



MINISTERIO
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CURRICULUM VITAE (CVA)

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

Part A. PERSONAL INFORMATION		CV date	June 2025
First name	Federico		
Family name	Zurita		
Gender (*)	Male	Birth date (dd/mm/yyyy)	
Social Security, Passport, ID number			
e-mail		URL Web	
Open Researcher and Contributor ID (ORCID) (*)0000-0001-7580-3543			

(*) Mandatory

A.1. Current position

Position	Permanent Professor		
Initial date			
Institution			
Department/Center	Department of Genetics		
Country	Spain	Teleph. number	
Key words			

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

Period	Position/Institution/Country/Interruption cause
xxxx-xxxx	
yyyy-yyyy	

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
PhD	University of Granada	1998

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

I obtained my degree in Biological Sciences from the University of Granada in 1988, and in 1991, I earned the title of Expert in Clinical Genetics.

My research career began in "Molecular and Evolutionary Cytogenetics of Mammals" (1992-1999). At that time, we focused on the regulation of ribosomal cistron expression. This research led to my PhD, which I obtained in 1998 from the University of Granada with a doctoral thesis titled "Structural Organization and Regulation of Ribosomal Cistron Expression." Four articles were published from this doctoral research: two in *Heredity*, one in *Chromosome Research*, and one in *Journal of Cell Science*.



In 1999, I was awarded a postdoctoral fellowship from the Spanish Ministry of Education (MEC) to conduct a two-year research stay in two different laboratories in France (Rennes and Montpellier). In these laboratories, I worked on the "Genetic Control of Gonadal Development in Mammals," using the Iberian mole *Talpa occidentalis* as a model organism. The Iberian mole is a species in which XX individuals possess bilateral ovotestes, meaning gonads that contain both testicular and ovarian tissue. The ovarian portion contains oocytes, granting fertility to these females, but the testicular tissue also develops and secretes functional testosterone. This XX testicular tissue in ovotestes develops in the absence of the *SRY* gene, the master regulator that triggers testicular development in mammals.

From this research, four articles were published (*Mechanisms of Development*, *Sexual Development*, *International Journal of Developmental Biology*, and *Journal of Experimental Zoology-B Mol Dev Evol*).

Since 2010, I have been part of a research team involved in several projects led by Dr. González-Reyes. These projects focus on studying oogenesis using the ovary of *Drosophila melanogaster* as a model organism, addressing the cellular and molecular characterization of germ stem cells (GSCs). Specifically, we have explored the role of tissue inhibitor of metalloproteinases (timp mutants) in maintaining the integrity of niche morphology, cellular environment, and the signaling that sustains these GSCs. Several articles have been published in this line of research (see CV).

Using *Drosophila* ovary as a model, we have also investigated the role of the *smu1* gene in niche homeostasis (*Nature Communications*).

Additionally, I collaborate on a project aimed at generating transgenic mosquitoes against dengue fever (see CV).

Finally, I am working with a Dentistry research group and supervising a postdoctoral researcher on a project focused on the genetic control of the inflammasome in the jaw. In this project, we use the CRISPR-Cas9 system to generate knockout cell lines for genes involved in the inflammatory process. Three articles have been published, and a fourth has been submitted and is currently under review.

.Part C. RELEVANT MERITS (sorted by typology)

C.1. Publications (see instructions)

- 1) Pearson, J., **Zurita, F.**, Tomás-Gallardo, L., Díaz-Torres, A., Díaz de la Loza, M. C., Franze, K., Martín-Bermudo, M. D. and González-Reyes, A. (2016) ECM-regulator timp is required for stem cell niche organization and cyst production in the *Drosophila* ovary. ***PLOS Genet.*** 12(1): e1005763. doi:10.1371/journal.pgen.1005763. (IF 7.5) CLAVE: A
- 2) Díaz de la Loza, M. C., Díaz-Torres, A., **Zurita, F.**, Rosales-Nieves, A. E., Moendarbary, E., Franze, K., Martín-Bermudo, M. D. * and González-Reyes, A.* (2017) Laminin levels regulate tissue migration and Anterior-Posterior polarity during egg morphogenesis in *Drosophila*. ***Cell Reports***, 20, 211-223. doi: 10.1016/j.celrep.2017.06.031 (* authors for correspondence and equal contribution). (IF 8.9)
- 3) Ana Carrillo-Gálvez, Juan Quintero, René Rodríguez, Eva Allonca, Sofia Menéndez, Maria González, Verónica Blanco-Lorenzo, Virgínea De Araujo Farias, Juan González-Correa, Nadina Erill- Sagalés, Iñigo Martínez-Zubiaurre, Turid Hellevik, Sabina Sánchez-Hernández, Pilar Muñoz, **Federico Zurita**, Francisco Martin, Juan Carlos Rodriguez-Manzanegue, and Per Anderson. (2020). GARP promotes the proliferation and therapeutic resistance of bone sarcoma cancer cells through the activation of TGF- β . ***Cell Death & Disease*** 2020 Nov 17;11(11): 985.doi: 10.1038/s41419-020-03197-z. (IF: 8.469)
- 4) S. D. Denipitiyage, Y. I. N. S. Gunawardene, **Zurita Federico**, and R. S. Dassanayake Engineering RNA Interference-Based Dengue Virus Resistance in the Mosquito Vector *Aedes aegypti*: The Current Status and Future Directions. ***Genetically Modified and other Innovative Vector Control Technologies***. Chapter10. 2021. Springer. ISBN 978-981-16-2963-1 ISBN 978-981-16-2964-8 (eBook) <https://doi.org/10.1007/978-981-16-2964-8Springer>.



