

CURRICULUM VITAE ABREVIADO (CVA)

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

Part A. PERSONAL INFORMATION

First name	MARIA ARACELI		
Family name	GARIN		
Gender (*)	FEMALE	Birth date (dd/mm/yyyy)	24/11/1965
Social Security, Passport, ID number	22726990T		
e-mail	mariaaraceli.garin@ehu.eus	http://www.et.bs.ehu.es/~etpgamaa	
Open Researcher and Contributor ID (ORCID) (*)	H-3118-2015 (0000-0002-1724-5499)		

(*) Mandatory

A.1. Current position

Position	Full Professor		
Initial date	2019/10/09		
Institution	University of the Basque Country, UPV/EHU		
Department/Center	Quantitative Methods Dpt.	Economics and Business Faculty	
Country	Spain	Teleph. number	(34) 94- 6013734
Key words	Analytics, Optimization, Uncertainty, Likelihood		

A.2. Previous positions (research activity interruptions, indicate total months)

Period	Position/Institution/Country/Interruption cause
1989-1995	Associated professor/ UPV/EHU/ Spain/ no interruption
1995-2019	Professor/ UPV/EHU/ Spain/ no interruption

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
Licensed in Mathematics	University of the Basque Country, UPV/EHU	1988
PhD thesis in Mathematics	University of the Basque Country, UPV/EHU	1993

(Include all the necessary rows)

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

M. Araceli Garín holds a full professor position, since 2019, in the Department of Quantitative Methods of the Faculty of Economics and Business of the UPV/EHU. She teaches at undergraduate and graduate level and her teaching concerns Probability, Statistics, Optimization and, sporadically, Computation or Numerical Methods. She has been since 2005 the co-responsible of the master's course Mathematics and Optimization, during the first term of the Intercollegiate Master in Bank and Quantitative Finance, where she has supervised 4 master theses on Stochastic Modeling and Optimization. Moreover, she is the responsible of the master's course Actuarial Statistics: Stochastic Models during the first term of the Master in Actuarial and Financial Sciences. Currently, she has the positive evaluations of six five-year periods of teaching and two positive evaluations (Excellent at period 2009-2014) of the Docencia Program.



Her research focuses on Quantitative Methods, in particular, Modeling and Mathematical Optimization and on the development of algorithmic methodologies for the solution of large-scale linear and mixed 0-1 optimization models, with deterministic or uncertain parameters. She works on the development of algorithms and their implementations in C++ code, by using CPLEX or GAMS. She has worked in various fields of application such as Finance, Production Planning, Supply Chain, Energy or Logistics and Distribution, among others. Since the course 1994/95, professor Garín participates in the Doctoral Program in Economics and since 2003/04, in the program in Quantitative Finance and Economics, being during the period 2015-2020, the responsible of this intercollegiate Doctoral Program. She has supervised three PhD. thesis, one of them with international mention.

Coauthor of more than 150 contributions (see, <https://orcid.org/0000-0002-1724-5499>), some of them in indexed journals (JCR, 16 of them are Q1 in the area Operations Research & Management Science), and other scientific documents, she has got the positive evaluation from the National (Spanish) Commission for Research Evaluation (CNEI) of 5 six-year periods at 2021/12/31.

Since 1994, she has participated as research member (and, sometimes, as responsible researcher (RR)) in more than 20 research projects in competitive calls, which has involved the management of a budget of more than 250,000 euros. In particular, in several projects at national level, regional level or even supported by the university. She has also participated in research contracts with several companies and institutions (Eroski, S.Coop, EUSTAT, LANTIK or ZIV, among others).

She has participated in many national and international conferences and scientific meetings, presenting around about 80 contributions, some of them in invited sessions. In relation to mobility and collaborations with researchers from other universities, she collaborates with several research groups in optimization under uncertainty that currently exist in Europe, both in Spanish universities (U. Miguel Hernández, U. Rey Juan Carlos (URJC)) and internationally (Norwegian University of Science and Technology, Trondheim, Norway; German University of Duisburg-Essen, Germany or Milan Polytechnic University in Milan, Italy).

She has also participated in the call of proposals from the European Community, ERC Sinergy Grant, untitled "New optimization paradigms for solving strategic european problems, SMINLOG", coordinated by professor Laureano Escudero (URJC) coauthor in many of her publications.

