

UNIVERSITY: Public University of Navarra (UPNA)

WIT PROGRAMME'S RESEARCH LINE NAME:

Eco-efficient Mobility Management in Sustainable Urban Transport

DOCTORAL PROGRAMMES: Doctorate in Science and Industrial Technologies:

<https://www.unavarra.es/escuela-doctorado/doctorate-programs/current-plan/science/doctorate-in-science-and-industrial-technologies?languageId=1>

Doctorate in Mathematics and Statistics: <https://www.unavarra.es/escuela-doctorado/doctorate-programs/current-plan/science/doctorate-in-mathematics-and-statistics?languageId=1>

Doctorate in Communications Technology, Bioengineering and Renewable Energies <https://www.unavarra.es/escuela-doctorado/doctorate-programs/current-plan/engineering-and-architecture/doctorate-in-communications-technology-bioengineering-and-renewable-energies>

COMPLETE DESCRIPTION OF THE LINE

This line focuses its interest in the interdisciplinary study of the urban logistics of merchandises and people mobility, considering the option of using Low Environmental Impact Vehicles- LEIV. Moreover, this line has an interdisciplinary scope involving researchers of assorted scientific areas such as Industrial and Civil Engineering, Operations Research, Business, Economics, Computer Science, and others, who would work together in the problems of sustainable urban mobility of goods and people, with the following aspects:

- 1) Analysis of big data related to mobility and logistics.**
- 2) Study of eco-efficient urban distribution policies of merchandises.**
- 3) Main description of the characteristics of the LEIV vehicles.**
- 4) Design of criteria to build urban transportation networks for people mobility.** The urban transportation needs to be profiled using criteria of environmental impact minimization and road safety maximization for the transport user.

5) **Design of environmental costs** (willingness to pay, double hurdle, direct estimation, etc) in order to build mobility policies for people and merchandises.

RESEARCH GROUP NAME:

DECYL (Datos, Estadística, Calidad y Logística)

<https://academicos.unavarra.es/CawDOS/jsf/seleccionGrupos/seleccionGrupos.jsf>

RESEARCH GROUP COORDINATOR:

Fermín Mallor-Giménez

RESEARCH LINE COORDINATOR

- Last and first name; link to the “Portal of scientific production”:
Faulin-Fajardo, Francisco-Javier
- <https://academicos.unavarra.es/CawDOS/jsf/seleccionPersonalPalabraClave/seleccionPersonal.jsf>
- Department: Statistics, Computer Science and Mathematics
- Email: javier.faulin@unavarra.es
- Telephone number: 34-948169211

MEMBERS OF THE LINE RESEARCH:

Fco. Javier Faulin Fajardo, CU, Instituto de Smart Cities, UPNA
Jesús M. Pintor Borobia, TU, Instituto de Smart Cities, UPNA
Juan Ignacio Latorre Biel, TU, Instituto de Smart Cities, UPNA
Rocío de la Torre Martínez, CDi, Instituto INARBE, UPNA
Adrián Serrano Hernández, CDi, Instituto de Smart Cities, UPNA

ANOTHER RESEARCH LINES OF THE GROUP: list of them

(This list is not exhaustive, but describes the research lines which are closer to the one here depicted)

- Surveys Design and Analysis.
- Simulation and Simulation-Based Optimization. Applications in Health, Industry, and Services.
- Quantitative Methods for Decision Making in Health, Energy, and Production.

▪ Entities involved in research lines and contact person:

✓ Academic entities:

1. Department of Computer Science- Open University of Calalonia- Barcelona. SPAIN
2. Instituto Europeo de Formación y Acreditación Aeronáutica (EIATA). University ReyJuan Carlos. Madrid. SPAIN.
3. Department of Production and Logistics. University of Natural Resources and SocialSciences. Vienna. AUSTRIA
4. Faculté des Sciences Économiques. Université de Rennes 1- Rennes. FRANCE
5. Department of Civil and Environmental Engineering. Portland State University. Portland. OR. USA

✓ Industrial entities:

1. DRONEXSERVICES S.L. Madrid. SPAIN
2. BAOBAB SOLUCIONES S.L.. Madrid. SPAIN.
3. LOGYCA-CLI. Bogotá.COLOMBIA.
4. KAIZTEN ANALYTICS S.L Santa Cruz de Tenerife. SPAIN

