

Part A. PERSONAL INFORMATION		CV date	13/05/2020
First and Family name	Montserrat Díez Mediavilla		
Social Security, Passport, ID number		Age	
Researcher numbers	Researcher ID	8243080400	
	Orcid code	0000-0002-4957-9530	

A.1. Current position

Name of University/Institution	University of Burgos		
Department	Elecromechanical Engineering		
Address and Country	Escuela Politécnica Superior/Avda Cantabria s/n 09006 Burgos		
Phone number	0034947258925	E-mail	mdmr@ubu.es
Current position	PTUN	From	2008
Espec. cód. UNESCO	332200 - 331300 – 220206 - 221302 - 221309 -221310		
keywords	Energy efficiency; Renewable energy; Solar Radiation		

A.2. Education

PhD	University	Year
Physical of the atmosphere	University of Valladolid	2001

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

3 research segments (sexenios): 1999-2005, 2006-2011 and 2012-2017.

31 articles referenced JCR-SCI (18Q1), 6 open access publications. 253 citations in 239 documents.

h Index $h = 9$ (Source: Web of Science).

46 contributions to national and international congresses.

21 participations as researcher in projects in competitive calls (regional, national and International).

7 Research Projects as P.I.

4 patents with prior examination.

Supervisor of 3 Ph.D, 4 MSc. and 96 Final Degree Works.

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

Professor at University of Burgos since 1990, in the area of knowledge of Electrical Engineering, she teaches the subjects related to electrical energy and renewable energy in the degree of Industrial Engineering, Electronic and Automation specialty and Power Production Facilities in the Master of Industrial Engineering. She has collaborated in various doctoral programs, in the University of Burgos as well as inter-university programs with the Universities of Valladolid, País Vasco and Vigo.

After the completion of her doctoral thesis in the research group of Renewable Energies of the University of Valladolid, she has continued her collaboration in different research and training activities of this group until 2008. From 2005 to 2010 she has developed activities as consultant for companies and investors of the photovoltaic sector. She has done the design and direction of the execution of two complete high capacity PV facilities (more than 1MW peak power) and developed all the reports and administrative management of the projects. Currently, she continues to provide consulting services for companies about management, and performance improvement of PV ground connected facilities.

From 2008, her research activity is developed at Burgos University. She is focused on the coordination of the research group SWIFT (solar and Wind Feasibility technologies) together with the corresponding teaching. The work developed with the research group has resulted in the publication of 19 articles in journals of the first quartile of JCR-SCIE, presentation of various works to prestigious congresses in the field of solar energy, (European Photovoltaics Solar Conference and Exhibition) and 8 research projects in competitive calls, 7 of them as PI. She

has supervised three PhD works already presented and other 3 are in its last and first year of realization, respectively. 4 patents with prior examination and different prizes in the contest of Prototypes and Proof of Concept of the UBU are also important research results of the SWIFT group.

The work of the SWIFT group is based on the modeling of the solar resource and its various components and is completed by the development of auxiliary devices such as solar trackers, devices for the measurement of diffuse radiation, as well as new technologies for solar energy, photovoltaic and thermal hybrid panels (PVT) and photovoltaic and thermoelectric (PV / TEG) ones.

Part C. RELEVANT MERITS

C.1. Publications (including books)