Between January 2017 and January 2021, she held a position in the management of her university as Vice-chancellor of Undergraduate and Graduate Studies. Among the competences of this Vice-Rector's Office are the organization and development of the University Entrance Evaluation Test; the organization and academic management of all the official undergraduate, master's and doctoral degrees taught at the UPV/EHU, as well as the organization and management of the UPV/EHU's own master's degrees. Of course, this has meant the responsibility for the management of a millionaire budget in relation to the different activities carried out by the university in the area of studies.

Part C. RELEVANT MERITS

C.1. Publications

1. L.F. Escudero, M.A. Garín and A. Unzueta. On solving the cross-dock door assignment problem. **International Journal of Production Research**, doi:10.1080/00207543.2023.2180307, 2023. **Q1**
2. L.F. Escudero, M.A. Garín, J.F. Monge and A. Unzueta. Some matheuristic algorithms for multistage stochastic optimization models with endogenous uncertainty and risk management. **European Journal of Operational Research**, vol. 285, pp. 988-1001, 2020. **Q1**



3. M.J. Bárcena, M.A. Garín, A.M. Martín, F. Tusell and A. Unzueta. A Web Simulator to assist in the teaching of Bayes Theorem. **Journal of Statistics Education** (ISSN: 1069-1898. Doi: <https://doi.org/10.1080/10691898.2019.1608875>), vol. 27(2), pp.59-78, 2019.
4. 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 & Operations Research**, vol. 98, pp. 84-102, 2018. **Q1**
5. L.F. Escudero, M.A. Garín, C. Pizarro and A. Unzueta Escudero. On efficient matheuristic algorithms for Multi-period Stochastic Facility Location-assignment Problems. **Computational Optimization and Applications**, vol. 70, p. 865-888, 2018. **Q2**
6. L.F. Escudero, M.A. Garín, and A. Unzueta. Cluster Lagrangean decomposition for risk averse in multistage stochastic optimization. **Computers & Operations Research**, 85(1), p. 154-171, 2017. **Q1**
7. L.F. Escudero, M.A. Garín, and A. Unzueta. Cluster Lagrangean decomposition in multi- stage stochastic optimization. **Computers & Operations Research**, 67(1), p.48-62, 2016. **Q1**
8. L.F. Escudero, M.A. Garín, M. Merino, and G. Pérez. On time stochastic dominance induced by mixed integer-linear recourse in multistage stochastic programs. **European Journal of Operational Research**, 249(1), 164-176, 2016. **Q1**
9. L.F. Escudero, M.A. Garín, G. Pérez, and A. Unzueta. Scenario Cluster Decomposition of the Lagrangian dual in two-stage stochastic mixed 0-1 optimization. **Computers & Operations Research**, (40) 1, 362-377, 2013. **Q1**
10. L.F. Escudero, M.A. Garín, M. Merino, and G. Pérez. An algorithmic framework for solving large scale multi-stage stochastic mixed 0-1 problems with nonsymmetric scenario trees. **Computers & Operations Research**, (39) 5, 1133-1144, 2012. **Q1**

C.2. Congress

1. (2022) Oral presentation. M.A. Garín (joint work with L.F. Escudero and A. Unzueta). On Lagrangean Dualization of the RLT1 formulation for the Cross-dock Door Assignment Problem. CLAIO22, XXI Latin-Iberoamerican Conference on Operations Research. Buenos Aires, Argentina, 2022/12/12-15.
2. (2022) Oral presentation. M.A. Garín (joint work with L.F. Escudero and A. Unzueta). Strong bounds from linealized formulations and relaxations of the Cross-dock Door Assignment Problem. EURO, 32nd European Conference on Operational Research. Espoo-Helsinki, Finland, 2022/07/03-06.
3. (2022) Oral presentation. M.A. Garín (joint work with L.F. Escudero and A. Unzueta). On a two-stage stochastic binary quadratic model for Cross-Dock infrastructure Design problem under uncertainty, SCDD. ECSO-CMS, European Conference on Stochastic Optimization- Computational Management Science. Venice, Italy, since 2022/06/29 to 2022/07/01.
4. (2019) Poster. M.A. Garín (joint work with M.J. Bárcena, A.M. Martín, F. Tusell and A. Unzueta). Un simulador para asistir en la enseñanza del teorema de Bayes. IN-RED2017 Congreso Nacional de Innovación Educativa y Docencia en Red. Valencia, Spain, 2017/07/13-14.
5. (2018) Oral presentation. M.A. Garín (joint work with L.F. Escudero, C. Pizarro and A. Unzueta). Matheuristic algorithms for multistage location-assignment problems under uncertainty. INFORMS Annual Meeting. Phoenix, Arizona, USA, 2018/11/04-07.