- Joint supervision of doctoral thesis with international universities or non-academic institutions:

The PhD thesis to be developed inside this research line could be co-advised with

researchers of the following institutions:

1. Department of Computer Science- Open University of Calalonia-

2. Barcelona. SPAIN
 - o Researchers: Prof. Ángel A. Juan Pérez and Prof. Javier Panadero
 - o Contribution: Algorithms design for vehicles routing optimization
 3. Instituto Europeo de Formación y Acreditación Aeronáutica (EIATA).
University ReyJuan Carlos. Madrid. SPAIN.
 - o Researchers: Prof. Luis Cadarso
 - o Contribution: Use of UAVs for logistic distribution and air vehicles routesoptimization.
 4. Department of Production and Logistics. University of Natural Resources and SocialSciences. Vienna. AUSTRIA
 - o Researchers: Prof. Manfred Gronalt and Prof. Patrick Hirsch
 - o Contribution: Green logistics and merchandises distribution using LEIVvehicles
 5. Faculté des Sciences Économiques. Université de Rennes 1- Rennes.
FRANCE
 - o Researchers: Prof. Laurent Denant-Boémont and Prof. Sabrina Hammiche.
 - o Contribution: Environmental costs estimation in road mobility.
 6. Department of Civil and Environmental Engineering. Portland State University.
Portland. OR. USA
 - o Researchers: Prof. Miguel Figliozzi
 - o Contribution: Optimization of urban routes of LEIV vehicles.
- Brief group overview

DECYL Group was created in 1994 inside the research area Statistics and Operations Research at the Public University of Navarre, and includes 19

researchers who work in the following research lines: 1) Simulation and Optimization models 2) Logistics and Transportation 3) Probability and Stochastic Processes 4) Data Mining 5) Algebraic Statistics. This group has published in the last five years more than 100 papers in international journals, and more than 50

contributions in proceedings of international conferences. Its members take part in different research projects funded by different institutions (Spanish Government, CYTED, Spanish Regions Governments, European Commission, US Department of Transportation, among others). Moreover, this group has collaborated with important national and international companies by means of research grants.

- Link of the group to the “Portal of scientific production”

<https://academicos.unavarra.es/CawDOS/jsf/seleccionGrupos/seleccionGrupos.jsf>

- Pictures, links... to academic or industrial partners (if any)

5. Department of Computer Science- Open University of Calalonia- Barcelona. SPAIN

- Researchers: Prof. Ángel A. Juan Pérez and Prof. Javier Panadero
- Contribution: Algorithms design for vehicles routing

optimization <http://transfer.rdi.uoc.edu/es/grupo/internet->

[computing-systems-optimization https://ajuarp.wordpress.com/](https://ajuarp.wordpress.com/)

6. Instituto Europeo de Formación y Acreditación Aeronáutica (EIATA). University Rey Juan Carlos. Madrid. SPAIN.

- Researchers: Prof. Luis Cadarso

- Contribution: Use of UAVs for logistic distribution and air vehicles routes optimization.
<https://gestion2.urjc.es/pdi/ver/luis.cadarso>
7. Department of Production and Logistics. University of Natural Resources and Social Sciences. Vienna. AUSTRIA
- Researchers: Prof. Manfred Gronalt and Prof. Patrick Hirsch
 - Contribution: Green logistics and merchandises distribution using LEIV vehicles
https://forschung.boku.ac.at/fis/suchen.person_uebersicht?id_in=5514&menue_id_in=101&sprache_in=en
8. Faculté des Sciences Économiques. Université de Rennes 1- Rennes. FRANCE
- Researchers: Prof. Laurent Denant-Boémont and Prof. Sabrina Hammiche.
 - Contribution: Environmental costs estimation in road mobility.
<https://eco.univ-rennes1.fr/interlocuteurs/laurent-denant-boemont>
<https://eco.univ-rennes1.fr/interlocuteurs/sabrina-hammiche>
9. Department of Civil and Environmental Engineering. Portland State University. Portland. OR. USA
- Researchers: Prof. Miguel Figliozzi
 - Contribution: Optimization of urban routes of LEIV vehicles.
<https://www.pdx.edu/profile/miguel-figliozzi>

Requirements:

Computer Science
Engineering
Mathematics

Additional requirements:



C1 level of english (or equivalent)