



## CURRICULUM VITAE (CVA)

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

### Part A. PERSONAL INFORMATION

CV date 15-11-2024

First name	Sonia		
Family name	Osorio Algar		
Gender (*)	Female		
e-mail	sosorio@uma.es		
Open Researcher and Contributor ID (ORCID) (*)	0000-0002-0159-6091		

(\*) Mandatory

#### A.1. Current position

Position	Full Professor		
Initial date	11-09-2023		
Institution	University of Málaga		
Department/Center	Biología Molecular y Bioquímica	Instituto de Hortofruticultura Subtropical y Mediterránea (IHSM-UMA-CSIC)	
Country	Spain	Teleph. number	952132394
Key words	Fruit; development, ripening and postharvest; climacteric y non-climacteric; genomic, metabolomics, regulation		

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

Period	Position/Institution/Country/Interruption cause
21-12-2018 to 10-09-2023	Associated Professor
05-10-2016 to 20-12-2018	Contratado Doctor / University of Málaga / Spain
01-01-2012 to 04-10-2016	Investigador Ramon y Cajal / MINECO-UMA / Spain
01-01-2008 to 31-12-2011	Postdoctoral / Max Planck Institute of Molecular Plant Physiology / Germany
01-04-2007 to 31-12-2007	Postdoctoral / Instituto de Biología Molecular y Celular de Plantas (IBMCP) Valencia / Spain
21-12-2005 to 31-03-2007	Postdoctoral / LBBV- University of Málaga / Spain
01-06-2001 to 20-12-2005	PhD student / University of Málaga / Spain

#### A.3. Education

PhD, Licensed, Graduate	University/Country	Year
PhD in Sciences	University of Málaga	2006
Chemistry (Licensed)	University of Málaga	2000

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

Dr. S Osorio, has joined University of Malaga in 2012 throught the tenior track contract "Ramon y Cajal". The previous four years (2008-2011) she has been part of Dr. A Fernie's group at the Max Planck Institute of Molecular Plant Physiology where she focused her research on metabolic regulation, and in particular the study of factors that influence the accumulation of metabolites in tomato fruit during ripening. She has employed reverse genetics to study the energy metabolism of fruit, as well as using "high-throughput" metabolic techniques in an attempt to understand the complex metabolic networks and identify regulatory factors in these networks. Throughout this postdoctoral period, Dr. Osorio has had an extreme working relationship with Dr. D Zamir (Hebrew University, Israel) participating in several projects, all associated with the search and identification of QTLs that affect the chemical composition of

tomato fruit. This collaboration is reflected in articles already published (attached list of relevant publications) as well as in other articles that are in the process of preparation. Previous studies by the groups of Dr. A Fernie and Dr. D Zamir identified a QTLs associated to tomato fruit Brix degree. S. Osorio cloned the gene responsible for this QTL, Lin5 (cell wall invertase) and carried out a more in-depth characterization study, whose results were published (attached list of relevant publications) and of this study there is one more publication in process. During this formative period, S. Osorio has been able to integrate transcriptomics, proteomics as well as metabolomics to search and identify regulatory factors of this metabolic network (attached list of relevant publications). The main focus of this research, which has been underway at the University of Málaga since 2012, is to come up with new and improved research proposals that will continue to contribute to crop improvement strategies and technologies that take into account not only genetic variation but also epigenetic variation, which is currently not part of modern crop improvement. Ripening genes, shelf life and quality fruit provide an initial set of objectives for the analysis of epigenomic variation in germplasm collections and for the evaluation of variations that may form the basis for future expanded selection strategies. Other positions: (1) Secretary of the Department of Molecular Biology and Biochemistry of the University of Málaga since May 2016 until February 2024, (2) Deputy Vice-Rector for Teacher Training and Talent Attraction at University of Malaga since February 2024. She is also a senior lecturer for several subjects in the areas of Biochemistry, Regulation of Metabolism and Chemistry of the Degrees of Biology, Biochemistry and Chemistry, together with postgraduate and Master studies at the University of Málaga. On the other hand, in 2014 she was awarded with the Margarita Salas Science-Prize.

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

- PhD. Theses supervised: 5 + 2 on going; Master Theses supervised: 10; Bachelor Theses supervised: 11
- Scientific Manuscripts: 117; Total citations: 10.717 (WOS-Jan2024) H-index: 50
- Sexenios: 3
- Quinquenios: 5

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

I have been authored more than 100 publications: 100 on Q1. In the last 5 years, more than 40 Q1-manuscripts.

