

Part A. PERSONAL INFORMATION

CV date 25/09/2018

First and Family name Aitziber Unzueta Inchaurre

A.1. Current position

Name of University/Institution	University of the Basque Country UPV/EHU		
Department	Applied Mathematics, Faculty of Engineering in Bilbao		
Address and Country	Plaza Ingeniero Torres Quevedo 1, 48013 - Bilbao		
Phone number	346014407	E-mail	aitziber.unzueta@ehu.eus
Current position	associate professor (PROFESOR ADJUNTO)	From	29/10/2013
Espec. cód. UNESCO	120700 Operations Research 120800 Probability 120900 Statistics		
Palabras clave	Optimization, programming, stochastic		

A.2. Education

PhD	University	Year
PhD in Banking and Quantitative Finance	University of the Basque Country UPV/EHU	2012
Degree in Mathematics	University of the Basque Country UPV/EHU	2006

A.3. JCR articles, h Index, thesis supervised...

Coauthor of 7 scientific publications in indexed journals, 6 of them are indexed in JCR (4 Q1 in the area Operations Research & Management Science) and one is indexed in Scopus. These publications have been cited with a total of 33 cites (Web of Science), 37 cites (Scopus) and 84 cites (Google academic), being the average number of cites per year during the last 5 years (without including the current year) 4.8 and the h index 4. In addition, I am coauthor of several chapter of books, some books and working papers with ISBN and ISSN respectively, and currently I am supervising jointly with M. Araceli Garín the PhD thesis of Isabel Eguia.

Part B. CV SUMMARY (max. 3500 characters, including spaces)

In 2006, I obtained the degree in Mathematics and I started the Master's Degree in Banking and Quantitative Finance. In 2007 I got the grant FPU (Training for University Professors grant), which linked me with the University of the Basque Country UPV/EHU, university where I have been working for nearly 10 years. In 2008, I started the PhD thesis within the research group of the UPV/EHU "Análisis Multivalente, Optimización y Técnicas de Imputación", research group in which I still belonging. Currently I am supervising within the mentioned group a PhD thesis jointly with the Professor M. Araceli Garín.

In 2011, I had the opportunity to stay abroad in the researcher centre CARISMA, The Center for Analysis of Risk and Optimisation Modelling Applications, of the Mathematical Sciences Department of the Brunel University, United Kingdom. During this stay in Brunel, I researched about integer and mixed Stochastic Programming and risk averse modelling. This experience have been critical in improving me knowledge and boosting my researcher career, and was fundamental to obtain the PhD with the maximum grade (Cum Laude) in 2012.

My research is focused on the Mathematical Optimization and, more precisely, on Stochastic Optimization. It is based on the development and implementation of algorithmic methodologies to solve large-scale stochastic problems. In one of the two last works (one published and the other one in second revision), decomposition algorithms to solve large-scale humanitarian logistic problems have been applied.

I have been part of some projects and research groups over the years. This issue has helped me to publish several scientific papers in indexed journals with high impact index, publish several chapter of books and attend as speaker to a large number of national and international conference, being some of these participations in invited sessions.

Note that I have participated in the co-operation agreement between the University of the Basque Country UPV/EHU, Rey Juan Carlos University and Norges Teknisk Naturvitenskapelige Universitet for the activity “Adaptation and design of the implementation of BFC-MS algorithms for a natural gas network infrastructure model”, I have commented a research work, I have been reviewer of research publications, I have supervised a end-of-degree project and I have been a member of the network “The Spanish Network for Mathematics & Industry (math-in)”, network that is focused on transferring mathematical technology to business and industrial sectors.

On the other hand, as regards to my connection with the UPV/EHU, I have been teaching Mathematics since 2011, the major part of time in the Department of Applied Mathematics of the Faculty of Engineering in Bilbao, where I have been engaged as “Profesora Adjunta” since 2013. In 2015 I obtained the positive evaluation of the program Docentiaz and in 2018 I have gotten the positive evaluation for “acreditación como Profesor Agregado” by the Agency for Quality of the Basque University System (Unibasq – Agencia de Calidad del Sistema Universitario Vasco).

