



CURRICULUM VITAE (CVA)

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Part A. PERSONAL INFORMATION

CV date

14/01/2022

First name	Emilio		
Family name	Camacho Poyato		
Gender (*)	Male	Birth date (dd/mm/yyyy)	
Social Security, Passport, ID number			
e-mail	ecamacho@uco.es	URL Web	
Open Research and Contributor ID (ORCID)(*)		0000-0002-5812-5872	

(*) Mandatory

A.1. Current position

Position	Professor		
Initial date	2007		
Institution	University of Córdoba		
Departament/Center	Agronomy		
Country	Spain	Teleph. number	+34957218513
Key words	Optimization; Water; Energy; Irrigation; Water networks; Hydraulics		

A.2. Previous positions (research activity interruptions, art. 45.2.c))

Period	Position/Institution/Country/Interruption cause
1991 (12 months)	FPU-University Professor Teaching Programme / Universidad de Córdoba, España / End Doctoral Thesis
1992-1993	Assistant Professor, Universidad de Córdoba, España
1993-2007	Associate Professor, Universidad de Córdoba, España
2007-	Professor, Universidad de Córdoba, España

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
Licensed	Córdoba	1990
PhD	Córdoba	1993

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

I started my research work in 1990 when I was awarded a university faculty training (FPU) grant in hydraulic engineering at the University of Córdoba, where I have continued to pursue my research career to the present day. Following this one-year fellowship, I secured a position as assistant lecturer and began my teaching career. After completing my doctoral thesis in 1993, I became an associate lecturer in 1994. In 1995, I passed the competitive examination and was granted tenure as an associate professor.

In 1997, I was awarded a fellowship and spent one year at the USDA Agricultural Research Service's Water Conservation Laboratory in Phoenix. In 2007, I qualified as a full professor, coming first in the national qualification process for permanent university teaching positions, and took up the post in 2008. I have been Assistant Director of Academic Planning, School of Agricultural and Forest Engineering (ETSIAM) from 2008 to April 2016 and Head of the Agronomy Department of the University of Córdoba from June 2016 to present.

I have devoted my career to research and teaching, becoming actively involved in recent years in management tasks. I have acted as supervisor for more than 170 bachelor's theses and ten master's theses. I have also supervised eight doctoral theses and I am currently supervising a further three. My main areas of research are the optimization of water and energy, water footprint as an indicator of sustainability and precision irrigation. Impact of modernization of irrigation, application of digital technologies in irrigation. We have successfully transferred the results of our research to industry with the creation of a technology-based company called Innovative Water & Energy Solutions (IWES). **General indicators of quality of scientific production**

I have completed four officially approved six-year research terms, the most recent in 2016.

1 six-year period of transfer. I have supervised eight doctoral theses in the past ten years. My research performance can be summarized as follows: participation in more than 165 national and international conferences Total citations 346 in the last 5 years (69.2 citation/year), in the last 5 years 24 publications in the highest quartile and 20 in the first decile. Involvement in 40 research and technology transfer projects (acting as principal investigator on nine of them); h-index of 20 according to Scopus. My normalized impact index (IN) is 1.77 and I have been Director scientific guarantors of the Department of Agronomy to achieve the recognition as María Maeztu excellence unit (2020-2023).

Awards

Tenth Unicaja Agricultural Research Award 2008 for paper on sustainable irrigation water management. First Unicaja Agricultural Research Award 1999 for paper on optimizing seasonal furrow irrigation. Award for the best work in awards Juan Pérez (2018). Award for the best work in awards Fundación Magtel (2019).

Other

Fellowship at the USDA United States Water Conservation Laboratory, Phoenix, in 1997. Reviewer for the scientific journals Journal of Irrigation and Drainage Engineering; Irrigation and Drainage; Irrigation Science; Agricultural Systems; Water Resources Management; Agricultural Water Management; Biosystems Engineering; Journal of Environmental Management; Climatic Change; Journal of Water and Climate; African Journal of Agricultural Research; and Ingeniería del Agua. Commissioner of the exhibition International Agriculture and Water Technology, Bioeconomics and Environmental Control (AgWATEC 2016). Commissioner of the exhibition International Agriculture and Water Technology, Bioeconomics and Environmental Control (H2Orizon 2018).