1. M.I. Dieste-Velasco et al. *A new luminous efficacy model for daylight availability in Burgos, Spain*. Renewable Energy. 2020. 146, 2812 -2826.
2. Suárez García, A. et al. *Benchmarking of meteorological indices for sky cloudiness classification*. Solar Energy. 2020
3. Álvarez-Feijoo, M.A. et al. *Compounds with Epoxy Resins and Phase Change Materials for storage in Solar Applications*. Materials. 2019. V. 12, 21, 1-13
4. M.I. Dieste-Velasco et al. *Performance of global luminous efficacy models and proposal of a new model for daylighting in Burgos, Spain*. Renewable Energy. 2019. 133, 1000-1010.
5. M. Díez-Mediavilla et al. *The PV Potential of Vertical Façades: a classic approach using experimental data from Burgos, Spain*. Solar Energy. 2019. 177, 192-199.
6. Suárez-García, A., et al., *Seasonal characterization of CIE standard sky types above Burgos, northwestern Spain*. Solar Energy, 2018. 169: p. 24-33
7. Pérez-Burgos, A., et al., *Retrieval of monthly average hourly values of direct and diffuse solar irradiance from measurements of global radiation in Spain*. Journal of Renewable and Sustainable Energy, 2018. 10(2): p. 023707.
8. Dieste-Velasco, M.I., M. Díez-Mediavilla, and C. Alonso-Tristán, *Regression and ANN Models for Electronic Circuit Design*. Complexity, 2018. **2018**: p. 9.
9. Suárez-García, A., et al., *Estimation of photovoltaic potential for electricity self-sufficiency: A study case of military facilities in northwest Spain*. Journal of Renewable and Sustainable Energy, 2017. **9**(5): p. 053503.
10. Simón-Martín, M.d., M. Díez-Mediavilla, and C. Alonso-Tristán, *Real Energy Payback Time and Carbon Footprint of a GCPVS*. AIMS Energy, 2017. **5**(1): p. 77-95.
11. Rodríguez-Amigo, M.C., et al., *Mathematical interpolation methods for spatial estimation of global horizontal irradiation in Castilla-León, Spain: A case study*. Solar Energy, 2017. **151**: p. 14-21.
12. Pérez-Burgos, A., et al., *Analysis of solar direct irradiance models under clear-skies: Evaluation of the improvements for locally adapted models*. Journal of Renewable and Sustainable Energy, 2017. **9**(2): p. 023703.
13. de Simón-Martín, M., C. Alonso-Tristán, and M. Díez-Mediavilla. *Diffuse solar irradiance estimation on building's façades: Review, classification and benchmarking of 30 models under all sky conditions*. Renewable and Sustainable Energy Reviews, 2017. **77**: p. 783-802.
14. de Simón-Martín, M., M. Díez-Mediavilla, and C. Alonso-Tristán, *Shadow-band radiometer measurement of diffuse solar irradiance: Calculation of geometrical and total correction factors*. Solar Energy, 2016. **139**: p. 85-99.
15. de Simón-Martín, M., et al., *New device for the simultaneous measurement of diffuse solar irradiance on several azimuth and tilting angles*. Solar Energy, 2015. **119**: p. 370-382.
16. De Simón-Martín, M., C. Alonso-Tristán, and M. Díez-Mediavilla, *Sun-trackers profitability analysis in Spain*. Progress in Photovoltaics: Research and Applications, 2014. **22**(9): p. 1010-1022.
17. de Simón-Martín, M., Alonso-Tristán, C. and Díez-Mediavilla, M., *Performance Indicators for Sun-Tracking Systems: A Case Study in Spain*. . Energy and Power Engineering, 2014. **6**: p. 292-302.

18. Díez-Mediavilla, M., et al., *Performance of grid-tied PV facilities based on real data in Spain: Central inverter versus string system*. Energy Conversion and Management, 2014. **86**(0): p. 1128-1133.
19. Díez-Mediavilla, M., et al., *Performance of grid-tied PV facilities: A case study based on real data*. Energy Conversion and Management, 2013. **76**(0): p. 893-898.
20. Díez-Mediavilla, M., et al., *Performance analysis of PV plants: Optimization for improving profitability*. Energy Conversion and Management, 2012. **54**(1): p. 17-23.
21. Alonso-Tristán, C., et al., *Small hydropower plants in Spain: A case study*. Renewable and Sustainable Energy Reviews, 2011. **15**(6): p. 2729-2735.
22. Díez-Mediavilla, M., et al., *Implementation of PV plants in Spain: A case study*. Renewable & Sustainable Energy Reviews, 2010. **14**(4): p. 1342-1346.
23. E. Montero García, M. Díez Mediavilla, M. J. González Fernández, R. Pizarro y M. Ortega. *Teaching a Postgraduate Engineering Programme on Renewable energy in the Building Sector*. Begell House Publishing, International Network for Ingeneering Education and Research. Pp. 87-98; (2007).

