2020. Budget: EUR 18.150
   Principal researcher: Luis Cadarso (Universidad Rey Juan Carlos).
4. Desarrollo y transferencia de un modelo matemático integrado para la gestión de las operaciones de una compañía aérea. Company: CISNERIA ENGINEERING S.L.
   Start-end dates: 31/05/2020-30/11/2020. Budget: EUR 12.100
   Principal researcher: Luis Cadarso (Universidad Rey Juan Carlos).
5. Asignación operativa de matrículas de aeronaves en aerolíneas (Tail Assignment). Company: VUELING AIRLINES, S.A..
   Start-end dates: 31/03/2019-30/10/2019. Budget: EUR 145.200
   Principal researcher: Luis Cadarso (Universidad Rey Juan Carlos).
6. Asignación de tripulantes de cabina en transporte aéreo. Company: Aviation Group.
   Start-end dates: 01/12/2017 - 31/05/2019. Budget: EUR 22.143
   Principal researcher: Luis Cadarso (Universidad Rey Juan Carlos).
7. Diseño Conceptual de la Estructura, Aerodinámica, Guiado y Control y Desarrollo de un Demostrador Preliminar de Vehículos Aéreos no Tripulados. Company: Mecanizados Escribano S.L.
   Start-end dates: 01/10/2015-30/09/2016. Budget: EUR 41.250
   Principal researcher: Luis Cadarso (Universidad Rey Juan Carlos).
8. Fundamentos Matemáticos e Informes Técnicos de Modelado Matemático y Simulación Balística de Cohetes. Company: Inarsis Ingeniería e Investigación S.L.
   Start-end dates: 13/10/2015-30/11/2015. Budget: EUR 2.420
   Principal researcher: Luis Cadarso (Universidad Rey Juan Carlos).
9. Fundamentos Matemáticos e Informes Técnicos de Modelado Matemático y Simulación de Mecánica de Vuelo y Guiado de Cohetes. Company: Inarsis Ingeniería e Investigación S.L.
   Start-end dates: 15/10/2014-31/03/2015. Budget: EUR 4.600
   Principal researcher: Luis Cadarso (Universidad Rey Juan Carlos).
10. Integración de la Programación de Servicios y Asignación de Material Rodante en Redes de Tránsito Rápido. Company: Baobab soluciones S.L.
    Start-end dates: 01/12/2014-30/11/2015. Budget: EUR 2.350
    Principal researcher: Luis Cadarso (Universidad Rey Juan Carlos).