MINISTERIO DE CIENCIA, INNOVACIÓN Y UNIVERSIDADES

CURRICULUM VITAE (maximum 4 pages)

Part A. PERSONAL INFORMATION

CV date	11/02/2020

First and Family name	Pilar Martínez Ortigosa		
Researcher numbers	Researcher ID	A-3129-2013	
	Orcid code	0000-0001-6514-6543	

A.1. Current position

Name of University/Institution	University of Almería		
Department	Departament of Informatics		
Address and Country	Ctra. Sacramento, s/n, 04120 La Cañada, Almería, Spain		
Phone number		E-mail	
Current position	Full Professor	From	25/07/2018
Espec. cód. UNESCO	3304 1203 2203		
Palabras clave	High Performance Computing; Global Optimization; Metaheuristics; Bioinformatics; Competitive Location.		

A.2. Education

PhD	University	Year
Degree in Physics	University of Granada	1994
Degree in Electronic Engineering	University of Granada	1996
Ph.D. in Computer Science	University of Málaga	1999

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

Web of Science: *Autor*: (Ortigosa, P.*) *OR Autor:* (Ortigosa, PM) OR *Autor:* (Ortigosa, Pilar*)
Scopus: http://www.scopus.com/authid/detail.url?authorId=6602759441
Google Scholar: https://scholar.google.es/citations?hl=es&user=LG8KdJ4AAAAJ

- Three six-year research periods: 1996-2001, 2002-2007, 2008-2013 (max.).
- PhD theses supervised: 3. Internacional:1, european:1
- PhD thesis under supervision: 3
- JCR articles : 49. Q1:20, Q2:18, Q3:10, Q4:1.
- Other articles in journals: 6.
- Books and books chapter: 9.
- Congresses indexed in WoS or Scopus (with publications in series): 18.
- Other international congresses: more than 90.
- Invited conferences: 8.
- Research projects and contracts: 28. (7 as responsable).
- Total cites . WoS: 448, Scopus: 506, Scholar: 964.
- Cites per year in WoS : 2015:52, 2016: 38, 2017: 51, 2018:54, 2019: 72
- H. Index. WoS: 12, Scopus: 14, Scholar: 17.

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

Pilar Martínez Ortigosa is a Full Professor of Architecture and Computer Technology since July 2018 at the University of Almería, Associate Professor at the University of Almería between 2001 and 2018 and Assistant Professor at the University of Almería between 1998 and 2001, always full time.

At the end of her B.Sc. degree (July-1994) in Physical Sciences speciality in Electronics from the University of Granada, she moved to the University of Almeria where she obtained a contract of assistant professor in the Department. of Computer Architecture and Electronics as a consequence of a replacement. Simultaneously she began her studies in Electronic Engineering at the University of Granada and her PhD studies at the University of Almeria. In 1995 she obtained an FPDI scholarship from the Junta de Andalucía, which was extended for another three years. In 1996 she finished her studies in Electronic Engineering and Doctorate studies. In 1999 se defend her doctoral. In 1998 she obtained a position as

assistant professor that was extended until 2001, the date on which she became a Associate Professor. In 2015 she was accredited as a Full Professor, and in July 2018 this competition was held.

Her teaching activity is related to Computer Architecture and Technology, High Performance Computing and Computer Networks. Her research has been focused from the beginning on High Performance Computing (HPC), Metaheuristic Global Optimization and the application to several real problems such as the alignment of images, problems of reconstruction of images and detection of deformable objects among others. One important research line is related to competitive localization by participating in both the design of mathematical models that simulate real problems and metaheuristic optimization. She has developed parallel versions of these algorithms using different architectures, methodologies and parallel programming languages. Recently, she has established contact with other research groups such as the group BIO-HPC Bioinformatics and High Performance of the Catholic University of Murcia from whose collaboration emerged a doctoral thesis and an important research line in drug discovery that is included in the project. The other importan t collaboration is related to the optimal design and working of Thermosolar Plants. This collaboration has been established with Manuel Berenguel Soria from the University of Almeria and it is being very successful.