Experience in teaching and research evaluation

Chair of Committee 6.1 of the National Commission for the Evaluation of Research Activity (CNEAI) in 2014. Secretary of Committee 6.1 of the National Commission for the Evaluation of Research Activity (CNEAI) in 2012 and 2013. Chair of the external expert committee for the renewal of accreditation for 16 bachelor's and master's degree courses of the Polytechnic University of Madrid. President of the area of Sciences, Engineering and Architecture of evaluation of the follow-up of degree and master's degrees of the Madrid Foundation

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

C.1. Publications

1. Carmen Alcaide Zaragoza, Irene Fernández García, Isabel Martín García, Emilio Camacho Poyato, Juan Antonio Rodríguez Díaz. 2022. Spatio-temporal analysis of nitrogen variations in an irrigation distribution network using reclaimed water for irrigating olive trees. *Agricultural Water Management* 262 (2022) 107353

2. R. González Perea, E. Camacho Poyato, J.A. Rodríguez Díaz. 2021. Forecasting of applied irrigation depths at farm level for energy tariff periods using Coactive neuro-genetic fuzzy system. *Agricultural Water Management* 256, pp 1-12
 3. Pérez-Padillo, J.; Morillo, J.G.; Poyato, E.C.; Montesinos, P. 2021. Open-Source Application for Water Supply System Management: Implementation in a Water Transmission System in Southern Spain. *Water* 2021, 13, 3652.
 1. Aida Mérida García; Rafael González Perea; Emilio Camacho; Pilar Montesinos; Juan Antonio Rodríguez Díaz. 2020. Comprehensive sizing methodology of smart photovoltaic irrigation systems. *Agricultural Water Management*. 229, pp. 1 – 9.
 2. Aida Mérida García; John Gallagher; Aonghus McNabola; Emilio Camacho; Pilar Montesinos; Juan Antonio Rodríguez Díaz. 2019. Comparing the environmental and economic impacts of on or off-grid solar photovoltaics with traditional energy sources for rural irrigation systems. *Renewable Energy*. 140, pp. 895 - 904.
 3. Rafael González Perea; Emilio Camacho; Pilar Montesinos; Juan Antonio Rodríguez Díaz. Optimisation of water demand forecasting by artificial intelligence with short data sets (2019). *Biosystems Engineering*. 177, pp. 59 – 66.
 4. Rafael González Perea; Emilio Camacho; Pilar Montesinos; Juan Antonio Rodríguez Díaz. (2019). Prediction of irrigation event occurrence at farm level using optimal decision trees. *Computers and Electronics in Agriculture*. 157, pp. 173 – 180.
 5. J. García Morillo, A. McNabola, E. Camacho, P. Montesinos, J.A. Rodríguez Díaz. (2018) Hydro-power energy recovery in pressurized irrigation networks: A case study of an Irrigation District in the South of Spain. *Agricultural Water Management*. 204, pp 17-27.
 6. Rafael González Perea, Emilio Camacho Poyato, Pilar Montesinos, Juan Antonio Rodríguez Díaz. (2018). Optimisation of water demand forecasting by artificial intelligence with short data sets. *Biosystem Engineering* pp 1-8.
 7. Enrique Playán, Raquel Salvador, Luis Bonet, Emilio Camacho, Diego S. Intrigliolo, Miguel A. Moreno, Juan A. Rodríguez-Díaz, José M. Tarjuelo, Cristina Madurga, Teresa Zazo, Alejandro Sánchez-de-Ribera, Alfonso Cervantes, Nery Zapata (2018). Assessing telemetry and remote control systems for water users associations in Spain. *Agricultural Water Management*. 202, pp 89-98.
 8. Aida Mérida García, I. Fernández García, E. Camacho Poyato, P. Montesinos Barrios, J.A. Rodríguez Díaz (2018). Coupling irrigation scheduling with solar energy production in a smart irrigation management system. *Journal of Cleaner Production* 175, pp 670-682.
 9. Irene Fernández García; Montesinos, Maria Pilar; Camacho Poyato, Emilio; Rodríguez Díaz, Juan Antonio (2017). Optimal design of pressurized irrigation networks to minimize the operational cost under different management scenarios. *Water Resources Management* 31, pp 1995–2010.
 10. Rafael González Perea, Fernández García, Irene; Martín Arroyo, Manuel; Rodríguez Díaz, Juan Antonio; Camacho Poyato, Emilio; Montesinos, Maria Pilar. (2017). Multiplatform application for precision irrigation scheduling in strawberries. *Agricultural Water Management*. 183, pp 194–201.
- C.2. Congress**

