MINISTERIO DE CIENCIA E INNOVACIÓN

Cofinanciado por la Unión Europea

AGENCIA ESTATAL DE INVESTIGACIÓN

CURRICULUM VITAE (CVA)

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

CV date	17/11/2021

Part A. PERSONAL INFORMATION

First name	José Mariano		
Family name	Escalona Lorenzo		
Gender (*)	Mail	Birth date (30/01/1969)	
Social Security, Passport, ID number	05413427D		
e-mail	Jose.escalona@uib.es	URL Web	
Open Researcher and Contributor ID (ORCID) (*)		0000-0002-6764-798X	

(*) Mandatory

A.1. Current position

Position	Permanent Assistant professor		
Initial date	01/10/2018		
Institution	University of Balearic Islands		
Department/Center	INAGEA		
Country	Spain	Teleph. Number	971259934
Key words	Plant Physiology; Climate Change; Grapevine, Irrigation; grape and wine quality		

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

Period	Position/Institution/Country/Interruption cause
2005-2008	Post doc Researcher/UIB/Spain
1999-2012	Associated professor/UIB/Spain
2012-2018	Professor Contracted Doctor/UIB/Spain

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
Licensed in Chemistry	Autonomous University of Madrid	1992
PhD in Biology	University of Balearic Islands	2003

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

Currently, I am head of the Institute for Agro-environmental Research and Water Economics (INAGEA) and take part of the Research Group of Plant Biology under Mediterranean Conditions as a researcher since 2005. The current situation is a permanent professor of the Department of Biology teaching subjects of the Degree in Agri-Food Engineering at the UIB.

The main line of research deals with the biology and physiology of the vine and its responses under different abiotic stresses, as well as aspects of irrigation management and its effects on grape quality.

In last research projects, plant-environment interaction was studied at different levels: first, the influence of genotype and water availability on water and carbon balances of the vine (AGL2011 30408 C04 01), in which the approach included the comparison of two contrasting cultivars Tempranillo and Garnacha and the detailed study of different carbon assimilation and

respiratory components in order to better understand the physiological causes of these differences.
Next, the genetic pathways for improving the water use efficiency in grapevines were addressed, quantifying the intravarietal and intraclonal variability in water use efficiency (AGL2014-54201-C4-1-R and AGL2017-83738-C3-1-R and). In these two consecutive projects a very significant advance in the identification of varieties and clones with greater water use efficiency. Specifically, the study of intra-clonal variability in the WUE in clones of Tempranillo and Garnacha was started, with very interesting results, since the variability found between clones in Tempranillo was close to 80% of that found between varieties. Likewise, in this project a novel methodology for comparative analysis of WUE was developed. As a result, commercial clones of Tempranillo with higher and lower WUE have been identified and the comparative study of their physiology has shown an important role of certain photosynthetic characters such as mesophyll conductance and respiration rate in the WUE values. On the other hand, the knowledge of the importance of the root in the acquisition of water and therefore of the “rootstock” component in the water economy of the whole plant has led to an exploration of the characteristics of rootstocks and their contribution to the WUE of the plant. The development of these first advances and the interaction between root and variety is what we propose in the next project. As a consequence of some results obtained in those research projects a DSS will be develop that enables choosing the rootstock for a new vineyard on the basis of a water balance based on multiple variables such as soil, climate, available nitrogen, among others, is highly innovative for the Spanish wine sector. This will be achieved by using up-to-date and freely available geographic information system (GIS) databases (PDC2021-121210-C22).
In other plane, sustainable practices related with soil and irrigation management as mulching and cover crop, deficit irrigation strategies etc., have been evaluated in order to improve water balances and water use efficiency in vineyards. Also, the influence of those practices on soil microbiome diversity and functionality and its role in water and nutrient acquisition by the roots (EU Vitismart Project) have been studied. In addition, some applied projects related to the study of the behavior of woody species (olive and almond) against water stress have been developed in agreement with companies of wine sector and other agriculture companies.

As a consequence of this research activity, I am the author of 52 research papers collected in books and scientific journal. Of these, 39 are published in journals with an impact index, of which I am the first author of 9 of them. In addition, I am the author and co-author of 100 papers presented at national and international conferences. I am also the author and co-author of 5 book chapters, as well as a co-author of informative and educational works.
In parallel, I have developed several transfer activities as technical projects in collaboration with the industry, collaboration agreements with companies and startups. Also, during 5 years I was doing technical assistance and advice aimed to the wine sector. I have participated in the organization of several seminars and transfer meetings addressed to agriculture sector
I am director and codirector of three doctoral thesis and high number of master thesis and bachelor thesis in agriculture and biology fields of knowledge.
Finally, I also participate in commissions of different Research Agencies, as member of the panel of reviewers of several scientific journals in the field of viticulture and plant physiology, as member of organizing and scientific committees of national and international meetings and congresses, among others.

