

**Part A. PERSONAL INFORMATION**

Date CV	16/03/2024
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Name	MANUEL JAMILENA QUESADA		
DNI/NIE/passport		Edad	
Research Identification Number	Researcher ID	K-3331-2014	
	Orcid Code	0000-0001-7072-0458	

**A.1. Current Position**

Organisms	University of Almería		
Department	Department of Biology and Geology		
Address	La Cañada de San Urbano s/n. 04120 Almería. Spain		
Tel.		email	<a href="mailto:mjamille@ual.es">mjamille@ual.es</a>
Category	Full Professor of Genetics	From	09/09/2011
Key words	Plant Genetics and Genomics, Vegetable Breeding, Developmental Genetics		

**A.2. Education**

PhD in Biology	University of Granada	1992
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**A.3. Quality indicators:**

- Web of Science Researcher ID: K-3331-2014. Total publications indexed in JCR: 113. Q1: 81. h-index in WOS = 36.
- Scopus Author ID: 6602860634. Publications in Scopus: 102. h-index in Scopus = 34.
- six-year research periods granted: 6.
- 36 years of research experience.
- PI of > 20 competitive research grants and >10 contracts with industry.
- Supervisor of 12 PhD thesis. PhD thesis currently under supervision: 4.
- Supervisor of more than 50 final degree projects and master's degree projects.

**Part B. CV SUMMARY** (*max. 3500 characters, including spaces*).

PhD at the Department of Genetics of the University of Granada (1989-1992), and postdoctoral for 2 years (1993-11995) at the Department of Botany of the University of Reading, UK. I investigated the molecular evolution of plant B and sex chromosomes. During that period, I participated in 5 research projects and published 19 articles in JCR indexed journals.

In 1994 I joined the Department of Applied Biology (Genetics) at the University of Almería, investigating on the molecular control of tomato flower development, as well the use of molecular markers in tomato and melon breeding. During that period, I participated in 8 research projects and contracts, coordinated a national grant, published 9 articles in indexed JCR journals, and supervised a doctoral thesis.

In 2003 I created my own research group, and since then I have led several research lines in Genetics and Vegetable breeding. The research of my group is focused on genetics and breeding of cucurbit crops, mainly in zucchini. We are currently collaborating with other prestigious Spanish and international research groups, as well as with different seed companies. During this period, I have been coordinator of more than 25 research projects, published 68 articles in JCR indexed journals, and supervised 9 doctoral theses.

**C. RELEVANT MERITS****C.1. Relevant Publications (last 8 years)**

1. Alonso S, Cebrián G, Gautam K, Iglesias-Moya J, Martinez C, Jamilena M. 2024. A mutation in the brassinosteroids biosynthesis gene *CpDWF5* disrupts vegetative and reproductive development and salt stress response in squash (*Cucurbita pepo*). **Horticulture Research**, uhae050, <https://doi.org/10.1093/hr/uhae050>. D1.