5) Galindo Moreno, Pablo; Abril García, Darío; Carrillo Gálvez, Ana Belén; **Zurita, Federico**; Martín Morales, Natividad; O'Valle, Francisco; Padial Molina, Miguel. Maxillary sinus floor augmentation comparing bovine vs. porcine bone xenografts mixed with autogenous bone graft. A split-mouth randomized controlled trial. *Clinical Oral Implants Research* 2022; 33:524–536. DOI: 10.1111/clr.13912 (IF: 5.977)

6) **Federico Zurita**^{#3} Ana Belén Carrillo-Gálvez^{*#1,2}, José Antonio Guerra-Valverde^{1,2}, Araceli Aguilar-González⁴, Darío Abril-García^{1,2}, Miguel Padial-Molina^{1,2}, Allinson Olaechea^{1,2}, Natividad Martín-Morales^{2,6}, Francisco Martín⁴, Francisco O'Valle^{2,4} and Pablo Galindo-Moreno^{1,2} NLRP3 and AIM2 inflammasomes expression is modified by LPS and titanium ions increasing the release of active IL-1 β in alveolar bone-derived MSCs. *Stem Cells Translational Medicine* *Stem Cells Translational Medicine*, Volume 13, Issue 8, August 2024, Pages 826–841, (IF: 6.94).

7) Dilamm Even-Ros, Judit Huertas-Romero, Miriam Marín-Menguiano, Gretel Nusspaumer, Miguel Borge, Manuel Irimia, **Federico Zurita**^{*}, and Acaimo González-Reyes^{*}. Stem cell niche ageing involves coordinated changes in transcription and alternative splicing. *Nature Communications*. 2025 Mar 16;16(1):2596. doi: 10.1038/s41467-025-57901-8. (IF: 16.6)

8) Ana Belén Carrillo-Gálvez^{*#1,2}, José Antonio Guerra-Valverde^{1,2}, Miguel Padial-Molina, Andrea Martínez-Cuevas, Darío Abril-García, Allinson Olaechea, Natividad Martín-Morales, Francisco Martín⁴, Francisco O'Valle, Pablo Galindo-Moreno and **Federico Zurita**^{*} Cross-talk between NLRP3 and AIM2 inflammasomes in macrophage activation by LPS and titanium ions. *Molecular Medicine*. 2025 Jun 9;31(1):223. doi: 10.1186/s10020-025-01290-7. (IF 6.1)

C.2. CONGRESS

18th International Congress of Developmental Biology. Natil Univ Singapore, (Singapore). JUN 18-22, 2017

25th European Drosophila Research Conference. 22nd 25th September 2017. London.

Switzerland 2019

Ageing and stem cell maintenance in niches: a role for alternative splicing

Dilamm Even Ros^{1,2}, Judit Huertas Romero^{1,2}, Manuel Irimia³, Zurita Federico², Acaimo González-Reyes¹.
1Centro Andaluz de Biología del Desarrollo (CSIC-UPO)
(Seville, SP); 2Universidad de Granada (Granada, SP); 3Centre for Genomic Regulation (Barcelona, SP)

The Allied Genetics Conference (TAGC) 22th-26th, April 2020 at the Gaylord Resort 17th Spanish Society for Developmental Biology meeting (2020)

17th meeting of the Spanish Society for Developmental Biology (SEBD). 18th -20th November 2020. Virtual.