Research Quality indicators:
Number of research periods (6 years): 3
Number of publications: 55
Total number of cites: 3850
H index: 25

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

C.1. Publications *(see instructions)*

1. Buesa, I., **Escalona, JM**., Tortosa I., Marín D., Loidi M., Santesteban LG., Douthe C. ,Medrano H. 2021. Intracultivar genetic diversity in grapevine: Water use efficiency variability within cv. Grenache. Physiologia Plantarum DOI: 10.1111/ppl.13573
2. Tortosa I., **Escalona JM**., Toro G., Douthe C., Medrano H. 2020. Clonal Behavior in Response to Soil Water Availability in Tempranillo Grapevine cv: From Plant Growth to Water Use Efficiency. Agronomy 10, 862; doi:10.3390/agronomy10060862.
3. Marín, D., Armengol J., Carbonell-Bejerano P. … de Herralde, F. 2020. Challenges of viticulture adaptation to global change: tackling the issue from the roots. Australian Journal of Grape and Wine Research 27, 8–25.
4. Tortosa, I. Douthe, C., Pou, A., Balda, P., Hernández-Montes, E., Toro, G., **Escalona, JM**., Medrano H., 2019. Variability in Water Use Efficiency of grapevine Tempranillo clones and stability over Years at field conditions. Agronomy. 9: 701
5. Tortosa, I. **Escalona, JM**. Douthe, C., Pou, A., García-Escudero E., Toro, G., Medrano H. 2019. The intra-cultivar variability on water use efficiency at different water status as a target selection in grapevine: Influence of ambient and genotype. Agricultural water management 223
6. Tortosa I.; **Escalona, JM.,** Bota, J., Tomás, M., Hernández E., García Escudero E., Medrano H. 2016. Exploring the genetic variability in water use efficiency. Evaluation of inter and intra cultivar genetic diversity in grapevines Plant Science 251, 35-43
7. Bota, J. Tomás, M.; Flexas, J.; Medrano, H.; **Escalona, J.M.** 2016. Differences among grapevine cultivars in their stomatal behavior and water use efficiency under progressive water stress. Agricultural Water Management. 164, 91-99.
8. **Escalona, JM**., Pou, A., Tortosa, I., Hernández-Montes, E., Tomás, M., Martorell, S., Bota, J., , Medrano H. 2016. Using whole-plant chambers to estimate carbon and water fluxes in field-ground grapevines 918383-Theritical and Experimental Plant Physiology. 28, 241-254.
9. **Escalona, J.M**.; Fuentes, S.; Tomás, M.; Martorell, S.; Flexas, J.; Medrano, H. 2013. Responses of leaf night transpiration to drought stress in Vitis vinifera L. 900037. Agricultural Water Management 118 pp 50 -58.
10. **Escalona, J.M**.; Tomás, M.; Martorell, S.; Medrano, H.; Flexas, J.; Ribas-Carbó, M.2012. Carbon balance in grapevines under different soil water supply: importance of whole plant respiration. 9126667. Australian Journal of Grape and Wine Research 18 pp 308 -318. ISNN 1322-7130

C.2. Congress

1.Buesa, I., **Escalona, J.M.,** Tortosa I., Marín, D., Loidi, M., Santesteban, L.G., Douthe, C. Medrano, H 2021. Rootstock effects on physiological response of Tempranillo cultivar 11th International Symposium on Grapevine Physiology & Biotechnology 2021 Stellenbosch | South Africa.

2. Escalona, J.M., Buesa, I., Tortosa I., Marín, D., Santesteban, L.G. Romero, P. and Medrano, H 2021. Intra-cultivar genetic diversity in improving water use efficiency in grapevine 11th International Symposium on Grapevine Physiology & Biotechnology 2021 Stellenbosch | South Africa.

