

CVA date	Mar 2025
----------	----------

Part A. PERSONAL INFORMATION

First name	Federico
Family name	Perea Rojas-Marcos

(*) Mandatory

A.1. Current position

Position	Full Professor (Catedrático de Universidad)
Initial date	December 2024
Institution	University of Seville (Universidad de Sevilla)
Departament/Center	Matemática Aplicada II (Applied Mathematics II)
Key words	Transportation, Scheduling, Game Theory

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

Period	Position/Institution/Country/Interruption cause
2002-2005	University of Seville, PhD student
2005-2006	Thales Nederland (The Netherlands), Research Fellow
2007-2009	Assistant Professor, University of Seville
2009-2010	Assistant Professor, University of Zaragoza (Spain)
2010-2020	Associate Professor, Technical University of Valencia (Spain)
2020-Today	Associate Professor, University of Seville

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
Master of Science, Mathematics	University of Seville, Spain	2001
PhD, Mathematics	University of Seville, Spain	2007

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

Federico Perea got his PhD from the University of Seville in 2007. He is an associate professor at the *Departamento de Matemática Aplicada II* (Applied Mathematics II) of the University of Seville. He is, or has been, invited professor at the business/engineering schools ESIGELEC, NEOMA, KEDGE (France), and Florida State University (USA), among others, and has been invited to short to medium research stays at the research center CIRRELT, *Université de Montréal* (Canada). He currently is Secretary of the Mathematical Research Institute of the University of Seville (IMUS), since November 2021. During the period 2017-2020 he was vice-director of his previous department (Statistics and Operations Research Department at *Universitat Politècnica de València*, Spain). He has been granted as principal investigator one project at UPV (2019-2020), and another at *Comunidad Valenciana*, Spain (2020-2021). He was Operations Research vice-president of the Spanish Society of Statistics and Operations Research (SEIO), in the period 2019-2022. Also at SEIO, he created in 2016 a working group in Transportation, and coordinated it until 2019. He is General Secretary of the Institute of Mathematics of the University of Seville since 2021. He has also worked for the University of Zaragoza (Spain, 2009-2010), and Thales Nederland (The Netherlands, 2005-2006). He has participated in the organization of several conferences, as a member of the organizing committee or the scientific committee (EURO 2018, SEIO 2019, ATMOS 2020, among others). He has given over 50

talks in scientific conferences all around the world, including two plenary talks and several invited talks.

Dr. Federico Perea research fields of expertise includes de design of both exact and heuristic algorithms for discrete and multiobjective optimization in areas such as transportation, scheduling, and game theory. He has supervised one PhD thesis (and two more are in progress), over 10 Master Theses, and has published more than 30 research papers in specialized journals. His interest in bringing mathematical knowledge to the industry and society has led him to collaboration industrial projects funded by private corporations, and to a positive evaluation of his activities regarding transfer knowledge by the Spanish ministry ("*Sexenio de Transferencia*").

Summary of publications:

Total citations (Google Scholar/Scopus, ID = 55946741800): 1484 / 970

h-index (Google Scholar/Scopus): 17 / 14

Total Publications JCR (in Q1): 30 (23)

Positive Research Evaluations ("*Sexenios de investigación*"): 3 (2005-2010, 2011-2016, 2017-2022)

Positive Transfer Knowledge Evaluation ("*Sexenio de transferencia*"): 1 (2005-2015)

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

C.1. Publications (Last 5 years)

JCR:

