



CURRICULUM VITAE (CVA)

IMPORTANT – The Curriculum Vitae cannot exceed 4 pages.

Part A. PERSONAL INFORMATION

CV date 05/06/2023

First name	Eduardo		
Family name	Cañete Carmona		
Gender (*)	Male	Birth date	-
DNI	-		
e-mail	ecanete@uco.es	URL Web	
Open Researcher and Contributor ID (ORCID) (*)	0000-0002-0384-1660		

(*) Mandatory

A.1. Current position

Position	Associate Professor		
Initial date	16/11/2020		
Institution	University of Córdoba		
Department/Center	Electronic and Computer Engineering	EPSC	
Country	Spain	Teleph. number	957212062
Key words	Wireless sensor networks, IoT, algorithms, sensors, instrumentation, embedded systems, monitoring systems		

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

Period	Position/Institution/Country/Interruption cause
01/08/2009 – 31/07/2011	Investigador Excelencia J.A / University of Málaga / Spain
01/08/2011 – 31/07/2012	Support Research Excellence / University of Málaga / Spain
01/09/2012 – 31/12/2013	Fulltime Scientific Researcher / KU Leuven / Belgium
09/01/2013 – 08/01/2014	Support Research Excellence / University of Málaga / Spain
16/01/2014 – 07/04/2016	Researcher at European Project / University of Málaga / Spain
08/04/2016 – 28/09/2020	Temporary Teacher / University of Córdoba / Spain
29/09/2020 – 15/11/2020	Assistant Professor Doctor / University of Córdoba / Spain
16/11/2020 – present	Associate Professor / University of Córdoba / Spain

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
Long cycle degree in Computer Engineering	University of Málaga (Spain)	2007
Master's Degree in Software Engineering and Artificial Intelligence	University of Málaga (Spain)	2009
PhD in Computer Engineering	University of Málaga (Spain)	2012

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

His research activity started in 2008 as member of two different research groups:

2008 – 2016, as member of the TIC-136 group, which name was 'Ingeniería del Software' (main researcher Prof. Dr. Jose María Troya Linero). He was awarded with a FPI project fellowship to perform the doctoral thesis entitled: 'USEME: A Service-Oriented Framework to

Facilitate WSN Application Development, which he defended in 2012 obtaining the highest grade, cum laude. He also got the mention 'European Doctorate' after performing a 4-month research stay at the Department of Computer Systems of the Trinity College of Dublin (Ireland) where he collaborated in the design and implementation of a middleware for large wireless sensor networks. The thesis yielded 5 scientific articles in indexed international journals.

After the thesis he got one post-doctoral fellowship that allow him to perform an 8-month research stay at Department of Computer Science of the KU Leuven (Belgium), where he collaborated with the iMinds-DistriNet research group in several research projects. As a result of this collaboration, two works were presented, one of them in the WoWMoM'13 congress (category A) and another in the IEEE Sensors journal (Q2).

Through this research group, Dr. Eduardo has also participated in several autonomous, national and international research projects and he has also published articles on high-quality research journals.

2016 – present, as member of the TIC-240 group, which name is 'Instrumentación Electrónica' (main researcher Prof. Dr. Antonio Moreno Muñoz) where he is involved in new research projects related to the development of embedded systems to improve the monitoring of parameters in agri-food processes through the application of sensor systems, instrumentation, communications and data processing.

From **DORA's** point of view, the work carried out by Eduardo during his research is reflected in the following data:

- Normalized Impact (Scopus): 1.44
- JCR publications: 17 (7xQ1, 8xQ2, 2xQ4)
 - o [First author: 66%, Second author: 13%, Last Author: 13%] → Total: 92%
- SJR publications: 1 (1xQ2)
- H-Index (SCOPUS): 10
- 206 citations by 187 documents.
- Research projects participations: 14 (2xEuropeans, 5xNationals, 7xAutonomics)

His scientific contributions can be classified into two main groups. The oldest publications (first group) are focused on developing a framework to facilitate the design and development of applications based on wireless sensor networks, for which a high-level service-oriented language for programming sensor networks was developed. Middleware was also developed to support this language and finally other works was also developed to enrich the framework as a tool for integrating light databases in nodes with few resources, as well as a model to enable wireless reprogramming of sensors using neural networks.

