

CURRICULUM VITAE ABREVIADO (CVA)

Fecha del CVA	27/05/2026
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Part A. PERSONAL INFORMATION

First name	Federico		
Family name	Valverde Albacete		
Gender (*)	Male	Birth date	
Social Security, Passport, ID number			
e-mail			
Open Researcher and Contributor ID (ORCID) (*)	0000-0001-8063-0974		

A.1. Current position

Position	Director IBVF, Research Scientist (<i>Investigador Científico</i>),		
Initial date	May 23rd 2023		
Institution	<i>Consejo Superior de investigaciones Científicas (CSIC)</i>		
Department/Center	ENVEPI	Instituto de Bioquímica Vegetal y Fotosíntesis (IBVF)	
Country	SPAIN	Teleph. number	
Key words	Biochemistry, Genetics, Plant Development, Flowering, Photoperiod, Evolution, Systems Biology		

A.2. Previous positions (research activity interruptions, indicate total months)

Period	Position/Institution/Country/Interruption cause
1999-2000, 6 months	Postdoctoral Fellowship FEBS, JIC UK
2000-2002, 24 months	Postdoctoral Contract Marie Curie UE JIC UK, MPIZ Germany
2002-2004, 18 months	Postdoctoral Contract Max-Planck Society, MPIZ Germany
2004-2009, 60 months	Postdoctoral Contract Ramón y Cajal, CSIC-IBVF, Spain
2009-2023, 160 months	<i>Científico Titular CSIC</i>
2023-, 36 months	<i>Investigador Científico CSIC</i>
2026-	<i>Director IBVF, CSIC-US</i>

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
Biology Bachelor	Seville University	1992
Master	CSIC-Seville University	1994
PhD, Dr in Biochemistry	CSIC-Seville University	1999

Part B. CV SUMMARY

Grade (1992) from Seville University and PhD (1999) from CSIC, stay of four years as a postdoctoral researcher at the John Innes Centre (JIC, Norwich, UK) and the Max Planck Institute for Plant Growth (MPIZ, Cologne, Germany) with the help of FEBS and Marie Curie UE Fellowships. Thanks to European and national grants (I3P, ‘*Ramón y Cajal*’ contract), I became PI at the IBVF (Spain) and got tenured at CSIC in 2009, recently promoted to Research Scientist, 2023. In 2010, I founded the Plant Development Group (PDG), centering efforts from several researchers. Author of more than 50 peer-reviewed articles from top generalist and specialized journals, my research is centered on how external cues influence plant development, particularly phase transition events. Especially interested in the evolution of regulatory networks that control light responses, I have worked with plant and algae, in order to recapitulate the evolutionary complexity of Spermatophytes, since the simple systems of lower eukaryotes may help understand complex processes of higher eukaryotes. I am interested in the gene networks that modulate the response of the plant to changes in environmental conditions and how they can be modified for agricultural production. We also study the molecular mechanisms that trigger the floral transition by photoperiod in *Arabidopsis* and how they affect other physiological aspects of plant growth and development.

My scientific achievements have been published in top magazines of the plant field (*Plant Cell*, *Molecular Plant*, *Plant Physiology*, *Plant Journal*, *Current Opinion in Plant Biology*) and in generalist journals with a high IF (*Nature*, *Science*, *EMBO Journal*, *PNAS*, *Current Biology*) that give credit to their widespread interest. Three consecutive publications in *Nature*, *Science* and *EMBO J* accumulate more than 2500 citations. The study in *Science* was a breakthrough in flowering time, confirming the ‘external coincidence model’ for the flowering response, which, together with the following photoperiod hormone-florigen mechanisms, is present in textbooks. Our study in *C Biology* allowed the production of a patent and the writing of invited reviews, international talks and collaborative works with industry. Two recent publications in *Mol Plant* have opened a new field of research in how seasonal cues affect other important plant traits. The impact of these results has allowed their publication at international conferences and meetings (FESPB, ICPMB, FOSE, FASEB) and invitations to top-level institutions (John Innes Centre, Max Planck Institute, Un California Berkeley, Un Sao Paulo ESALQ).

My research expertise is multidisciplinary in the techniques applied and in the range of biological models used; from mammals, bacteria and algae metabolic regulation to plant development, which is reflected in more than 16 national and international projects as IP. The knowledge acquired and its application to plant processes is in the frontier of research as evidenced by some recent high-profile publications of the group and the contracts with industry and patent. During my career I have acquired multidisciplinary scientific training from international top researchers and keep excellent collaborations (G Coupland, MPIZ; M Kater, Un Milano; FT Nogueira, Un Sao Paulo; JA Jarillo, M Piñeiro, INIA; JM Romero, Francisco J Romero, Un Seville; MA Blázquez, M Calonje, CSIC).

