

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

**Part A. PERSONAL INFORMATION**

**CV date** 01/06/2023

First name	Aurora		
Family name	Gil de Castro		
Gender (*)		Birth date (dd/mm/yyyy)	
Social Security, Passport, ID number			
e-mail		URL Web	
Open Researcher and Contributor ID (ORCID) (*)		0000-0003-2849-2417	

(\*) Mandatory

**A.1. Current position**

Position	Associate profesor (Titular de Universidad)		
Initial date	01/04/2021		
Institution	Universidad de Córdoba		
Department/Center	Depart. of Electronics and Computer Engineering		
Country	Spain	Teleph. number	
Key words	Power Electronics, Power quality, harmonics, LED lamps, supraharmomics		
5-year teaching periods (n. tramos docentes)	2		
5-year research periods (n. sexenios)	2		

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

Period	Position/Institution/Country/Interruption cause
2019-2021	Associate Professor/ University of Cordoba (PCD)/Spain
2016-2019	Assistant Professor / University of Cordoba (PAD)/Spain
2011-2016	Teaching assistant / University of Cordoba (interion)/Spain
2009-2011	Researcher / University of Cordoba/Spain

**A.3. Education**

PhD, Licensed, Graduate	University/Country	Year
PhD Degree in Engineering and Technology	University of Cordoba	2012
Master in Automation and Industrial Electronics	University of Cordoba	2009
Bachelor in Industrial Electronics	University of Cordoba	2006

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

Aurora R. Gil de Castro is Associate Professor at the Department of Electronics and Computer Engineering, Universidad de Córdoba, Spain. She received her PhD and B.Sc. degrees from University of Cordoba in 2012 and 2009. Since 2009 she is working at University of Cordoba, starting with research contracts then as a Professor since 2011, concretely in Technology Electronics area. She has taught in Degree and Master level at University of Cordoba. She is doing research at Industrial Electronics and Instrumentation R&D Group (TIC-240). Since 2011 she is also doing research at Electric Power Engineering Group in Luleå University of



Technology (led by Prof. Math Bollen). She has participated in 15 R&D projects and/or contracts, including the management of 5 of them, at local and Spanish and Swedish state levels. Among them, she is the main researcher of two contracts with the company Imesapi S.A accounting for 85.405 €, and she is one of the main researcher of the Europe project 'Integration of combined cooling, heating and power microgrids in zero-energy public buildings under high power quality and continuity of service requirements' funded by INTERREG SUDOE. Moreover, she has been the main researcher of five research projects funded by University of Cordoba, all with research done at the ONG Down Association in Cordoba.

She has published as both author and coauthor in several papers in journals and international conferences and has more than 72 publications in these topics (30 JCR publications from which 21 are within the two first quartiles). She has participated in two tutorials (ICREPP'14 and ICHQP'14) and has participated at international workshops as 'Workshop on Power Quality in Future Networks' in London, and 'Workshop on power system harmonics', in Dresden. Her research area is Smart Grids, Internet of Things and Power Quality, more concretely, low frequency and high frequency harmonics on electronic loads.

She has been evaluator of R&D&I for the Research Council of Norway and is regular reviewer of several IEEE, Lighting Research and Technology, MPDI and Elsevier Journals as Electric Power System Research. She has participated in scientific committee of four international conferences and in the management of four international conferences.

She is Committee member at IEC/CENELEC TC-77/SC-77A/WG-1; ISO International Organization for Standardization AEN/CTN-208/SC-77-210. She is chapter coordinator at IEEE Spanish Section since July'21, treasure in IEEE WIE Spain since June'22, panel member of WiE (Women in Energy) CIGRE since november'22.

She has been the coordinator of the Electronic Engineering Degree at University of Cordoba for three years and is involved in different boards for master thesis approval and international relationship. She is involved in quality assurance boards at Degree and Master level, being the chair and secretary of the board for six years.

She has supervised 3 doctoral theses within the last 10 years and is now co-supervising 2 doctoral thesis, one at the University of Cordoba, one at Lulea University of Technology (Sweden).

She has participated in eight teaching innovation projects, being the main research of four of them. She has supervised more than 26 final projects at Bachelor and Master level.

In addition, the scientific activity has been recognized with two six-year research period by the National Committee for the Evaluation of Research Activities (CNEAI) of the Spanish Ministry of Education, Culture and Sports (2009-2014, 2015-2020). Moreover, she has been recognized 4 tranches (5 is the maximum) of teaching, research, and management activities by the *Junta de Andalucía*.