The second stage of his research has been more focused on the development of different monitoring systems with wireless connectivity to be able to follow the evolution of the data obtained by the sensors in real time. The work has been very diverse: monitoring of high-speed train tracks to control their structural health, IoT devices to monitor the quality of the electricity supply and, currently, IoT systems and devices to monitor the processes of oenological evolution in wineries. All these works have arisen from research projects where we have collaborated with the industrial sector.

He is currently collaborating with the Pérez Barquero winery, one of the most important wineries in Andalusia in the production of fortified wines. Specifically, the possibility of developing new IoT systems to control the evolution of the oenological processes during the ageing of these wines in barrels as well as their evolution in the fermentation tanks is being analyzed. Based on this collaboration, a doctoral thesis is being carried out under the supervision of Prof. Juan Moreno and Prof. Eduardo Cañete.

Part C. RELEVANT MERITS

C.1. Publications

1. Alberto Ruiz, Araceli García, Antonio Pineda, María Brox, Andrés Gersnoviez and Eduardo Cañete. 2023. "Low-Cost Photoreactor to Monitor Wastewater Pollutant Decomposition". Sensors. Vol. 23, Pag. 775. [Q2]. <https://doi.org/10.3390/s23020775>

2. Eduardo Cañete, Juan José Gallego, Laila Yousef, Alberto Ruiz, Andrés Gersnoviez. 2022. "An IoT barrel bung to monitor evolution wine elaborated under biological aging". *Measurement Journal*. 199. 111471. [Q1]. <https://doi.org/10.1016/j.measurement.2022.111471>
3. Eduardo Cañete et al. 6 authors. 2020. "A Low-Cost IoT Device to Monitor in Real-Time Wine Alcoholic Fermentation Evolution Through CO2 Emissions". *IEEE Sensors Journal*. Vol 20. Nº12. [Q2]. [Scopus (S): 8 cites]. [Google Scholar (GS): 8 cites]. <https://doi.org/10.1109/JSEN.2020.2975284>
4. Alonso-Rosa, Manuel; Gild-de-Castro, Aurora; Moreno-Muñoz, Antonio; Garrido-Zafra, Joaquín; Gutierrez-Ballesteros, Elena and Cañete-Carmona Eduardo. 2020. "An IoT Based Mobile Augmented Reality Application for Energy Visualization in Buildings Environments". *Applied Sciences*. [Q2]. [S: 11 cites]. [GS: 18 cites]. <https://doi.org/10.3390/app10020600>
5. Alonso-Rosa, Manuel; Gil-de-Castro, Aurora; Garrido-Zafra, Joaquín, Moreno-Muñoz, Antonio; Cañete-Carmona, Eduardo. 2019. "Power Quality Sensor for Smart Appliance's Self-Diagnosing Functionality". *IEEE Sensors Journal*. [Q2]. [7 cites]. <https://doi.org/10.1109/JSEN.2019.2924574>
6. Chen-Gallardo, Jaime; Cañete-Carmona, Eduardo; Garrido, Daniel; Diaz-Rodriguez, Manuel; Piotrowski, Krzysztof. 2019. "PICO: A platform independent communications middleware for heterogeneous devices in smart grids". *Computer Standards & Interfaces*. [Q2]. [S: 6 cites]. [GS: 11 cites]. <https://doi.org/10.1016/j.csi.2019.01.005>
7. Eduardo et al. 4 authros. 2018. "Smart winery: a real-time monitoring system for structural health and ullage in Fino style wine casks". *Sensors*. 18: 1-15. [Q1]. [S: 16 cites]. [GS: 21 cites]. <https://doi.org/10.3390/s18030803>
8. Gowri Sankar Ramachandran, Wilfried Daniels, Nelson Matthys, Danny Hughes. 11 authors, 9/11. 2015. "Measuring and Modeling the Energy Cost of Reconfiguration in Sensor Networks". *IEEE Sensors Journal*. 15: 3381-3389. [Q2]. [9 cites]. <https://doi.org/10.1109/JSEN.2015.2388857>
9. Eduardo et al. 6 authros. 2015. "Using Wireless Sensor Networks and Trains as Data Mules to Monitor Slab Track Infrastructures". *Sensors*. 15: 15100-15126. [Q1]. [S: 9 cites]. [GS: 14 cites]. <https://doi.org/10.3390/s150715101>
10. Eduardo et al. 5 authors. 2015. "Sensor4PRI: a sensor platform for the protection of railway infrastructures". *Sensors*. 15: 4996-5019. ISI Web of Knowledge: [Q1]. [S: 13]. [GS: 20]. <https://doi.org/10.3390/s150304996>