1. Fanjul-Peyro, L, Ruiz, R., Perea, F. (2019) Reformulations and an exact algorithm for unrelated parallel machine scheduling problems with setup times. *Computers and Operations Research* 101:173--182.
2. Perea, F., Puerto, J. (2019) A heuristic procedure for computing the nucleolus. *Computers and Operations Research* 112:1--9.
3. Yepes, J.C., Perea, F., Villa, F., Caballero J.P. (2020) GRASP algorithm for the unrelated parallel machine scheduling problem with setup times and additional resources. *Expert Systems With Applications* 141, 1—12.
4. Perea, F., Menezes, M., Mesa, J.A., Rubio-del-Rey, F. (2020) Transportation infrastructure network design in presence of modal competition: computational complexity classification and a genetic algorithm. *TOP* 28:442–474
5. Yepes, J.C., Perea, F., Ruiz, R., Villa, F. (2021) Bi-objective parallel machine scheduling with additional resources during setups. *European Journal of Operational Research* 292:443-455.
6. Huerta-Muñoz, D.L, Archetti, C., Fernández E., Perea, F. (2022) The Heterogeneous Flexible Periodic Vehicle Routing Problem: Mathematical formulations and solution algorithms. *Computers and Operations Research* 141:105662
7. Lopez-Esteve, A., Perea, F., Yepes-Borrero, J.C. (2023) GRASP algorithms for the unrelated parallel machines scheduling problem with additional resources during processing and setups. *International Journal of Production Research* 61(17) 6013–6029.
8. Yepes, Juan C., Perea, F., Villa, F., Vallada, E. (2023) Flowshop with additional resources during setups: mathematical models and a GRASP algorithm. *Computers and Operations Research*. 154:106192.
9. Perea, F., Yepes-Borrero, J.C., Menezes, M. (2023). Acceptance Ordering Scheduling Problem: The impact of an order-portfolio on a make-to-order firm's profitability. *International Journal of Production Economics* 264, 108977

10. Linares, L., Vazquez, R., Perea, F., Galán-Vioque, J. (2024) A Mixed Integer Linear Programming Model for Resolution Of the Antenna-Satellite Scheduling Problem. IEEE Transactions on Aerospace and Electronic Systems 60(1) 463--473, 10.1109/TAES.2023.3326422
11. Correcher, J.F., Perea, F., Álvarez-Valdés, R. (2024) The berth allocation and quay crane assignment problem with crane travel and setup times. Computers and Operations Research 162, 106468.

No JCR

1. Cappello, G., Daniele, P., Perea, F. (2021). A Heuristic Approach for the Human Migration Problem. In: Cerulli, R., Dell'Amico, M., Guerriero, F., Pacciarelli, D., Sforza, A. (eds) Optimization and Decision Science. AIRO Springer Series, vol 7. Springer, Cham. https://doi.org/10.1007/978-3-030-86841-3_14
2. Müller-Hannemann, M., Perea, F. (2021) Editorial. Preface. OASICS: Open Access Series in Informatics, 96. Dagstuhl Publishing. ISSN 2190-6807

C.2. Congress (Last 5 years)

1. Perea, F. Exact methods for hard problems. The first EUROYoung Workshop. Plenary talk. 2-3/5/2019.
2. Perea, F, Fanjul, L, Ruiz, R. Modelos matemáticos para el VRP con flota heterogénea. XXXVIII Congreso Nacional de Estadística e Investigación Operativa (SEIO, Alcoy 3-6/9/2019).
3. Perea, F., Puerto, J. Sobre el nucleolo de juegos cooperativos con muchos jugadores. XXXVIII Congreso Nacional de Estadística e Investigación Operativa (SEIO, Alcoy 3-6/9/2019).
4. Diana L. Huerta-Muñoz, Claudia Archetti, Elena Fernández, Federico Perea. Enrutamiento de Vehículos periódico, flexible con flota heterogénea. XXXIX Congreso Nacional de Estadística e Investigación Operativa (SEIO, Granada 7-10/6/2022).
5. Federico Perea, Juan Camilo Yepes Borrero, Mozart Menezes. Order acceptance and scheduling: revenues versus holding, tardiness and machine costs. 32nd European Conference on Operational Research (EURO 2022, Espoo, Finland 3-6/07/2022).
6. Juan A. Mesa, Federico Perea, María Calvo. Covering Multilayer Network Design Problems. EWGLA XXVII (14-16/09/2022, Aveiro, Portugal)
7. L. Linares, R. Vázquez, F. Perea and J. Galán-Vioque, Earth Observation Antenna-Satellite Scheduling: a Mixed Integer Linear Programming Approach. International Workshop on Planning and Scheduling for Space (IWSPSS 2023, 7-8/8/2023, Prague, Czech Republic)
8. F. Perea, D. Russo, C. Cerrone. Problemas de camino más corto con concurrencia para vehículos autónomos. XL Congreso Nacional de Estadística e Investigación Operativa (SEIO, Elche 7-10/11/2023).
9. F. Perea. Time indexes and other discretizations: are they worthit? 4TH SPANISH YOUNG STATISTICIANS AND OPERATIONAL RESEARCHERS MEETING (SYSORM, Santiago de Compostela, 19-21/06/2024). Plenary talk.
1. J. Yepes, F. Perea, M. Menezes. Acceptance Ordering Scheduling Problem: The impact of an order-portfolio on a make-to-order firm's profitability. EURO conference 2024 (Copenhagen, Denmark, 30/06-3/07/2024)