Some additional information:

1. - Publications in indexed journals: JCR -SCI (30)
2. - Total publications in the first quartile Q1: 11
3. - Total publications in the first quartile Q2: 10
4. - Author of 4 publications in non-indexed journals
5. - Author of 55 scientific articles at IEEE International Conferences and Congresses.
6. - 35% of publications with international co-authors
7. - Total number of appointments received: 1145 (648 in the last five years) (according to Google Scholar)
8. - h Index: 20 in total (15 in the last five years) (according to Google Scholar)
9. - i10 Index: 38 in total (23 in the last five years) (according to Google Scholar)

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

### **C.1. Publications** (*see instructions*)

1. Scientific paper. Gutierrez-Ballesteros E.; Rönnberg S.; Gil-de-Castro A., 2022, Characteristics of voltage fluctuations induced by household devices and the impact on LED lamps, International Journal of Electrical Power and Energy Systems. (Q1)



2. Scientific paper. Garrido-Zafra, Joaquin; Gil de Castro, Aurora del Rocio; Savariego Fernandez, Rafael; Linan Reyes, Matias; Garcia, Felix; Moreno-Munoz, Antonio. 2022. IoT cloud-based Power Quality extended functionality for Grid-Interactive Appliance Controllers in IEEE Transactions on Industry Applications, 58 (3), art. no. 21728060, pp. 3909 - 3921 (Q1).
3. Scientific paper. Gutierrez-Ballesteros E.; Gil-de-Castro A.; Rönnerberg S.; Garrido-Zafra J., 2021, Impact factors in LED lamp measurement reproducibility, Lighting Research & Technology. (Q2)
4. Scientific paper. Linan-reyes, M., Garrido-zafra, J., Gil-de-castro, A., Moreno-munoz, A., 2021, Energy management expert assistant, a new concept, Sensors, 21 (17), art. no. 5915 (Q1)
5. Scientific paper. Gil-de-Castro, A., Bollen, M.H.J., Rönnerberg, S.K., 2021, Variations in harmonic voltage at the sub-10-minute time scale, Electric Power Systems Research, 195, art. no. 107163 (Q2)
6. Scientific paper. Garrido-Zafra, J.; Moreno-Munoz, A.; Gil De Castro, A.; Bellido-Outeirino, F.; Medina-Gracia, R.; Gutierrez-Ballesteros, E., 2021, Load Scheduling Strategy to Improve Power Quality in Electric-Boosted Glass Furnaces, in IEEE Transactions on Industry Applications, 57 (1), art. no. 9217979, pp. 953-963 (Q1)
7. Scientific paper. Bollen, M.; de Castro, A.G.; Rönnerberg, S., 2020, Characterization methods and typical levels of variations in rms voltage at the time scale between 1 second and 10 minutes, Electric Power Systems Research. (Q2)
8. Scientific paper. Alonso-Rosa, M., Gil-de-Castro, A., Moreno-Munoz, A., Gutierrez-Ballesteros, E., Cañete-Carmona, E., 2020, An IoT based mobile augmented reality application for energy visualization in buildings environments, Applied Sciences 10(2), 600 (Q2)
9. Scientific paper. Medina-Gracia, R.; Gil de Castro, A.; Garrido-Zafra, J.; Moreno-Munoz, A.; Cañete-Carmona. E., 2019, Power Quality Sensor for Smart Appliance's Self-Diagnosing Functionality, IEEE Sensors Journal 19(20). (Q1)
10. Scientific paper. Alonso-Rosa, M.; Gil-de-Castro, A.; Medina-Gracia, R.; Moreno-Munoz, A.; Cañete-Carmona E., 2018, Novel Internet of Things Platform for In-Building Power Quality Submetering, Appl. Sci, 8(8), 1320. (Q2)

**C.2. Congress**, indicating the modality of their participation (invited conference, oral presentation, poster)

1. Vera Coca, F., Gil de Castro, A. Savariego Fernandez, R., Medina-Gracia, R., Interactive visualization of IoT power quality data on mobile devices, 2021 IEEE International Conference on Environment and Electrical Engineering and 2021 IEEE Industrial and Commercial Power Systems Europe (EEEIC/I&CPS Europe), 1-6, 2021.
2. Garrido-Zafra, J., Gil-De-Castro, A., Savariego-Fernandez, R., Linan-Reyes, M., Moreno-Munoz, A., Garcia-Torres, F. A Novel Microgrid Responsive Appliance Controller. (2020) Proceedings - 2020 IEEE International Conference on Environment and Electrical Engineering and 2020 IEEE Industrial and Commercial Power Systems Europe, EEEIC / I and CPS Europe 2020, art. no. 9160723.
3. Ronnberg, S.K., Gil-De-Castro, A., Medina-Gracia, R. Supraharmonics in European and North American Low-Voltage Networks (2018) Proceedings - 2018 IEEE International Conference on Environment and Electrical Engineering and 2018 IEEE Industrial and Commercial Power Systems Europe, EEEIC/I and CPS Europe 2018, art. no. 8493930. Cited 9 times.
4. Gil-De-Castro, A., Moreno-Garcia, I.M., Pallares-Lopez, V., Matabuena, D., Medina-Gracia, R., Moreno-Munoz, A. Implementation of an Educational Platform on Power Quality (2018) Proceedings of 2018 Technologies Applied to Electronics Teaching, TAE 2018, art. no. 8476087. Cited 1 time.