Stem cell niche ageing in Drosophila correlates with changes in alternative splicing

Dilamm Even-Ros^{1,2}, Judit Huertas-Romero^{1,2}, Manuel Irimia³, Maria Lobo-Pecellin¹, Federico Zurita-Martinez², Acaimo Gonzalez-Reyes¹
1 Andalusian Centre for Developmental Biology, CABD (CSIC/UPO).
2 Department of Genetics, University of Granada.

C.3. Research projects

1-Project title: Análisis Genético, Molecular y Celular de las células troncales y del epitelio follicular del ovario de Drosophila



Funding Agency: Ministerio de Economía y Competitividad. PN-Biología Fundamental y de sistemas (area de Biología Molecular y Celular). Proyecto BFU2012-35446

Participant organisation: CSIC

From: 01.01.2013 To: 31.12.2015 Amount granted: 230,000 EUR (including overheads)

Principal Investigator: Acaimo González Reyes

Number researchers participating in the project: 4

2-Project title: Análisis Genético, Molecular y Celular de las células troncales del ovario de *Drosophila*

Funding Agency: Ministerio de Economía y Competitividad. Dirección General de Investigación Científica y Técnica. PN-Biología Fundamental y de Sistemas (área de Biología Molecular y Celular). Proyecto BFU2015-65372

Participant organisation: CSIC

From: 01.01.2016 To: 31.12.2018 Amount granted: 248,000 EUR

Principal Investigator: Acaimo Gonzalez Reyes

Number researchers participating in the project: 3

3-Project title: Análisis genético, molecular y celular del nicho de células troncales del ovario y de la morfogénesis epitelial de *Drosophila*.

Funding Agency: Ministerio de Univ., Ciencia e Investigación. Agencia Estatal de Investigación. Programa Estatal de Generación del Conocimiento. Área de Biociencias y Biotecnología (subárea de Biología Molecular y Celular).

Proyecto: PGC2018-097115-B-I00

Participant organisation: CSIC

From: 01.01.2019 To: 31.12.2021 Amount granted: 190,500 EUR

Principal Investigator: Acaimo Gonzalez Reyes

Number of researchers participating in the project: 3

4-Project title: High-tech transgenic approaches to control dengue by genetic engineering mosquito vector *Aedes aegypti*

Funding Agency: Ministry of City Planning, Water Supply Higher Education. Sri Lanka

Participant organization: University of Colombo

From: 01.04. 2019 to: 31.05.2023 Amount granted: 176,000 EUR (40.000.000 rupees)

Principal Investigator: Prof. R.S. Dassanayake.

5- Project title Establishment, maintenance and ageing of the *Drosophila* ovarian stem cell niche (*DroSTEMage*).

Funding Agency: Ministerio de Univ., Ciencia e Investigación. Agencia Estatal de Investigación. Programa Estatal de Generación del Conocimiento. Área de Biociencias y Biotecnología (subárea de Biología Molecular y Celular).

Proyecto: PID2021-125480NB-I00

Participant organisation: CSIC

From: 01.01.2021 To: 31.12.2024 Amount granted: 190,500 EUR

Principal Investigator: Acaimo Gonzalez Reyes

Number of researchers participating in the project: 3



Number researchers participating in the project: 5

5-Project title: Master in Climate Change Agriculture and Sustainable Rural Development (MACCARD).

Funding Agency: European Union (Erasmus+ Capacity Building in Higher Education)

Participant organization: University of Granada

From: 01.01.2019 to: 31.12.2022 Amount granted: 760.662 EUR

Principal Investigator: Luciano Gutiérrez (University of Sassari)

Number researchers participating in the project: 22

6 -Project title: Maintenance, establishment, and ageing of the *Drosophila* ovarian stem cell niche

Funding Agency: Ministerio de Univ., Ciencia e Investigación. Agencia Estatal de Investigación. Programa Estatal de Generación del Conocimiento. Área de Biociencias y Biotecnología (subárea de Biología Molecular y Celular).

Proyecto: PID2021-125480NB-100

Participant organisation: CSIC

From: 01.09.2022 To: 31.08.2025 Amount granted: 254.100 EUR

Principal Investigator: Acaimo Gonzalez Reyes

Number of researchers participating in the project: 3

Currently I am supervising to two PhD students:

Dilamm Even Ros. Title: "Ageing and stem cell maintenance in niches: a role for alternative splicing"

Judith Huertas Romero. Title "Study of the role of the smu1 gene in *Drosophila* oogenesis: its involvement in the structure of the "niche" of ovarian stem cells and in tissue homeostasis".