Pott, D, Durán-Soria, S, Allwood, JW, Pont, S, Gordon, SL, Jennings, N, Austin, C, Stewart, D, Brennan, RM, Masny, A, Sonstebj, A, Krüger, E, Jarret, D, Vallarino, JG, Usadel, B, Osorio, S (2023). Dissecting the impact of environment, season and genotype on blackcurrant fruit quality trait. **Food Chem** 402. Doi: 10.1016/j.foodchem.2022.134360. **S Osorio as corresponding author.**

Durán-Soria S, Pott DM, Will F, Mesa-Marín J, Lewandowski M, Celejewska K, Masny A, Żurawicz E, Jennings N, Sønstebj A, Krüger E, **Osorio S**. Exploring Genotype-by-Environment Interactions of Chemical Composition of Raspberry by Using a Metabolomics Approach (2021). **Metabolites** 16;11(7):461. doi: 10.3390/metabo11070461. **S Osorio as corresponding author.**

Leskow CC, Conte M, Del Pozo T, Bermúdez L, Lira BS, Gramegna G, Baroli I, Burgos E, Zavallo D, Kamenetzky L, Asís R, Gonzalez M, Fernie AR, Rossi M, **Osorio S\***, Carrari F\* (2021). The cytosolic invertase NI6 affects vegetative growth, flowering, fruit set and yield in tomato. **J Exp Bot**, 72(7):2525-2543. doi: 10.1093/jxb/eraa594.\* **S Osorio and F Carrari equal contribution.**

Pott DM, Vallarino JG, Cruz-Rus E, Willmitzer L, Sánchez-Sevilla JF, Amaya I, **Osorio S\*** (2020). Genetic analysis of phenylpropanoids and antioxidant capacity in strawberry fruit reveals mQTL hotspots and candidate genes. **Sci Rep** 10(1): 20197.\* **S Osorio as corresponding author.**

Pott DM, de Abreu e Lima F, Soria C, Willmitzer L, Fernie AR, Nikoloski Z, **Osorio S\***, Vallarino JG (2020). Metabolic reconfiguration of strawberry physiology in response to postharvest practices. **Food Chem** 321: 126747 \* **S Osorio as corresponding author**.

Gaston A, **Osorio S**, Denoyes B, Rothan C (2020). Applying Solanaceae strategies to strawberry crop improvement. **Trends Plant Sci** 25(2): 130-140.

**Osorio S**, Carneiro RT, Lytovchenko A, McQuinn R, Sørensen I, Vallarino JG, Giovannoni JJ, Fernie AR, Rose JKC (2020). Genetic and metabolic effects of ripening mutations and vine detachment on tomato fruit quality. **Plant Biotechnol J**, 18(1): 106-118.

Vallarino JG, Merchante C, Sánchez-Sevilla JF, de Luis Balaguer MA, Pott DM, Ariza MT, Casañal A, Posé D, Vioque A, Amaya I, Willmitzer L, Solano R, Sozzani R, Fernie AR, Botella MA, Giovannoni JJ, Valpuesta V, **Osorio S\*** (2020). Characterizing the involvement of FaMADS9 in the regulation of strawberry fruit receptacle development. **Plant Biotechnol J** 18(4): 929-943. \* **S Osorio as corresponding author**.

Brog YM\*, **Osorio S\***, Yichie Y\*, Alseekh S, Bensal E, Andriy K, Zamir D, Fernie AR (2019). A novel *Solanum neorickkii* introgression population provides a powerful complement to the extensively characterized *Solanum pennellii* population. **Plant J** 97(2): 391-403.\***equal contribution**.

Vallarino JG, Pott DM, Cruz-Rus E, Miranda L, Medina-Minguez JJ, Valpuesta V, Fernie AR, Sánchez-Sevilla FJ, **Osorio S\***, Amaya I\* (2018). Identification of Quantitative Trait Loci (QTL) and candidate genes for primary metabolite content in strawberry fruit. **Hortic Res** 6: 4 \* **S Osorio as corresponding author**.

Vallarino JG, de Abreu e Lima F, Soria C, Tong H, Pott DM, Willmitzer L, Fernie AR, Nikoloski Z, **Osorio S\*** (2018). Genetic diversity of strawberry germplasm using metabolomic biomarkers. **Sci Rep** 8, 14386. \* **S Osorio as corresponding author**.

## C.2. Congress

36; first author of 12 with 14 corresponding to international conferences (11 invited talks)

## C.3. Research projects

### EU-Projects:

**Ref: BioDivclim. WildCrop.** Optimal rewilding of crop-bodyguard interactions facilitating the green transformation of agriculture. **Principal Investigator: Sonia Osorio**. 01/04/2025-31/03/2028. Budget: 202.500 € (Accepted in October 2024-It needs to be published in the Spanish PCI call from AEI).

