Part A. PERSONAL INFORMATION

CV date	1/12/2024

First name	M. Socorro		
Family name	García Cascales		
Gender (*)	Female	Birth date (dd/mm/yyyy)	
Social Security, Passport, ID number			
e-mail		URL Web	
Open Researcher and Contributor ID (ORCID) (*)			

(*) Mandatory

A.1. Current position

Position	Profesora Titular de Universidad		
Initial date	26/12/2017		
Institution	Universidad Politécnica de Cartagena		
Department/Center	Dpt. Electronics, Computers Arquitecture and Project Engineering		Area: Projects Engineering
Country	Spain	Teleph. number	
Key words	Decision Support System in Industrial Applications, Multicriteria Decision Making and Soft Computing in Project Management and Projects Engineering, Renewable Energy Projects, Project Management in Energy Transition		

A.2. Previous positions (research activity interuptions, art. 14.2.b))

Period	Position/Institution/Country/Interruption cause
1/03/2010-15/12/2017	Profesora Contratada Doctora/Univ- Politécnica de Cartagena / Spain
1/06/07 - 28/02/2010	Profesora Colaboradora/Univ- Politécnica de Cartagena / Spain
1/12/06 - 30/06/07	Profesora Colaboradora Interina/Univ- Politécnica de Cartagena / Spain
3/12/01 - 30/11/06	Ayudante de Escuela Universitaria/ Univ- Politécnica de Cartagena / Spain

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
Ingeniero Técnico Industrial	Universidad de Murcia/Spain	1997
Ingeniero Industrial	Universidad Politécnica de Cartagena/Spain	2001
Doctorado Tecnologías Industriales	Universidad Politécnica de Cartagena/Spain	2009

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

M. S. Garcia-Cascales received the Degree in Industrial Technical Engineering in 1997 by Universidad de Murcia (UMU), **M.S. degree in Industrial Engineering** in 2001 and the **Ph.D. degree in Industrial Engineering** from the Universidad Politécnica de Cartagena (UPCT), Murcia, Spain in 2009. She received the UPCT´s doctorate award in 2010 and Lecturer of Reference for the European Higher Education Award Course 2011/2012. She is Associate Professor in the Dept. of Electronic Computer Architecture and **Project Engineering** of the UPCT.

At research level she has **recognized 3 research six-year periods**. She is member of the Research Group of Advanced Materials for Energy Production and Storage of UPCT and so member of the Models of Decision and Optimization (MODO) Research Group of the University of Granada (Spain). She has participated in 8 research projects with european, national and regional financing as research, 3 European research projects (2 alive), 4 National research projects and 1 regional excellence project. She has 4 contracts with companies or local administrations as research in the group of research with a total of income around of 64000 €. She did **two years research stay at the University of Maine (USA)** under the supervision of Professor Habib Dagher Executive Director, Advanced Structures and Composites Center.

She has published **42 papers in scientific journals of impact**; more than 25 chapters of books two book as editor and she has more than 90 publications in national and international congress.
She has **recognized 4 teaching five-year periods**. She has taught in various first and second cycle subjects, as well as master's, undergraduate and doctoral programs with a mention of quality, and always within the area of Project Engineering (720).
Regarding my contribution to the performance and improvement of the UPCT she was Assistant Manager of the International School of Ph.D (2015-2018) and temporary designation as director of the International School of Ph.D for 3 months. From the academic year 2010/2011 to 2014/2015 Teaching Team Coordinator: “Profession Oriented Teaching” and “Multidisciplinary coordination of real projects”. Between the academic year 2007/2008 from now the last academic year 2020/201 she has participated in 20 teaching projects or educative innovation projects.
She has supervised **7 Doctoral Phd Thesis** one of them with European Mention and another three with International Mention and 4 more Phd thesis under supervision. Supervision of more than 60 final degree projects and in the European Higher Education the supervision of more than 30 Final Master Projects in the Master of Renewable Energies and Master of Industrial Engineering of the Higher Technical School of Industrial Engineering of the UPCT. Tutor of more than 70 students in company practices in different sectors of Industrial Engineering.
During the 2013/2014 academic year, Director of the “Catedra” of the Official College of Industrial Engineers of the Region of Murcia at the UPCT. Certified in Project Management by the International Project Management Association (AEIRPO-IPMA_Spain) (IPMA Level D®).
She has been participating in the preparation of the Report on the socio-economic and labor situation of the Region of Murcia in 2007, carrying out the chapter on "Renewable Energies in the Region of Murcia”. She is Member of the Scientific Committee of the International Congress of Project Management and Engineering (ICPME) since 2012 and other committees in different impact factor journals in editorial as: Elsevier, MDPI, IEEE, Springer, World Scientific Publising Company, Hindawi Publishing Corp. Federación de Asociaciones de Ingenieros Industriales de España (FAIIE) Dyna Ingeniería e Industria. In 2016 President of the organizing committee of the 20th International Congress on Project Management and Engineering, Cartagena (Spain) 2016. Member of Spanish Association of Project Management and Engineering (AEIPRO) since 2003 since 2016 member of the AEIRPO Board and since July 2020 she is the President of the Board of the Association.
Her current scientific interests are:
Decision Support System in Industrial Applications, Multicriteria Decision Making and Soft Computing in Project Management and Projects Engineering, Renewable Energy Projects and Project Management in Energy Transition.