Her research has been funded since 1994 through her participation in consecutive national projects, being the IP of the last one TIN15-66680; six regional projects (IP in two of them), as well as two European Cost shares (MP1207 and IC0805) and two thematic networks: e-science and CAPAP-H(4,3,2,1). Moreover, she has participated in five contracts with enterprises. Finally, in this transfer section, it is important to mention that the researcher has two intellectual property registries: first one is FEMOEA (Fast and Efficient Multi-Objective Evolutionary Algorithm) (patent number: RTA42612) a multi-objective optimization algorithm, and the second is a mono-objective optimization algorithm, called OPTIPHARM (an innovative evolutionary algorithm for virtual screening) with patent number: RTA-94-18.

The researcher is also a reviewer of prestigious journals included in the JCR, the ANEP and the ANECA.

Part C. RELEVANT MERITS

C.1. Publications (including books)

Relevant JCR publications in last 5 years are shown:

1. J. Fernández, B.G. Tóth, J.L. Redondo, **P.M. Ortigosa.** *The probabilistic customer's choice rule with a threshold attraction value: Effect on the location of competitive facilities in the plane*. Vol. 101, pp 234-249 2019. **Indicios de calidad**: JCR (2017) = 2.962. Subject categories: Engineering, Industrial: 9/44 (**Q1).**
2. M.R. Ferrández, J.L. Redondo, B. Ivorra, A.M. Ramos and **P.M. Ortigosa**. *Preference-based multi-objectivization applied to decision support for High-Pressure Thermal processes in food treatment*. Applied Soft Computing. 79, pp. 326 - 340, 2019. **Indicios de calidad**: JCR = 4,873. Subject categories = Computer Science, Interdisciplinary Applications: 11/106 **(Q1).**
3. S. Puertas-Martin, J.L. Redondo; H. Pérez-Sánchez, **P.M. Ortigosa.** *OptiPharm: An evolutionary algorithm to compare shape similarity*. Scientific Reports. Vol. 9, article number 1398. 2019. **Indicios de calidad**: JCR (2017)= 4.12 . Categoría (posición/total): Multidisciplinary Sciences: 4/64 (**Q1).**
4. N.C. Cruz, S. Salhi, J.L. Redondo, J.D. Álvarez, M. Berenguel and **P.M. Ortigosa**. *Hector, a new methodology for continuous and pattern-free heliostat field optimization*. Applied Energy, Vol. 225, pp. 1123-1131, ISSN: 1996-1073, 2018. **Indicios de calidad**: JCR (2017) = 7.9. Categoría (posición/total): Engineering, Chemical: 4/125 (**Q1).**
5. N.C. Cruz, J.L. Redondo, J.D. Álvarez, M. Berenguel, and **P.M. Ortigosa**. *A two-layered solution for automatic heliostat aiming*. Engineering Applications of Artificial Intelligence, In press, 2018. **Indicios de calidad**: JCR = 2,898. Categoría= Computer Science. Artificial Intelligence: 32/133 (**Q1**).
6. N.C. Cruz, R. Ferri-Garcia, J.D. Álvarez, J.L. Redondo, J. Fernández-Reche, M. Berenguel, R. Monterreal and **P.M. Ortigosa**. *On building-up a yearly characterization of a heliostat field: A new methodology and an application example*. Solar Energy, 2018. **Indicios de calidad**: JCR = 4.374. Categoría (posición/total): Energy & Fuels: 23/97 **(Q1).**