2. Tossi VE, Regalado J, Martínez J, Galván A, Martinez Tosar LJ, Pitta-Alvarez SI, Reboloso MM, Jamilena M. 2024. UV-B alleviates postharvest chilling injury of zucchini fruit associated with a reduction in oxidative stress. **Postharvest Biology and Technology** 212, June 2024, 112850. <https://doi.org/10.1016/j.postharvbio.2024.112850>. D1.
3. Iglesias-Moya J, Benitez A, Segura M, Alonso S, Garrido D, Martinez C, Jamilena M. 2024. Structural and functional characterization of genes *PYL-PP2C-SnRK2s* in the ABA signalling pathway of *Cucurbita pepo*. **BMC Genomics** 25, pp. 268. DOI10.1186/s12864-024-10158-9. Q1.
4. Segura M, García A, Gamarra G, Benítez A, Iglesias-Moya J, Martínez C, Jamilena M. 2023. A miR164 resistant mutation in the transcription factor gene *CpCUC2B* enhances carpel arrest and ectopic boundary specification in *Cucurbita pepo* flower development. **Journal of Experimental Botany** - 8/12/2023. 10.1093/jxb/erad486. D1.
5. Segura M, García A, Benítez A, Martínez C, Jamilena M. 2023. Comparative RNA-Seq Analysis between Monoecious and Androecious Plants Reveals Regulatory Mechanisms Controlling Female Flowering in *Cucurbita pepo*. **International Journal of Molecular Sciences** - 6/12/2023. 10.3390/ijms242417195. D1.
6. Castro-Cegri A, Carvajal F, Osorio S, Jamilena M, Garrido D, Palma F. 2023. Postharvest abscisic acid treatment modulates the primary metabolism and the biosynthesis of t-zeatin and riboflavin in zucchini fruit exposed to chilling stress. **Postharvest Biology and Technology** - 1/10/2023. 10.1016/j.postharvbio.2023.112457. D1.
7. Iglesias-Moya J, Abreu AC, Alonso S, Torres-García MT, Martínez C, Jamilena M. 2023. Physiological and metabolomic responses of the ethylene insensitive squash mutant *etr2b* to drought. **Plant Science** - 1/09/2023. 10.1016/j.plantsci.2023.111853. Q1.
8. Iglesias-Moya, Jessica; Cebrian, Gustavo; Garrido, Dolores; Martinez, Cecilia; Jamilena, Manuel. 2023. The ethylene receptor mutation *etr2b* reveals crosstalk between ethylene and ABA in the control of *Cucurbita pepo* germination. **Physiologia Plantarum**. 175 – 1. D1.
9. Castro-Cegri, Alejandro; Sierra, Sandra; Hidalgo-Santiago, Laura; Esteban-Munoz, Adelaida; Jamilena, Manuel; Garrido, Dolores; Palma, Francisco. 2023. Postharvest Treatment with Absciscic Acid Alleviates Chilling Injury in Zucchini Fruit by Regulating Phenolic Metabolism and Non-Enzymatic Antioxidant System. **Antioxidants**. 12 - 1, D1.
10. Cebrian, Gustavo; Segura, Maria; Martinez, Javier; Iglesias-Moya, Jessica; Martinez, Cecilia; Garrido, Dolores; Jamilena, Manuel. 2022. Jasmonate-deficient mutant *lox3a* reveals crosstalk between jasmonate and ethylene in the differential regulation of male and female flower opening and early fruit development in *Cucurbita pepo*. **Journal Experimental Botany**. 74 - 4, pp. 1258 - 1274. D1.
11. Benitez, Alvaro; Iglesias-Moya, Jessica; Segura, Maria; Carvajal, Fatima; Palma, Francisco; Garrido, Dolores; Martinez, Cecilia; Jamilena, Manuel. 2022. RNA-seq based analysis of transcriptomic changes associated with ABA-induced postharvest cold tolerance in zucchini fruit. **Postharvest Biology and Technology** 192, D1.
12. Cebrián, G., Iglesias-Moya, J., Romero, J., Martínez, C., Garrido, D., Jamilena, M. 2022. The Ethylene Biosynthesis Gene *CpACO1A*: A New Player in the Regulation of Sex Determination and Female Flower Development in *Cucurbita pepo*. **Frontiers in Plant Science**, 12, art. no. 817922. Q1 in JCR. Q1.
13. Carvajal, F., Castro-Cegri, A., Jiménez-Muñoz, R., Jamilena, M., Garrido, D., Palma, F. 2021. Changes in Morphology, Metabolism and Composition of Cuticular Wax in Zucchini Fruit During Postharvest Cold Storage. **Frontiers in Plant Science**, 12, art. no. 778745. Q1.
14. Martínez C, Valenzuela JL, Jamilena M. (2021). Genetic and Pre- and Postharvest Factors Influencing the Content of Antioxidants in Cucurbit Crops. **Antioxidants** 10(6),894. D1.