C.3. Research projects

- PID2020-115998RB-C21. Técnicas de Inteligencia Artificial, sensores IoT y energía renovables para la gestión sostenible de los sistemas de riego. Ministerio de Ciencia e Innovación. Agencia Estatal de Investigación. Programa Estatal de I+D+i Orientada a los Retos de la Sociedad. 2021-2024. 139150 €
- **HIBA**
- CEX2019-000968-M. Unidad de Excelencia María de Maeztu. Ministerio de Ciencia e Innovación. Subprograma Estatal de Fortalecimiento Institucional. Director Científico: Emilio Camacho Poyato. 2020-2023. 2 M€
- SmartFood LifeWatch ERIC. Unión Europea. AGAPA-Universidad de Córdoba. 2020-2023. 5,5 M€

-AGL2017-82927-C3-1-R. Eficiencia y sostenibilidad del nexo agua y energía en el regadío. Programa Estatal de I+D+i. Ministerio de Economía y Competitividad. Principal Investigator: Emilio Camacho Poyato. 2018-2021. 96.800 €

- GOP3I-SE-16-0005. Modelo de Riego Sostenible del Olivar Mediante el Uso de Aguas Regeneradas (REUTIVAR). JA-CAPDR: Ayudas a la creación y el funcionamiento de grupos operativos de la Asociación Europea de Innovación (AEI) en materia de productividad y sostenibilidad agrícolas. Principal Investigator: Emilio Camacho Poyato. 2018-2020. 48.032,57 €

- GOP2I-SE-16-0050. Huella del agua en el sector ecológico. JA-CAPDR: Ayudas a la creación y el funcionamiento de grupos operativos de la Asociación Europea de Innovación (AEI) en materia de productividad y sostenibilidad agrícolas. Principal Investigator: Emilio Camacho Poyato 2018- 2020. 52000 €

- AGL2014-59747-C2-2-R. Reducción de la dependencia energética del regadío mediante el uso de sistemas predictivos y energías renovables. Programa Estatal de I+D+i. Ministerio de Economía y Competitividad. Principal Investigator: Emilio Camacho Poyato. 2015-2018 140.000 €

C.4. Contracts, technological or transfer merits

- Desarrollo de una App para dispositivos móviles que optimice el coste energético en base a las nuevas tarifas eléctricas. FENACORE. IP. Emilio Camacho Poyato. 23/06/2021-23/01/2022. (16470.59 €)

- Study visit on effective irrigation practices in agriculture United Nations Development Programme in Turkmenistan. Juan Antonio Rodríguez Díaz. 15/07/2019- 20/07/2019. (6158,23 €).

- Sistema de oxigenación de raíces en el cultivo del tomate industrial (OXYROOT). DARIMA S.L. IP. Emilio Camacho Poyato.2018-2020. (50140 €)

- Estudio de mejora y optimización energética de la comunidad de regantes los Barrancos” CR Los Barrancos. IP. Emilio Camacho Poyato. 2018 (3000 €)

- Mejoras en la gestión del riego y estudio de aprovechamiento de infraestructuras hidráulicas en la CR Marismas”. Comunidad de Regantes Marismas. IP. Emilio Camacho Poyato. 2018 (8979 €)

- Modelización de la red de distribución de agua y análisis de escenarios de demanda en la CR de El Villar. Comunidad de Regante El Villar. IP. Juan Antonio Rodríguez Díaz. 2017 (2847 €)

- Modelling of the water distribution network for the Lower Guadalete left bank irrigation users association and analysis of critical points. WATS Técnicas de Ingeniería, S.L. IP. Emilio Camacho Poyato. 2017. (3500 €)

- Modelling of the water distribution network for the Monte Algaida irrigation users association and scenario building. WATS Técnicas de Ingeniería, S.L. IP. Emilio Camacho Poyato. 2017. (1800 €)

- Study on alternatives for irrigating olives groves using treated wastewater in the municipality of Estepa. Estepa irrigation users association. IP. Emilio Camacho Poyato. 2016. (4961 €)