7. M.R. Ferrández, S. Puertas-Martín, J.L. Redondo, B. Ivorra, A.M. Ramos and **P.M. Ortigosa**. *High performance computing for the optimization of high-pressure thermal treatments in food industry*. The Journal of Supercomputing, pp. 1,16, 2018. DOI: 10.1007/s11227-018-2351-4. **Indicios de calidad**: JCR = 1.532. Categoría (posición/total): Computer Science, Theory & Methods: 44/103 (**Q2**);
8. N.C. Cruz, J.L. Redondo, J.D. Álvarez, M. Berenguel, and **P.M. Ortigosa**. Review of software for optical analyzing and optimizing heliostat fields. Renewable & Sustainable Energy Reviews, Vol. 72, pp. 1001-1018, ISSN: 1364-0321, 2017. (doi: 10.1016/j.rser.2017.01.032). **Indicios de calidad**: JCR = 8.050. Categoría= Green & Sustainable Science: 2/31 (**Q1**).
9. J.L. Redondo, J. Fernández, A.G. Arrondo, **P.M. Ortigosa**, *A planar single-facility competitive location and design problem under the multi-deterministic choice rule.* Computers and Operations Research 78, pp. 305 - 315, 2017, (doi: 10.1016/j.cor.2016.09.019). **Indicios de calidad:** JCR = 2,60 Categoría = Operations Research & Management Science: 16/83 **(Q1).**
10. A.G. Arrondo, J.L.Redondo, J. Fernández and **P.M. Ortigosa**. Parallelization of a non-linear multiobjective optimization algorithm: application to a location problem. Applied Mathematics and Computation, n. 255, pp. 114-124, ISSN: 0096-3003, 2015. (doi: 10.1016/j.amc.2014.08.036). **Indicios de calidad**: JCR = 1.366. Categoría= Mathematics, Applied: 49/254 (**Q1**).
11. J.L. Redondo, J. Fernández, J.D. Álvarez, A.G. Arrondo, **P.M. Ortigosa**, *Approximating the* Pareto-*front of a planar bi-objective competitive facility location and design problem.* Computers and Operations Research 62 (2015) 337-349, (doi: 10.1016/j.cor.2014.02.013). **Indicios de calidad**: JCR = 1.988. Categoría = Operations Research & Management Science: 19/82 **(Q1).**

C.2. Research projects and grants (during last 5 years)

I have participated in 5 international projects, 10 national projects, 11 special national actions and 7 regional projects. (PI in 5 projects)

- Soluciones de Alto Rendimiento para retos actuales de la computación científica (HPC4Sci). **RTI2018-095993-B-100.** Ministerio de Ciencia e Innovación. Programa Nacional de Investigación Científica, Desarrollo e Innovación Tecnológica. 01/01/2019 a 31/12/2021. 186461,0 Euros. IP: **Martínez Ortigosa, Pilar**, y Martín Garzón, G. Ester 22 researchers (8 in the research group).
- Computación de Altas Prestaciones para Optimizar Planificaciones de Radioterapia de Intensidad Modulada. UAL18-TIC-A020-B. Proyectos Junta de Andalucía, FEDER-UAL. 15/01/2020 a 14/01/2022. 76.800 Euros. IP Martín Garzón, G. Ester y Lóper Redondo, Juana. 14 researchers.
- Metodologías computacionales para desafíos de la sociedad. **TIN2015-66680-C2-1-R.** Ministerio de Ciencia e Innovación. Programa Nacional de Investigación Científica, Desarrollo e Innovación Tecnológica. 01/01/2016 a 31/12/2019. 122.000,00 Euros. IP: Casado, L.G. y **Martínez Ortigosa, Pilar**, 22 researchers (8 in the research group).
- Modelado y Optimización de Problemas de la Industria Alimentaria basados en Computación de Altas Prestaciones. MOPIA-HPC. PROYECTOS DE EXCELENCIA, JUNTA DE ANDALUCÍA. **P12-TIC-301**. 30/01/2014- 29/01/2019. 127.579,00 EUR. IP: **Martinez Ortigosa, Pilar**. 5 researchers
- Ampliación y Actualización del Servicio de Computación de Altas Prestaciones. Ministerio de Economía y Competitividad. . Subprograma de Proyectos de Infraestructura Tecnológica cofinanciados con FEDER. **UNAM13-1E-1979**. 10/12/2014 - 31/12/2015. 137.771,20 EUR. IP: Martín-Garzón, Gracia Ester. 20 researchers..
- Aplicaciones científicas con alta demanda computacional (ACADECO). Ministerio de Economía y Competitividad. Programa Nacional de I+D+i. **TIN2012-37483-C03-03**. 01/01/2013-31/12/2015. 159.980,00 EUR. IP: González Casado, Leocadio. 20 researchers.
- Computación de altas prestaciones en acción. Procesamiento de Imágenes, Optimización global y Multimedia. Ministerio de Ciencia e Innovación. Programa Nacional de I+D+i. **TIN2008-01117**. 31/12/2008-31/12/2013. 499000 EUR. IP: García Fernández, Inmaculada. 26 researchers.