C.3. Research projects (Last 5 years)

1. Title: Optimización Aplicada al Tejido Productivo Andaluz (PI: Federico Perea). Start date: 01/02/2022 End date: 28/02/2023 Funding institution: Junta de Andalucía. Reference: AT21_00032. Amount: 59050.

2. Title: OPTIMIZACION REALISTA EN PROBLEMAS DE SALUD PUBLICA. Start date: 01/01/2022. End date: 31/12/2025. Funding institution: Ministerio de Ciencia e Innovación. Reference: PID2021-124975OB-I00. Amount: 66308 Euros.
3. Title: Optimization on data science and network design problems: Large scale network models meet optimization and data science tool. Start date: 01-09-2021. End date: 31-08-2025. Funding institution: Ministerio de Ciencia e Innovación. Reference: PID2020-114594GB-C21. Amount: 209935 Euros.
4. Title: Nuevos Retos en Secuenciación (PI: Federico Perea) Start date: 01/01/2020. End date: 31/12/2021 (interrumpido por mi cambio de universidad). Funding institution: Generalitat Valenciana. Reference: AICO/2020/049. Amount: 40000 Euros.
5. Title: Secuenciación de máquinas que trabajan en paralelo con necesidad de personal (PI: Federico Perea) Amount: 7250 Euros. Start date: 01/01/2019. End date: 31/12/2020. Reference: SP20180164. Funding institution: Universidad Politécnica de Valencia.
6. Title: Nuevos resultados sobre los problemas de diseño y optimización en redes complejas: Aplicaciones al diseño de ciudades. Start date: 01/01/2020. End date: 31/12/2021. Funding institution: Universidad de Sevilla-FEDER. Reference: US-1256951. Amount: 80000 Euros.
7. Title: Retos de la optimización combinatoria en los nuevos modelos de redes complejas y ciencia de datos. Fecha de Inicio 01/01/2019 a 21/12/2021. Funding institution: Junta de Andalucía. Reference: 25 P18-FR-1422 Amount: 109750 Euros.
8. Title: Optimización de operaciones terminales portuarias. Amount: 110352 Euros. Start date: 01/01/2019 a 01/01/2022. Reference: RTI2018- 094940-B-I00-AR. Funding institution: Agencia estatal de financiación.
9. Title: Optimization of scheduling problems in container yards. Amount: 84700 Euros. Start date: 01/01/2016. End date: 01/01/2019. Reference: DPI2015-65895-R. Funding institution: Ministerio de Economía, Industria y Competitividad.

C.4. Contracts, technological or transfer merits (Last 5 years)

1. Collaboration with DSB (Denmark) and Decidesoluciones (Spain).

C.5. Supervision.

One PhD thesis in the program “Statistics and Optimization”, Universitat Politècnica de València, with two papers published in scientific journals: Yepes et al. (2020) y Yepes et al. (2021). 9 Master Thesis, in the program “Máster Universitario en Ingeniería de Análisis de Datos, Mejora de Procesos y Toma de Decisiones”, and “Máster en Ingeniería Informática de la UPV-Valencia”, with two papers published (Perea et al. (2020) y López-Esteve et al. (2022)), two Master Thesis in the program “Matemáticas” (Universidad de Sevilla), one Master Thesis in the program “Aerospace Engineering”, and four Bachelor Thesis (Escuela Politécnica Superior). Currently supervising one Bachelor Thesis, one Master Thesis and two PhD Thesis, (program in mathematics, one of them is an industrial PhD).

C.6. Evaluation committees

Doctoral Thesis (12, different universities in Spain and Norway), Master Thesis (+10), y Bachelor Thesis (+80). Evaluation of university entrance examination (Selectividad) every year since 2014. Research project evaluator for ANEP (Spain), RCN (Norway), ISF (Israel), FONCyT (Argentina) and ANID (Chile).