C.2. Research projects and grants

- 1. Metodología para la rehabilitación energética de edificios de uso público en Castilla y León mediante integración fotovoltaica.** ORDEN EDU/667/2019 de 5 de Julio, Castilla y León. IP: Montserrat Díez Mediavilla. Julio/2019 – 31/12/2021. 12.000 €
- 2. Valoración técnica de los niveles de exposición a radiación solar en trabajos de exterior: identificación de grupos de riesgo y medidas de prevención.** (INVESTUN/19/BU/004). IP: Montserrat Díez Mediavilla. Convocatoria de la Consejería de Empleo de la Junta de Castilla y León. Julio/20019 – 31/12/2021; 64.000 €
- 3. Spectral Analysis of the Solar Radiation: Climatic, Biological and Energetic Applications.** RTI2018-098900-B-I00. IP Cristina Alonso Tristán y Montserrat Díez Mediavilla. Ministerio de Ciencia, Innovación y Universidades. 157.300 €
- 4. Desarrollos Tecnológicos con PCM's (Phase Change Materials) desde un enfoque global.** (BU034U16) Junta de Castilla y León. Cristina Alonso Tristán. (Universidad de Burgos). 23/04/2016- 30/06/2018; 116,667 €
- 2. Medida y modelización de la iluminación solar para la optimización de técnicas de iluminación natural en la edificación.** (ENE2014-54601-R), Ministerio de Economía y Competitividad. RETOS DE LA SOCIEDAD. Montserrat Díez Mediavilla (Universidad de Burgos). 01/01/2015-31/12/2018; 128,260 €
- 3. Desarrollo de paneles híbridos fotovoltaicos y térmicos (PVT) con seguimiento solar para integración arquitectónica.** JUNTA DE CASTILLA Y LEÓN. (BU358A12-2). Montserrat Díez Mediavilla. (Universidad de Burgos). 01/01/2013-31/12/2015; 30,000 €
- 4. Medida y modelización de variables climáticas y radiativas para optimización y diseño de instalaciones solares fotovoltaicas integradas en edificios.** MICIIN. Programa Nacional de Proyectos de Investigación Fundamental (ENE2011-27511). Montserrat Díez Mediavilla. 1/1/2012-31/12/2014; 121,000 €
- 5. Automatización, medida y modelado de variables climáticas para el uso eficiente de los recursos solares en Castilla y León** JUNTA DE CASTILLA Y LEÓN. Montserrat Díez Mediavilla. Desde 01/01/2008-31/12/2010; 11,100 €
- 6. Componentes directa y difusa de la radiación solar UV-B e índices de UV. Medida y modelización.** MINISTERIO DE EDUCACIÓN Y CIENCIA. Julia Bilbao Santos (CGL2006/06519). Desde 01/10/2006-30/09/2009; 65,000€

7. Evaluacióm Climatologica, Medioambiental y Agronomica de la Radaición Solar y de los Aerosoles Atmosféricos. (CLIMARAD). JUNTA DE CASTILLA Y LEÓN (VA001C05). Desde 01/01/2005-31/12/2007; 93,500€.

8. Funcionamiento-actividad investigadora del GOA-UVA. JUNTA DE CASTILLA Y LEÓN (GR220). Desde 01/01/2008-31/12/2010; 158,942€.

9. Renewable energies in the Building Sector (RESINBUIL). EUROPEAN COMMISSION (EIE/05/210/SI2.420236). Desde 01/01/2006-31/12/2008; 46,225€

C.3. Contracts

Research project for the company CIDESOL SL, subsidized by the Junta de Castilla y León through FEDER Funds "Study and proposal to improve the performance of a 100 kW photovoltaic installation connected to the grid and design of a self-sufficient energy building" (180,000 €).

C.4. Patents

1. Miguel de Simón Martín; David González Peña; Montserrat Díez Mediavilla; Cristina Alonso Tristán. P201400714. Dispositivo de medida de radiación difusa y procedimiento de utilización del mismo, España. 2016. Universidad de Burgos.

2. Miguel de Simón Martín; Francisco Javier Gómez Gil; Justo Ruiz Calvo; Jesús Peláez Vara; Alberto Martínez Martínez; Juan Vicente Martín Fraile; Cristina Alonso Tristán; Montserrat Díez Mediavilla. 200901629. Seguidor solar basado en cinemática paralela de accionamiento en línea. España. 2010. Universidad de Burgos.

3. Miguel de Simón Martín; Francisco Javier Gómez Gil; Justo Ruiz Calvo; Jesús Peláez Vara; Alberto Martínez Martínez; Juan Vicente Martín Fraile; Cristina Alonso Tristán; Montserrat Díez Mediavilla. 200901628. Seguidor solar basado en cinemática paralela de accionamiento individual. España. 2010. Universidad de Burgos.

4. David González Peña, Montserrat Díez Mediavilla, Cristina Alonso Tristán, Diego Granados López, Iván Alonso de Miguel, M^a Isabel Dieste Velasco, M^a Carmen Rodríguez Amigo y Teófilo García Calderón. N^o P201930047. Panel Solar Hibrido.

C.5. Institutional responsibilities.

Director or secretary of the postgraduate course for specialists in renewable energies at the University of Burgos: "Specialist in Project Engineering of Solar Installations in Building" held during the 05/06, 06/07 and 07/08 courses.