C.3. Contracts

I have participated in five R+D contracts. (PI in two of them)

- Evaluación de infraestructuras computacionales de alto rendimiento. Contract R+D 1212 U. of Almeria. **Bull España S.A**. From 01/04/2016 to 30/06/2016. 6.189,83 EUR. PI: Leocadio González Casado.
- Evaluación de Infraestructuras de Computación Extrema (eXtreme Computing). Contract R+D. OTRI-UAL-001023**. Bull España S.A.** From 01/03/2012 to 01/03/2014. 27.140 EUR. PI: Martín Garzón, Gracia Ester. 10 researchers.
- Evaluación de Infraestructuras de Computación de Altas Prestaciones. Contract R+D. OTRI-UAL-001024. **Bull España S.A**. From 01/03/2012 to 01/03/2014. 24.426 EUR. PI: **Martínez Ortigosa, Pilar**. 10 researchers.

C.4. Patents

- **Intelectual property: FEMOEA: A Fast and Efficient Multi‐Objective Evolutionary Algorithm**. Number of patent: RTA42612. Date: 16/10/2013. Type of intelectual property: National. Entity holder of rights: Universidad de Almería, Universidad de Murcia.
- **Propiedad Intelectual**: **OPTIPHARM: an innovative evolutionary algorithm for virtual screening.** Número de patente: RTA-94-18. Date: 05/08/2018. Type of intelectual property: National. Entity holder of rights: Universidad de Almería, Universidad Católica**.**

C.5. Awards

- **Award for the scientific quality of the article** "J.L. Redondo, J. Fernández, J.D. Álvarez, A.G. Arrondo and P.M. Ortigosa. Approximating the Pareto-front of continuous biobjective problems: application to a competitive facility location problem. Congreso: International Symposium on Management Intelligent System (IS-MiS) 2012".

C.6. Activity as a reviewer and research evaluator

- **Collaborator with ANEP** as an expert since 2009 without interruption.
- **President** of more than 335 personnel assessment commissions associated with contracts and research projects of the University of Almeria.
- **Reviewer of several prestigious journals**, all of them JCR and related to Global Optimization and High Performance Computing.

C.7 University Management

- **Director of the Secretariat of Management of Research, within the Vice-Rector for Research, Development and Innovation** of the University of Almería, from 05/21/2007 to 07/14/2015. Statutory position with a teaching reduction of 9 credits.
- **Acting Director of the Center for Research in Technologies and Communications (CITIC)** of the University of Almería from 04/30/2008 to 01/14/2015.
- **President of the Quality Assurance Committee of the Degree** in Computer Engineering of the University of Almería since 25/06/2012. Having been a member of the commission since April 2007.
- **Coordinator of the Official Master's Degree** with a Quality Mention entitled "Advanced Computer Techniques" during the 2010/2011 academic year, having belonged to the academic committee during the 2008/2009 and 2009/2010 courses.
- **Member of the organizing committee** of XV Jornadas de Parallelism and the International Workshop on Global Optimization, both held in Almería in 2004 and 2005, respectively
- **President chair** of the international congress on continuous optimization EUROPT'18, July 2018. (http://www2.ual.es/EurOPT18/)
- **University representative for University access Exam** of the subjects of Physics and Industrial Technology II during the courses 16/17 and 17/18