**Ref: Grant Agreement-H2020. Proposal 101000747 (SFS-28-2020)- BreedingValue.** “Pre-breeding strategies for obtaining new resilient and added value berries”. **PI: Sonia Osorio**. 01/01/2021-30/06/2025. Budget: 369.981 €

**Ref: BioDivclim. PlantCline.** Adapting plant genetic diversity to climate change along a continental latitudinal gradient. **PI: Sonia Osorio**. 01/03/2021- 28/02/2025. Budget: 149.000 €

**Ref: COST Action CA18210.** “Oxygen sensing a novel mean for biology and technology of fruit quality”. *H2020-European Commission*. **PI: Sonia Osorio (Management committee-Spain)**. 01/01/2019-31/03/2024.

**Ref: COST Action CA 19125.** “Epigenetic mechanism of crop adaptation to climate change”. **PI: Sonia Osorio (Management committee-Spain)**. 01/06/2020- 31/05/2024.

**Ref: COST Action CA15223.** “RNAi: The future of cross talk”. **PI: Sonia Osorio**. 01/01/2017-31/12/2021.

**Ref: H2020-EC; SFS-05-2015: Goodberry 679303.** “Improving the stability of high-quality traits of berry in different environments and cultivation systems for the benefit of European

farmers and consumers”. **PI: Sonia Osorio (Global coordination: Dr. Sonia Osorio – UMA-Spain).** 01/03/2016-28/02/2020. Budget: 5 millones €

#### **National Plan Projects:**

**Ref: PID2021-128527OB-I00.** “Estudios de genómica funcional para la ingeniería en la producción de volátiles en el fruto de fresa”. **PI: Sonia Osorio.** 01/09/2022-31/08/25. Budget: 157.300 €

**Ref: RTI2018-099797-B-I00.** “Functional study of candidate genes to improve organoleptic, nutritional quality and postharvest in strawberry fruit”. **PI: Sonia Osorio.** 01/01/2019-31/12/21. Budget: 145.200 €

**Ref: AGL2012-40066-CO2-02.** Use of novel molecular and metabolomic tools for the improvement of the nutritional and organoleptic quality, and the postharvest lifespan of strawberry (*F. x ananassa*). **PI: Sonia Osorio.** 01/01/2013-31/12/2015. budget: 81.900 €

**Ref: RyC-2011-09170.** Metabolomics in fruit quality. **PI: Sonia Osorio.** 01/01/2012-31/12/2016. Budget: 183.600 €

#### **Local Government Projects (Junta de Andalucía):**

**Ref: UMA18-FEDERJA-179.** “Estudio funcional de genes candidatos para la mejora del fruto de fresa en su comportamiento postcosecha y en el contenido de ellagitánicos”. **PI: Sonia Osorio.** 2020-2022. Budget: 40.444 €

**Ref. PY20-00408.** “Deciphering the metabolic pathways controlling flavor in strawberry fruit”. **PI: Sonia Osorio.** 2021-2022. Budget: 110.000 €

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

- **Contracts:** since 2018 until now, **Sonia Osorio** has been **principal investigator** of 8 contracts with different institutions: Instituto de Tecnología Química e Biológica António Xavier, Portugal; Universidad de Aveiro, Portugal; Instituto Andaluz de Investigación y Formación Agraria y Pesquera (IFAPA), Spain; Forschungszentrum Jülich GmbH, Germany. Total Budget: 64.925€
- **Invited lecturer (seminars);** University of Granada; University of Malaga; Instituto de Tecnología Química e Biológica, Portugal; University of Leiden (The Nederland); Max Planck Institute, Germany; Università Politecnica delle Marche, Italy.
- **Member of the Editorial Board** of Plant Physiology and Biochemistry, Journal Experimental Botany, Frontier in Plant Science, CABI Agriculture and Bioscience.
- **R&D project evaluation** (as expert evaluator) from different Research Agencies: Marie Skłodowska-Curie Individual Fellowship European Commission (Research Executive Agency) Form 2016 (Participation in 4 different calls); Expert evaluator of Marie Skłodowska-Curie Innovative Training Networks (EC-Horizon2020). European Commission (Research Executive Agency). Tema: Innovative Training Network (ITN). From 2016 (Participation in 5 different calls); Expert evaluator of New Zealand Ministry of Business, Innovation and Employment Agency New Zealand Ministry of Business, Innovation and employment Agency (MBIE). From 2014; Expert evaluator of Israel Science Foundation The framework of the China-Israel Research Program (CIRP). Tema: Evaluación de proyecto I+D. From 2013; Expert evaluator of ANEP Agencia Nacional de Evaluación y prospectiva: Evaluación Candidatos Juan de la Cierva, Proyectos de Investigación (RETOS, BIO), Becas de Doctorado. From 2013 (Participation in 51 evaluations); Expert evaluator of ANII: Fondo Clemente Estable, Uruguay. Expert evaluator of I+D. From 2012
- **Participation in transfer activities;** Café con Ciencia 2021. She has been interviewed in different newspapers, radio channels and open TV to explain her research project objectives and transfer the main results.
- **Margarita Salas Science-Award** (2014).