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

C.1. Publications *(see instructions)*

- Gil-García, I.C. ,Fernández-Guillamón, A. **García-Cascales M.S.**, Molina-García, A. Dagher, H.(2024). A green electrical matrix-based model for the energy transition: Maine, USA case example . Energy, Vol. 290
- García, I.C.G. Fernández-Guillamón, A., **García-Cascales, M.S.**, Molina-García, Á. (2023). Multi-factorial methodology for Wind Power Plant repowering optimization: A Spanish case study. Energy Reports, Vol. 11, pp. 179-196
- Gil-García, I.C. Fernández-Guillamón, A. **García-Cascales, M.S**. Molina-García, Á. (2023). Virtual campus environments: A comparison between interactive H5P and traditional online activities in master teaching. *Computer Applications in Engineering Education* 31,6, 1648-1661
- J.M. Sánchez-Lozano; A. Ramos-Escudero; I.C. Gil-García; **M.S. García-Cascales**; A. Molina-García. A (2022) GIS-based offshore wind site selection model using fuzzy multi-criteria decision-making with application to the case of the Gulf of Maine. *Expert Systems with Applications*. 210,
- I.C. Gil-García; **M.S. García-Cascales**; A. Molina-García.(2022) Urban Wind: An Alternative for Sustainable Cities. *Energies*. 15 – 13.

- A. Ramos-Escudero; **M.S. García-Cascales**. (2022) “Barriers behind the Retarded Shallow Geothermal Deployment in Specific Areas: A Comparative Case Study between Southern Spain and Germany”. *Energies*. 15 - 13,
- J.M. Olmos-Noguera; E.J. Renard-Julián; **M.S. García-Cascales**. (2022) “Design of 3D Metric Geometry Study and Research Activities within a BIM Framework”. *Mathematics*. 10 - 9
- Isabel C. Gil-García, Adela Ramos-Escudero, **M.S. García-Cascales**, Habib Dagher, A. Molina-García. (2022) “Fuzzy GIS-based MCDM solution for the optimal offshore wind site selection: The Gulf of Maine case” *Renewable Energy* 2022, 183, 130-147
- A. Sanchez- de Rey; Isabel C.Gil-García; **M. S.García-Cascales**; Á. Molina-García. (2022) Online Wind-Atlas Databases and GIS Tool Integration for Wind Resource Assessment: A Spanish Case Study Energies. MDPI. 15-3, pp.852.
- Isabel C. Gil-García, Ana Fernández-Guillamón, **M. Socorro García-Cascales**, Angel Molina-García (2021). “A Multi-Factorial Review of Repowering Wind Generation Strategies” *Energies* 2021, 14, 6280.
- Adela Ramos-Escudero, **M. Socorro García-Cascales**, Javier F Urchueguía (2021). “Evaluation of the Shallow Geothermal Potential for Heating and Cooling and Its Integration in the Socioeconomic Environment: A Case Study in the Region of Murcia, Spain” *Energies* 2021, Volume 14, Issue 18, 5740.
- Adela Ramos-Escudero, Isabel C. Gil-García, **M. Socorro García-Cascales**, Angel Molina-Garcia. (2021) “Energy, Economic and Environmental GIS–based Analysis of Shallow Geothermal Potential in Urban Areas. A Spanish Case Example”, *Sustainable Cities and Society* (2021),
- **García-Cascales, M.S.**, Molina-García, A., Sánchez-Lozano, J.M., Mateo-Aroca, A., Munier, N. (2021) “Multi-criteria analysis techniques to enhance sustainability of water pumping irrigation” *Energy Reports*, 7, pp. 4623-4632.
- Gil-García, I.C., **García-Cascales, M.S**., Dagher, H., Molina-García, A. (2021) “Electric vehicle and renewable energy sources: Motor fusion in the energy transition from a multi-indicator perspective” *Sustainability* 13 (6), no. 3430.
- Adela Ramos-Escudero, **M Socorro García-Cascales,** Jose M Cuevas, Burkhard Sanner, Javier F Urchueguía (2021) “Spatial analysis of indicators affecting the exploitation of shallow geothermal energy at European scale”, *Renewable Energy*, 167, 266-281.
- Alvaro Rubio-Aliaga, **M. Socorro García-Cascales**, Juan Miguel Sanchez-Lozano, Angel Molina-Garcia (2021) “MCDM-based multidimensional approach for selection of optimal groundwater pumping systems: Design and case example” *Renewable Energy* Vol 163, 213-224.
- Ikram Merini, Angel Molina-García, **M. Socorro García-Cascales**, Mustapha Mahdaoui, Mohamed Ahachad (2020) “Analysis and Comparison of Energy Efficiency Code Requirements for Buildings: A Morocco–Spain Case Study” *Energies* 13 (22) 59-79
- Isabel C. Gil-García, **M. Socorro García-Cascales**, Ana Fernández-Guillamón and Angel Molina-García (2019) “Categorization and Analysis of Relevant Factors for Optimal Locations in Onshore and OffshoreWind Power Plants: A Taxonomic Review” *Journal of Marine Science and Engineering*, 7, 391; 1-21.
- Alvaro Rubio-Aliaga; **M Socorro Garcia-Cascales**, Juan Miguel Sanchez-Lozano, Angel Molina-Garcia (2019) “Multidimensional Analysis of Groundwater Pumping for Irrigation Purposes: Economic, Energy and Environmental Characterization for PV Power Plant Integration” *Renewable Energy*, 138, 174-186
- Verónica Campos-Guzmán; Nieves Espinosa; **M. Socorro García-Cáscales**; Antonio Urbina (2019) “Life Cycle Analysis with Multi-Criteria Decision Making: a review of approaches for the sustainability evaluation of renewable energy technologies” *Renewable & Sustainable Energy Reviews* 104, 343-366.
- Alvaro Rubio-Aliaga; **M Socorro Garcia-Cascales**, Juan Miguel Sanchez-Lozano, Angel Molina-Garcia (2019) “Net-Metering and Self-Consumption Analysis for Direct PV Groundwater Pumping in Agriculture: A Spanish Case Study” *Applied Sciences,* 9 (8) 1646