15. Cebrián G, Iglesias-Moya J, García A, Martínez J, Romero J, Regalado JJ, Martínez C, Valenzuela JL, Jamilena M. 2021. Involvement of ethylene receptors in the salt tolerance response of *Cucurbita pepo*. **Horticulture Research** 8(1),73. D1.
16. Martínez C and Jamilena M. 2021. To be a male or a female flower: a question of ethylene in cucurbits. **Current Opinion in Plant Biology**. 59,101981. D1.
17. Jimenez-Muñoz R, Palma F, Carvajal F, ...Jamilena M, Romero-Puertas MC, Garrido D. 2021. Pre-storage nitric oxide treatment enhances chilling tolerance of zucchini fruit (*Cucurbita pepo* L.) by S-nitrosylation of proteins and modulation of the antioxidant response. **Postharvest Biology and Technology** 171, 111345. D1.
18. Romero-Masegosa, J., Martínez, C., Aguado, E., ...Paris, H.S., Jamilena, M. 2021. Response of *Cucurbita* spp. to tomato leaf curl New Delhi virus inoculation and identification of a dominant source of resistance in *Cucurbita moschata*. **Plant Pathology** 70:206-2018. Q1.
19. García, A., Aguado, E., Cebrián, G., ...Valenzuela, J.L., Jamilena, M. 2020. Effect of ethylene-insensitive mutation *etr2b* on postharvest chilling injury in zucchini fruit. **Agriculture** (Switzerland), 10(11): 1–12, 532. Q1.
20. Aguado, E., García, A., Iglesias-Moya, J., ...Martínez, C., Jamilena, M. 2020. Mapping a Partial Andromonoecy Locus in *Citrullus lanatus* Using BSA-Seq and GWAS Approaches. **Frontiers in Plant Science** 11, 1243. Q1.
21. García, A., Aguado, E., Garrido, D., Martínez, C., Jamilena, M. 2020. Two androecious mutations reveal the crucial role of ethylene receptors in the initiation of female flower development in *Cucurbita pepo*. **The Plant Journal** 103: 1548-1560. D1.
22. García A, Aguado E, Martinez C, Loska D, Beltrán S, Valenzuela JL, Garrido D, Jamilena M (2020). The ethylene receptors CpETR1A and CpETR2B cooperate in the control of sex determination in *Cucurbita pepo*. **Journal of Experimental Botany** 71:154-167. D1.
23. Palma F; Carvajal F, Jiménez-Muñoz R, Pulido A, Jamilena M, Garrido D. 2019. Exogenous  $\gamma$ -aminobutyric acid treatment improves the cold tolerance of zucchini fruit during postharvest storage. **Plant Physiology and Biochemistry** 136: 188-195. D1.
24. Aguado E, García A, Manzano S, Valenzuela JL, Cuevas, J, Pinillos V, Jamilena M. 2018. The sex-determining gene *CitACS4* is a pleiotropic regulator of flower and fruit development in watermelon (*Citrullus lanatus*). **Plant Reproduction** 31:411-426. Q1.
25. Montero-Pau J, Blanca J, Bombarely A, Ziarsoolo P, Esteras C, Martí-Gómez C, Ferriol M, Gómez P, Jamilena M, Mueller L, Pico B, Cañizares J. 2018. De novo assembly of the zucchini genome reveals a whole genome duplication associated with the origin of the *Cucurbita* genus. **Plant Biotechnology Journal** 16: 1161-1171. D1.
26. García A, Aguado E, Parra G, Manzano S, Martínez C, Megías Z, Cebrián G, Romero J, Beltrán S, Garrido D, Jamilena M. 2018. Phenomic and genomic characterization of a mutant platform in *Cucurbita pepo*. **Frontiers in Plant Science**, 9, Article number 1049. Q1.
27. Carvajal F, Rosales R, Palma F, Manzano S, Cañizares J, Jamilena M, Dolores D. 2018. Transcriptomic changes in *Cucurbita pepo* fruit after cold storage: Differential response between two cultivars contrasting in chilling sensitivity. **BMC Genomics** 19(1). Q1.
28. Carvajal F, Palma F, Jimenez-Muñoz R, Jamilena M, Pulido A, Garrido D. 2017. Unravelling the role of abscisic acid in chilling tolerance of zucchini during postharvest cold storage. **Postharvest Biology and Technology** 133: 26-35. D1.
29. Valenzuela J, Manzano S, Palma F, Carvajal F, Garrido D, Jamilena M. 2017. Oxidative stress associated with chilling injury in immature fruit: postharvest technological and biotechnological solutions. **International Journal of Molecular Sciences** 18 (7). Q1.
30. Manzano S, Megías Z, Martínez C, García A, Aguado E, Boris V, Jamilena M. 2017. Overexpression of a flower-specific aerolysin-like protein from the dioecious plant *Rumex acetosa* alters flower development and induces male sterility in transgenic tobacco. **The Plant Journal** 89:58–72. Q1.