In addition, the academic year 2018-2019 I have started to teach the subject “Matemática y Estadística” in the Master’s Degree in Banking and Quantitative Finance. Finally, note that currently I am supervising an end-of- master degree project and I am coordinating a project on educative innovation

Part C. RELEVANT MERITS

C.1. Publications (including books)

1. L.F. Escudero, M.A. Garín, J.F. Monge and A. Unzueta. On preparedness resource allocation planning for natural disaster relief under endogenous uncertainty with time-consistent risk-averse management, *Computers and Operations Research*, vol. 98, pp. 84-102, 2018. **Q1**.
2. L.F. Escudero, M.A. Garín, C. Pizarro and A. Unzueta. On efficient matheuristic algorithms for Multi-period Stochastic Facility Location-assignment Problems, *Computational Optimization and Applications*, vol. 70, pp. 865-888, 2018. **Q2**.
- 3 L.F. Escudero, M.A. Garín, and A. Unzueta. Scenario cluster Lagrangean decomposition for risk averse in multistage stochastic optimization. *Computers & Operations Research*, 85(1), pp. 154-171, 2017. **Q1**
4. L.F. Escudero, M.A. Garín, and A. Unzueta. Cluster Lagrangean decomposition in multistage stochastic optimization, *Computers & Operations Research*, 67(1), pp.48-62, 2016. **Q1**
5. L. F. Escudero, M. A. Garín, G. Perez and A. Unzueta. Scenario Cluster Decomposition of the Lagrangian dual in two-stage stochastic mixed 0-1 optimization, *Computers & Operations Research* 40 (1), pp. 362-377, 2013. **Q1**
6. M. A. Garín, F. Tusell and A. Unzueta. Enhancing Statistics Teaching with a Virtual Lab. A Case Study of Seamless Local and Remote Computing, *Journal of Information Technology and Application in Education (JITAE)*, 2, pp. 117- 124, 2013
7. L. F. Escudero, M. A. Garín, G. Perez and A. Unzueta. Lagrangian decomposition for large-scale two-stage stochastic mixed 0-1 problems, *TOP*, 20(2), pp. 347-374, 2012
8. L. F. Bueno, M. A. Garín, G. Perez and A. Unzueta. Preprocessing and parallel computation tools in scenario cluster decomposition of the Lagrangian dual in stochastic mixed 0-1 optimization. In *Applied Mathematical Optimization and Modelling*, University of Paderborn, pp.148-161, ISBN: 978-3-8448-1794-2, 2012
9. L. F. Escudero, M. A. Garín, G. Perez and A. Unzueta. Scenario cluster Lagrangean decomposition in stochastic mixed integer programming. In *Proc. of the VII ALIO-EURO Workshop on Applied Combinatorial Optimization*, Porto (Portugal), May 4-6, 2011, ALIO-EURO, pp. 167-170, 2011



10. M. A. Garín; F.J. Tusell and A. Unzueta. Enhancing Statistics Teaching with a Virtual Lab. A Case Study of Seamless Local and Remote Computing. In CSEDU 2011 - Proceedings of the 3rd International Conference on Computer Supported Education, pp. 518-522, ISBN: 978-989-8425-50-8, 2011.

C.2. Research projects and grants

1. Reference of the project: GIU17/011

Title: Grupo de investigación en estadística y optimización. ÊOPT

Responsible researcher: María Araceli Garín Martín

Financing entity: Universidad del País Vasco, UPV/EHU.

Duration: 01/01/2018-31/12/2020. Budget: 20.350,00 euro

Type of participation: researcher

2. Reference of the project: PPG17/32

Title: Análisis multivariante, Optimización y Técnicas de Imputación.

Responsible researcher: Maria Araceli Garín Martin

Financing entity: Universidad del País Vasco, UPV/EHU

Duration: 01/01/2017 - 31/12/2018. Budget: 12.000,00 euro

Type of participation: researcher

3. Reference of the project: MTM2015-65317-P

Title: MAPCNO, Algoritmos matheurísticos y computación de alto rendimiento para la optimización de redes estocásticas.

Responsible researcher: Gloria Pérez Sainz de Rozas

Financing entity: Ministerio de Economía y Competitividad.

Duration: 01/01/2016- 31/12/2018. Budget: 39.930,000 euro

Type of participation: researcher

4. Reference of the project: IT928-16

Title: Análisis multivariante, Optimización y Técnicas de Imputación.