- Guido C. Guerrero-Liquet, Santiago Oviedo-Casado, Juan M. Sánchez-Lozano, **M. Socorro García-Cascales**, Javier Prior and Antonio Urbina (2018) "Determination of the Optimal Size of Photovoltaic Systems by Using Multi-Criteria Decision-Making Method" *Sustainability*, 10(12), 4594

C.3. Research projects

1. Título del proyecto: Brackish – Groundwater Desalination and Desnitrification for Sustainable Irrigation: Net Zero Waste and Energy (Life–Desirows, Ref. LIFE19 ENV/ES/000447)
   Entidad financiadora: European Commission Entidades participantes: Universidad Politécnica de Cartagena, Regenera Levante, Hidrogea, Arco Sur, Hidro Tec Duración, desde: 09/2020 hasta: 12/2023 - Cuantía de la subvención: 869.853 € Investigador responsable (UPCT): Dr Angel Molina García/ Juan Tomás García Bermejo
2. Título del proyecto: Building BIM digital competences for Tertiary VET in the designing and management of construction projects Entidad Financiadora: European Commission 2020-1-ES01-KA203-083262 Duración, desde: 09/2020 Hasta: 08/2022 Investigadores Responsables: Antonio Vigüeras Rodriguez, Jose Manuel Olmos
3. Título del proyecto: Análisis de modelos de movilidad y Energías Renovables basados en Inteligencia Computacional: Aplicaciones en el ámbito de las Ciudades Sostenibles. (AMMERICA) Entidad financiadora: DGICYT TIN2017-86647-P
   Entidades participantes: Universidad de Granada, Duración, desde: 2018 hasta: 2020 Cuantía de la subvención: 60.137 € Investigador responsable: Jose Luis Verdegay Galdeano y David Pelta. Tipo participación: Investigador
4. Título del proyecto: Quantum Energy,Entidad financiadora: Fundación SENECA Grupos de Investigación de Excelencia 19882/GERM/15 Entidades participantes: Universidad Politécnica de Cartagena Duración, desde: 2016 hasta: 2020
   Cuantía de la subvención: 200.000 € Investigador responsable: Antonio Urbina, Javier Prior- Tipo de participación: Investigador
5. Título del proyecto: Modelos de optimización y Decisión: Aplicaciones y Soluciones para una Sociedad Segura y Sostenible (MODAS 4) Entidad financiadora: DGICYT TIN2014-55024-P Entidades participantes: Universidad de Granada, Duración, desde: 2015 hasta: 2018 Cuantía de la subvención: 61.400€ Investigador responsable: Jose Luis Verdegay Galdeano y David Pelta. Tipo de participación: Investigador

C.5. Premios

Premio Extraordinario de Doctorado Curso 2009/2010

C.6. Participación en comités y representaciones internacionales

Editora invitada: Sustainability (MDPI) Special Issue Soft Computing in Sustainabiltiy
Revisora en Revistas indexada JCR: Energy Conversion Management, Robotics and Computer Integrated Manufacturing, European Journal of Operational Research, Computers and Mathematics with Applications, Computers and Industrial Engineering, Omega The International Journal of Management Science, Energy Strategy Review, Information Sciences, Information Systems, Fuzzy Sets and Systems, Soft Computing, International Journal of Uncertainty, Fuzziness and Knowledge-Based Systems, International Journal of Information Technology & Decision Making, Revista Dyna Ingeniería e Industria, Sustainability, Energies.
Revisora otras revistas: Advances in Fuzzy Systems, Journal of Applied Mathematics, SpringerPlus, Iranian Journal of Fuzzy Systems
Comités Científicos: International Congress on Project Engineering (2012, 2013, 2014, 2015, 2016, 2017, 2018, 2020, 2021,2022,2023)