31. Megías, Z., Manzano, S., Martínez, C., García, A., Aguado, E., Garrido, D., ..., Jamilena, M. 2017. Postharvest cold tolerance in summer squash and its association with reduced cold-induced ethylene production. **Euphytica** 213(1). Q1.
32. Manzano S, Aguado E, Martínez C, Megías Z, García A, Jamilena M (2016). The Ethylene Biosynthesis Gene *CitACS4* Regulates Monoecy/Andromonoecy in Watermelon (*Citrullus lanatus*). **PLoS One** 11: e0154362. Q1.
33. Sáez C, Martínez C, Ferriol M, Manzano S, Velasco L, Jamilena M, López C, Picó B (2016). Resistance to Tomato leaf curl New Delhi virus in *Cucurbita* spp. **Annals of Applied Biology** 169: 91-105. Q1.
34. Megías Z, Martínez C, Manzano S, García A, Reboloso MM, Valenzuela JL, Garrido D, **Jamilena M** (2016). Ethylene biosynthesis and signalling elements involved in chilling injury and other postharvest quality traits in the non-climacteric fruit of zucchini (*Cucurbita pepo*). **Postharvest Biology and Technology** 113: 48–57. D1
35. Palma, F., Carvajal, F., Jamilena, M., Garrido, D. 2016. Putrescine treatment increases the antioxidant response and carbohydrate content in zucchini fruit stored at low temperature. **Postharvest Biology and Technology** 118, pp. 68-70. D1.

## C.2. Research Projects and Grants (last 5 years)

- Programa Nacional. PID2020-118080RB-C21. Una aproximación genómica para detectar y estudiar QTLs y genes regulando la calidad postcosecha y la propiedades nutricionales y funcionales de frutos y semillas de Cucurbita. 2021-2025. No. Participants 5. Grant: 269.830,00€. PI: M. Jamilena
- Proyecto I+D Junta de Andalucía. PY20\_00327. Mejora de la Tolerancia al Estrés Salino en Cucurbita: Una Aproximación Genómica. 2021-2024. No. Participants: 4. Grant: 71.600,00. PI: M. Jamilena
- University of Almería-FEDER Grant. UAL18-BIO-B017–B. Una aproximación genómica a la mejora de portainjertos hortícolas adaptados al cambio climático. 2020-2023. No. participants: 4. Grant: 73.600 €. PI: M. Jamilena.
- Programa Nacional AGL2017-82885-C2-1-R. Estudio fisiológico y genómico del papel del etileno/ABA y el estrés oxidativo en la tolerancia al frío de calabacín. 2018-2021. No. participants: 6. Grant: 217.800 €. PI: M. Jamilena.
- Proyecto Retos-Colaboración con la empresa Agrocolor SL. RTC2019-007284-2. TRAZYGENE. Protocolo de trazabilidad genética en hortícolas. 2020-2023. No. Participants: 6. Grant: 163.306 € to the University. PI. M. Jamilena.
- Programa de Infraestructura científica UNAM15-CE-3231. Plataforma de fenotipado masivo de plantas hortícolas. 2016-2017. No. participants: 10. IP Manuel Jamilena. Grant: 434.978 €. PI: M. Jamilena.
- Programa Nacional AGL2014-54598-C2-1-R. Desarrollo de herramientas fisiológicas y genómicas para la mejora de la calidad postcosecha del fruto de calabacín. 2015-2017. No. participants: 6. Grant: 165.000 €. PI: M. Jamilena.
- Proyecto Motriz de la Junta de Andalucía P12-AGR-1423. Mejora genética de la polinización y el cuajado del fruto como alternativas al uso de hormonas sintéticas en calabacín. (2014-2017). No. participants: 8. Grant 144.000 €. PI: M. Jamilena.