C.2. Congress

1. Ricardo Medina-Gracia; Aurora Gil-de-Castro; Manuel Alonso-Rosa; Eduardo Canete-Carmona; Antonio Moreno-Munoz and David Matabuena. "An IoT Low-Cost Voltage Sag Detector". *IEEE 16TH International Conference of Industrial Informatics INDIN2018*. 2018. Oporto, Portugal.
2. Danny Hughes, Eduardo Cañete, Wilfried Daniels, Gowri Sankar Ramachandran, Nelson Matthys, Jef Maerien, Sam Michiels, Chrstophe Huygens, Wouter Joosen, Wim Lamotte, Bart Lannoo, Ingrid Moerman. "Energy Aware Software Evolution for Wireless Sensor Networks". *IEEE 14th International Symposium and Workshops on A World of Wireless, Mobile and Multimedia Networks (WoWMoM)*. 2013. Madrid, Spain. (Categoría A).

3. Jaime Chen; Eduardo Cañete; Manuel Díaz; Daniel Garrido y Krzysztof Piotrowski. "Un middleware centrado en datos para el control en Tiempo Real de redes de energía inteligentes". En J. Javier Gutiérrez y Michael González Harbour, (eds.). V Simposio de Sistemas de Tiempo Real. págs. 19-30. Ediciones Universidad: Salamanca, 2016. ISBN: 978-84-9012-631-8
4. Eduardo Cañete, Jaime Chen, Manuel Díaz, Bartolomé Rubio. "E-Balance: Equilibrando la generación y el consumo de energía en vecindarios inteligentes". En Greencities & Sostenibilidad: Inteligencia aplicada a la sostenibilidad urbana. Málaga, España. 2013

C.3. Research projects

1. MIsTlca. Monitorización de infraestructuras críticas basada en tecnologías inalámbricas. Junta de Andalucía (P12-TIC-1572). 01/03/2014 to 31/08/2018. IP: Bartolomé Rubio Muñoz.
2. E-BALANCE. Balancing Energy production and Consumption in energy efficient Smart neighbourhood. 7th Framework Program (8.06.25/47.7060). 2013-2016.
3. WiCMaS: Wireless based Critical Information Management Systems. MEC Project TIN2011-23795. 01/01/2012 to 30/06/2015. IP: Manuel Díaz Rodríguez. 106.800€
4. MDD-MERT: Diseño y Monitorización Dirigido por Modelos de Sistemas. Spanish MICINN (TIN2008-03107). 01/01/2009 to 31/06/2012. IP: Antonio Vallecillo Moreno. 268.620€
5. MOVIS: Modernización y visualización de sistemas de información complejos. Junta de Andalucía (P07-TIC-3184). 01/02/20083 to 31/01/2012. IP: Antonio Vallecillo Moreno. 297.668,08€
6. Desarrollo de Software para Redes Inalámbricas de Sensores y Actores. Junta de Andalucía (P07-TIC-03085). 01/01/2008 to 31/12/2011. IP: Bartolomé Rubio Muñoz. 204.000€
7. FASTRACK: Nuevo sistema de vía en placa para alta velocidad sostenible y respetuoso con el medio ambiente. FEDER Interconnecta 2013. 22/05/2013 to 22/05/2015. IP: Manuel Díaz. 60.000€
8. ILUSIOM: Internet of Lighting in nUrSIng hOMes. UCO-SOCIAL-INNOVA: III Plan Propio GALILEO de Innovación y Transferencia de la Universidad de Córdoba. IP: Aurora del Rocío Gil de Castro.
9. Edificio Inteligente en Comunidades de Atención Residencial (SEnseable Nursing HomeS (SENSI)). IV Plan Propio GALILEO de Innovación y Transferencia 2018. Modalidad IV. UCO-SOCIAL-INNOVA. Ref: PPG2018-UCOSOCIAL-04. 01/07/2018-30/06/2019.

C.4. Other Mertis

1. Two five-year periods as a teacher: (1) 2009-2017 y (2) 2017-2022
2. Two six-year research periods: (1) 2009-2014 y (2) 2015-2020