Responsible researcher: Maria Araceli Garín Martin

Financing entity: Gobierno Vasco

Duration: 01/01/2016 - 31/12/2018. Budget: 0,00 euro

Type of participation: researcher

5. Reference of the project: MTM2012-31514

Title: Computación en paralelo y algoritmos de descomposición en optimización estocástica mixta entera con aplicaciones.

Responsible researcher: Gloria Isabel Perez Sainz de Rozas

Financing entity: Ministerio de Economía y Competitividad

Duration: 01/02/2013 - 31/12/2015. Budget: 62.010,00 euro

Type of participation: researcher

6. Reference of the project: UFI BETS 11/46

Title: BETS, Bilbao Economic Theory and Statistics.

Responsible researcher: Eva Ferreira García, Jesús Vazquez Perez

Financing entity: Universidad del País Vasco, UPV/EHU

Duration: 01/11/2011 - 31/12/2016. Budget: 83.534,62 euro

Type of participation: researcher

7. Reference of the project: IT-347-10

Title: Análisis multivariante, Optimización y Técnicas de Imputación.

Responsible researcher: Maria Araceli Garín Martin

Financing entity: Gobierno Vasco

Duration: 01/01/2010 - 31/12/2012. Budget: 78.500,00 euro

Type of participation: researcher

C.3. Stays abroad

Center: Carisma, Brunel University

City: Londres Country: United Kingdom

Duration: 13 weeks

Year: 2011

C.4. Some invited talks in conferences:

- 1.** Authors: Laureano F. Escudero, M. Araceli Garín, Celeste Pizarro, Aitziber Unzueta
Title: Lagrangean bounds for combinatorial stochastic facility location-assignment problems
Type of participation: Invited talk
Conference: 2nd european conference on Stochastic Optimization
City: Rome Country: France
Starting date: 20/09/2017 Ending date: 22/09/2017
- 2.** Authors: Laureano F. Escudero, M. Araceli Garín, Celeste Pizarro, Aitziber Unzueta
Title: Cluster Lagrangean decomposition for large-scale multi-stage mixed 0-1 problems
Type of participation: Invited talk
Conference: 22nd International Symposium on Mathematical Programming
City: Pittsburgh Country: United State
Date: 13/07/2015
- 3.** Authors: M. Araceli Garín, Laureano F. Escudero, Celeste Pizarro, Aitziber Unzueta
Title: Scenario Cluster Lagrangean Decomposition for large-scale multi-stage mixed 0-1 stochastic problems
Type of participation: Invited talk
Conference: CMS Computational Management Science Conference
City: Prague Country: Czech Republic
Starting date: 27/05/2015 Ending date: 29/05/2015
- 4.** Authors: Aitziber Unzueta, Laureano F. Escudero, M. Araceli Garín,
Title: MCLDA, Scenario Cluster Lagrangian Decomposition in multi-stage mixed 0-1 optimization
Type of participation: Invited talk
Conference: EURO mini-Conference on Stochastic programming and Energy applications (EUROSCSP)
City: Paris Country: France
Starting date: 24/09/2014 Ending date: 26/09/2014

C.5. Other merits

- 1.** Supervisor of PhD thesis
Title: Matheuristics based on Scenario cluster Lagrangean decomposition techniques for stochastic mixed 0-1 optimization
PhD student: Maria Isabel Eguia Ribero
Supervisor jointly with Araceli Garin
Starting year: 2017
- 2.** Member of the network Red española Matemática-Industria (MATH-IN).
Starting date: 14/05/2012 Ending date: 20/11/2017
- 3.** Reviewer of research article
Title of the reviewed paper: On computation of Lagrangian relaxation-based dual maximization algorithms on large-scale electricity market
Journal: Applied Mathematics (www.scirp.org/journal/am/)
- 4.** Commentator of a research work
Event name: X. Workshop en Banca y Finanzas Cuantitativas
Type of event: Workshop
Organizing entity: Universidad del País Vasco, Universitat de València y Universidad de la Castilla la Mancha
Date: Julio de 2012
City: Bilbao Country: Spain
- 5.** Participation in a co-operation agreement between the University of the Basque Country, Rey Juan Carlos University and Norges Teknisk Naturvitenskapelige Universitet.
Activity: Adaptation and design of the implementation of the BFC-MS algorithm for a natural gas network infrastructure model.
Type of participation: researcher
Starting date: 14/05/2010 Ending date: 24/05/2012