## C.3. Contracts with Companies (last 5 years)

- Green Breeding Biotech. (2021). Desarrollo de líneas e híbridos de calabacín. PI: M. Jamilena. Amount: 7.200 €.
- Enza Zaden España S.L. (2016-2018). Identificación y estudio de la Resistencia a ToLCNDV en calabacín. PI: M. Jamilena. Amount: 190.900 €.

Surseeds S.L Selección y desarrollo de líneas de mejora de calabacín partenocárpicas (15/02/ 2014 to 15/02/ 2015). PI: M. Jamilena. Amount: 85.577,25€

Clause Spain. Implicaciones del etileno en la partenocarpia del calabacín (01/01/ 2009 al 30/09/ 2009). PI M. Jamilena. Amount: 6.936,80 €

Semillas de Almería S.L. Mejora genética de calabacín (01/01/ 2009 al: 31/12/ 2011). PI M. Jamilena. Amount: 40.020 €

### C.5. Abroad Research Stays

Postdoctoral. Department of Botany. **University of Reading**. U.K. 1993-1995 (24 months). Molecular Cytogenetics in plants. Molecular structure of B chromosomes and sex chromosomes by using microdissection.

Invited Professor. Department of Plant Science. **University of Cambridge**. U.K. 2000 (2 months). Microdissection of sex chromosomes of *Rumex acetosa*.

Invited Professor. Departamento de horticultura de la **Universidad Autónoma de Chapingo**. México. 2005 (2 weeks). Conservation and utilization of Cucurbita agrobiodiversity.

### C.6. Other merits:

Research periods awarded by the autonomous community: 5

Five-years teaching periods awarded: 6

**Responsible of the Research group “Genetics of Vegetable crops”** (BIO293). Andalusian Research Plan. Date: 2003- present.

**Editorial advisory board of the following journals:** Agriculture (MDPI), Open Agriculture (De Gruyter) and Crops (MDPI).

### Chief Editor of Frontiers in Horticulture

Reviewer of SCI-JCR Journals in the category Plant Biology: The Plant Cell, Molecular Plant, The Plant Journal, Plant Physiology, Physiologia Plantarum, BMC Plant Biology, BMC Evolutionary Biology, Genetica, Plants, BMC Genomics, Gene, Journal of Experimental Botany, PLOS ONE, Planta, Euphytica, Plant Molecular Biology, etc...

Reviewer of Research Proposals: ANEP (2002- present), Universidad Complutense de Madrid (2005-), Czech Academy of Sciences (2008- ), Marsden Fund. Royal Society of New Zealand (2010- ). European Commission Panel (2014-)

Coordinator of the CeIA3 postgraduate course: Postharvest of fruits and vegetables: a vision of sustainability, quality and agri-food safety practice. 2013 (1<sup>st</sup> edition) – 2020 (7<sup>th</sup> edition).

Coordinator of the Erasmus Intensive Program: Advances in offseason vegetable production: towards a safe and sustainable horticulture in Europe (SUS-HORTO). 2014.

SIGNATURE:



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