5. Medina-Gracia, R., Gil-De-Castro, A., Alonso-Rosa, M., Canete-Carmona, E., Moreno-Munoz, A., Matabuena, D. An IoT Low-Cost Voltage Sag Detector (2018) Proceedings - IEEE 16th International Conference on Industrial Informatics, INDIN 2018, art. no. 8472001, pp. 55-60. Cited 2 times.
6. Gil-De-Castro, A., Medina-Gracia, R., Ronnberg, S.K., Blanco, A.M., Meyer, J. Differences in the performance between CFL and LED lamps under different voltage distortions (2018) Proceedings of International Conference on Harmonics and Quality of Power, ICHQP, 2018-May, pp. 1-6. Cited 20 times.

**C.3. Research projects**, indicating your personal contribution. In the case of young researchers, indicate lines of research for which they have been responsible.

1. Flicker-free lighting, influence from supply voltage. Swedish Energy Agency. 01/09/2020-31/08/2023. Main researcher: Sarah Ronnberg
2. SOE3/P3/E0901, Integration of combined cooling, heating and power microgrids in zero-energy public buildings under high power quality and continuity of service requirements (IMPROVEMENT). INTERREG SUDOE. Antonio Moreno Muñoz and Aurora Gil de Castro. (Universidad de Córdoba). 01/10/2019-30/09/2022. 252.400 €
2. Adequacy of the prototypes developed to correct the effects caused by non-linear loads in public lighting networks at the level of industrial prefabrication. Main researcher: Aurora Gil de Castro (Universidad de Cordoba) 10/01/19-09/01/20. 55.519,62 € Granted by IMESAPI, S.A. through CDTI.
3. Development of a prototype for the attenuation of the effects of non-linear loads on public lighting networks. Main researcher: Aurora Gil de Castro (Universidad de Cordoba) 23/04/2018-23/01/2019. 29.886,00 € Granted by IMESAPI, S.A.
4. COntrol and Management of Isolable NanoGrids: Smart Appliances Management (COMING-SAM). Ministerio de Economía, Industria y Competitividad. Main researcher: Antonio Moreno Muñoz. (Universidad de Córdoba). 30/12/2016-29/12/2019. 93.775 €
5. Light Intensity variations of LED lighting-relation with disturbances in the voltage, Project number 2016-003925. 01/07/2016-31/08/2020. Granted by *Swedish Energy Agency*.
6. Smart Community Energy Management System (SCEMS). Ministerio de Economía y Competitividad. Plan Estatal de Investigación Científica y Técnica y de Innovación 2013-2016 (Proyectos I+D Excelencia). Antonio Moreno Muñoz. (Universidad de Córdoba). 01/01/2014-30/06/2017. 34.727,00 €
7. Stochastic planning of Smart electricity distribution networks. Swedish Research Council. Project number 38337-1. 01/01/2014-31/12/2017
8. EXP 00063456 / ITC-20131002, Total Integrated GRid Intelligent System (TIGRIS) CDTI. FEDER ININTERCONECTA 2013. TELVENT ENERGÍA S.A.. PROGRAMA FEDER ININTERCONECTA 2013. CDTI.. (Universidad de Cordoba). 01/08/2013-31/01/2015. 151.416,98 €
9. 12013112 G-GI3002/IDIF, Integración de Tecnologías para Telegestión de los Sistemas de Iluminación Pública (IT2SIP) Agencia de Obra Pública de la Junta de Andalucía. Contratos de servicios de proyectos de I+D+I relativos al ámbito competencial de la Consj. de Fomento JJ.AA. 2011-2013. FRANCISCO JOSÉ BELLIDO OUTEIRIÑO. (Universidad de Cordoba). 01/10/2013-30/06/2015. 373.107,62 €

#### **C.4. Contracts, technological or transfer merits**

1. Grid-Interactive Efficient Building (RIS) Modalidad 4.1. VI Plan Propio Galileo de Innovación y Transferencia de la Universidad de Córdoba. 01/12/2020- 31/12/2021. 4.000 €
2. SENSEable Nursing homeS (SENS). Modalidad 4.1. IV Plan Propio Galileo de Innovación y Transferencia de la Universidad de Córdoba. 01/06/2018- 31/05/2019. 2.000 €
3. Internet of Lighting in nUrSIng hOMes (ILUSIOM). Modalidad 4.1. III Plan Propio Galileo de Innovación y Transferencia de la Universidad de Córdoba. 01/06/2017- 31/05/2018. 3.000 €