3. **Escalona, JM;** Tortosa I; Medrano H. 2020. Looking for a more efficient genotypes in water use. A key for a sustainable viticulture XIIIth International Terroir Congress. Oral communication. Adelaide, Australia

4. Tortosa, I.; Pou, A.; Balda, P.; Toro, G.; **Escalona, J.M**.; Medrano H. 2018. Water Use Efficiency Ranking as selection criteria of Tempranillo in a long-term trial. International Congress on Grapevine and Wine Sciences – ICVV. Póster. Logroño, Spain

5. Tortosa I; Toro G; Sancho P; Balda P; Pou A; **Escalona JM;** Bota J; Medrano 2017. Exploring the genetic variability in water use efficiency in a clonal collection of Tempranillo cv. 20th GIESCO Mendoza, Argentina.

6. **Escalona, JM**. Sancho, P.; Canyelles, G.; Hernández-Montes, E.; Bota, J.; Medrano, H. 2017.Permanent cover crop effects on plant water relations, growth and grape yield and quality. 20th GIESCO. Mendoza, Argentina
7. Medrano, H., Martorell, S., Flexas, J., Bota, J., Hernández, E., Gago, X., **Escalona, J.M.** 2014. From leaf to whole plant water use efficiency (WUE) in complex canopies: Limitations of leaf WUE as selection target. The Optichina International Conference Breeding to Optimize Agriculture in a Changing world Beijing, China.
8. Tortosa, I.; **Escalona, JM.;** Bota, J.; Tomás, M.; E. Hernández-Montes, E.; García Escudero E.; and H. Medrano,H. 2016. Exploring the genetic variability in water use efficiency: evaluation of inter and intra cultivar genetic diversity in grapevines. X. International Symposium on Graqpevine Pghysiology and Biotechnologi. Verona .Italy.
9. Medrano; H. Tomás M.; Martorell S.; Flexas J.; Bchir A.; **Escalona JM.** 2014. Improving water use efficiency in grapevines: Agronomic and genetic opportunities. Conferencia invitada. ASEV Austin, Texas, United States of America.

C.3. Research projects

1. PDC2021-121210-C22. Decision support tool for selecting the rootstock material and the irrrigation and nitrogen regimes in grapevine for wine production. WANUGRAPE4.0. Spanish Ministery of Science and Innovation.IP: José M. Escalona. Grant: 52.000€ .Duration: 01/01 2022 31/12 2023
2. AGL2017-83738-C3-1-R. Optimizing grapevine water and nitrogen use efficiency and grape and wine quality combining the genetic material with sustainable fertigation scheduling. (WANUGRAPE). Spanish Ministery of Science and Innovation. CoIP:José Mariano Escalona Lorenzo 01/01 2018 al 31/12/2021.
3. 652615 ERA-NET. Toward a sustainable viticulture: Improved grapevine productivity and tolerance to abiotic and biotic stresses by combinig resistant cultivars and beneficial microorganisims VITISMART. INIA José Mariano Escalona Lorenzo (UIB). Duration: 01/04/2016-31/03/2019. Grant: 75.000€
4. AGL2014-54201-C4-1-R, Integrating agronomic and genetic approaches for a more sustainable grape growing. Evaluating genetic variability in the water use efficiency. Spanish Ministery of Science and Innovation CoIP: José Mariano Escalona Lorenzo (UIB). Duration: 01/01/2015-31/12/2017. Grant:205.700€
5. AGL2011 30408 C04 01 Water and carbon balances in grapevine: Effects of genotypes, edaphoclimatic conditions and crop management techniques. Spanish Ministery of Science and Innovation CoIP IP: Hipólito Medrano Gil. Grant: 217.800,00 Duration:2012-2015

C.4. Contracts, technological or transfer merits

1. Contract for the development of a project for the validation of methods and technologies for monitoring physiological processes in plants in Mediterranean environments - tecnopam. GEOMACEN-UIB.IP: JM Escalona. Duration: 2021-2023.
2. Research and development agreement between the company Franja Roja SL and the University of the Balearic Islands. "Comprehensive study of the viticultural behavior of Mallorcan autochthonous varieties in the DO Binissalem". JM Escalona 25/12/215-01/04/2018.
3. Agreement between the company Cooperativa Camp Mallorquí SCL and University of Balearic Islands: pilot project for the study of the adaptation of the new varieties of almond to the agro-climatic conditions of Majorca island under different irrigation conditions. 2016-2018.
4. Agreement between the UIB and Franja Roja SL to develop research programs around the food industry. Julio 2015 Baleares University of Balearic Islands. IP: Hipólito Medrano Gil. From 01/07/2015.
5. Collaboration agreement with the company Geoma Cen in the field of applied geophysics in agriculture. February 2015 IP Hipólito Medrano Gil. From01/02/2015.