6. (2017) Oral presentation and session organizer. M.A. Garín (joint work with L.F. Escudero, C. Pizarro and A. Unzueta). Lagrangean bounds for combinatorial stochastic facility location-assignment problems. ECSO2017, European Conference on Stochastic Optimization Rome, Italy, 20-23/09/2017/09/20-23.
7. (2017) Oral presentation. M.A. Garín (joint work with L.F. Escudero, C. Pizarro and A. Unzueta). Lagrangean bounds for multistage location-assignment problems. RSME2017, Congreso de la Real Sociedad Matemática Española. Zaragoza, Spain, since 2017/01/30 to 2017/02/03.
8. (2016) Oral presentation. M.A. Garín (joint work with L.F. Escudero, J.F. Monge and A. Unzueta). Endogenous time consistent risk-averse multistage stochastic programming for mangement of natural disaster's effect mitigation. EWGLA, XXII Euro Working Group on Locational Analysis Meeting. Málaga, Spain, 2016/09/14-16.

C.3. Research projects

1. (2021) IT-1494-22, Research Group in Statistics and Optimization. Grupo de Investigación en Estadística y Optimización (EOpt, 2022-2025). RR1: Aitziber Unzueta and, RR2: María Araceli Garín. Basque Government. Budget: **34000 euros**.
2. (2019) Reference: PID2019-104933GB-I00, Stochastic Network Optimization for Intelligent Transport and Logistics (SNO4ITL, 2020-2023). RR1: María Merino and, RR2: María Araceli Garín. Ministerio de Ciencia e Innovación. Spanish Government. Budget: **55660 euros**.
3. (2018) IT-1252-19, Research Group in Statistics and Optimization. Grupo de Investigación en Estadística y Optimización (EOpt, 2019-2021). RR1: Aitziber Unzueta and, RR2: María Araceli Garín. Basque Government. Budget from the competitive one in call (2020) GIU20/54, Research Group in Statistics and Optimization. Grupo de Investigación en Estadística y Optimización (2021-2023). RR: María Araceli Garín. University of the Basque Country, UPV/EHU. Budget: **12320 euros**.
4. (2016) IT-928-16, Research Group in Statistics and Optimization. Grupo de Investigación en Estadística y Optimización (EOpt, 2016-2018). RR: María Araceli Garín. Basque Government. Budget from the competitive one in call (2017) GIU17/011, Research Group in Statistics and Optimization. Grupo de Investigación en Estadística y Optimización (2018-2020). RR: María Araceli Garín. University of the Basque Country, UPV/EHU. Budget: **20350 euros**.
5. (2015) MTM2015-65317-P, Matheuristic Algorithms and high Performance Computing for stochastic Networks Optimization (MAPCNO, 2016-2018) RR: Gloria Pérez. Ministerio de Economía y Competitividad. Spanish Government. Budget: **39930 euros**. Type of participation: researcher.
6. (2012) MTM2012-31514. Parallel Computing and Decomposition Algorithms in Stochastic mixed integer Optimization with applications (PCDASO, 2013-2015). RR: Gloria Pérez Sainz de Rozas. Financing entity: Ministerio de Economía y Competitividad. Budget: **62010 euros**. Type of participation: researcher.

C.4. Contracts, technological or transfer merits

1. Desarrollo de un algoritmo para la detección de línea a partir de datos metrológicos: energía exportada, contadores desubicados y validación con datos de campo. Financing company: ZIV APLICACIONES Y TECNOLOGIA, S.L. Duration: 25 months, since 2021/09/01 to 2022/07/31 and since 2020/06/10 and 2021/07/30. RR: Juan Ignacio Modroño. Budget: **16152 euros**. Type of participation: researcher.