The Environmental and Epigenetic Regulation of Plant Development Group (ENVEPI) is a CSIC-US-JA recognized research group that receives both national and international researchers from all training stages interested in Plant molecular Genetics. I have successfully mentored 6 PhD students (1 in progress). The balanced CSIC-University mix of the group researchers, together with the multiple research facilities at the IBVF and CICCartuja, makes the training program in our group very complete for graduate, master, and technician levels, of which I have formed more than 20 students. I teach in two different Masters from the University of Seville and the International Andalusian University and I am also part of the doctoral professorship at the Seville Biology Faculty Doctoral Program. I have also evaluated research projects from national (AEI) and International Research Programs (NIH-USA; DFG-Germany, CNRS-France, BBSRC-UK, ...), and have been selected as an expert for the Evaluation of EU Research Funding Programs (FP6, FP7, Horizon 2020, Horizon Europe). I have participated in several TV programs, fairs, round tables, interviews and workshops for science outreach, including a 2023 podcast ‘*Los secretos de las plantas*’ program (<https://www.spreaker.com/episode/noosfera-165-los-secretos-de-las-plantas-federico-valverde--56249907>) and Canal Sur “Tierra y Mar & Espacio Protegido” program, June 2nd 2024. (<https://www.canalsurmas.es/videos/category/5379-espacio-protegido>). In April 2026, elected as director of the Institute for Plant Biochemistry and Photosynthesis (IBVF, CSIC-US) in Seville, Spain.

- Metrix analysis:

- . Total citation number: 5557 (7105 Google Scholar), H index: 28, (32 Google Scholar).
- . Average number of citations/years, last 5 years: 330.6 (393.6 Google Scholar).
- . Total number of publications 55, Q1: 37, D1: 28.
- . These Works directed: 6 (1 ongoing); Master Works: 18; Grade Works: 13.
- . Six-year research merit: 6, last 31/12/2024; five-year research merit: 6, last 31/12/2024.
- . Congress organization: 3 nationals, 3 internationals.
- . Invited speaker at international congresses and Institutions: 14.

Part C. RELEVANT MERITS

C.1. Publications (10 selected, Corresponding: *)

- 1- B. Catarino, F. Rodríguez-Marín, C. Úrbez, C. Arvanitidou, E. Álvarez, **F. Valverde**, J.M. Franco-Zorrilla, F. Romero-Campero, & M.A. Blázquez (2026) Conserved regulatory core and lineage-specific diversification of light–temperature integration in plants, *Proc. Natl. Acad. Sci. U.S.A.* 123 (19) e2601574123, <https://doi.org/10.1073/pnas.2601574123>.
- 2- A Carvalho Jr, MH Vicente, LF Ferigolo, EM Silva, BS Lira, N Teboul, et al. (2025) The miR319-based repression of SITCP2/LANCEOLATE activity is required for regulating tomato fruit shape. *Plant Journal* 121, e17174.
- 3- de los Reyes, P.; Romero-Campero, F.J.; Gao, He; Serrano-Bueno, G; Romero, JM; **Valverde, F.*** (2024) CONSTANS alters the circadian clock in *Arabidopsis thaliana*. *Molecular Plant* 17, 1204-1220.

- 4- Serrano-Bueno, G., de los Reyes, P., Chini, A., Ferreras-Garrucho, G., Sánchez de Medina-Martínez, V., Boter, M., Solano, R. and **Valverde, F.*** (2022) Regulation of floral senescence in *Arabidopsis* by coordinated action of CONSTANS and jasmonate signaling. *Molecular Plant* 15, 1710-1724.
- 5- Serrano-Bueno, G.; Said, F.E.; de los Reyes, P.; Lucas-Reina, E.I.; Ortiz-Marchena, I.M.; Romero, J.M.; **Valverde, F.*** (2020) CONSTANS-FKBP12 interaction contributes to modulation of photoperiodic flowering in *Arabidopsis*. *Plant Journal* 101,1287-1302.
- 6- Serrano-Bueno, G., Romero-Campero, F.J., Lucas-Reina, E. Romero, J.M.; **Valverde, F.*** (2017) Evolution of photoperiod sensing in plants and algae. *Current Opinion in Plant Biology* 37,10-17.
- 7- Ortiz-Marchena, M.I., Albi, T., Lucas-Reina, E., Said, F.E., Romero-Campero, F.J., Cano, B., Ruiz, M.T., Romero, J.M. and **Valverde, F.*** (2014) Photoperiodic control of carbon distribution during the floral transition in *Arabidopsis thaliana*. *Plant Cell* 26, 565-584.
- 8- Serrano, G., Herrera-Palau, R., Romero, J.M., Serrano, A., Coupland, G. and **Valverde, F.*** (2009) *Chlamydomonas* CONSTANS and the evolution of plant photoperiodic signaling. *Current Biology* 19, 359-368.
- 9- **Valverde, F.**, Mouradov, A., Soppe, W., Ravenscroft, D., Samach, A. and Coupland, G.* (2004) Photoreceptor regulation of CONSTANS protein in Photoperiodic Flowering. *Science* 303, 1003-1006.
- 10- Suárez-López P, Wheatly K, Robson F, Onouchi H, **Valverde F**, Coupland G* (2001) CONSTANS mediates between the circadian clock and the control of flowering in *Arabidopsis*. *Nature* 410, 4116-4120.

C.2. Congresses (selected, last 5 years).

International:

- 1- Camacho-Fernández, C. et al. Understanding the Sugar–Vernalization Nexus in Flowering Regulation. Iberian Plant Biology-2025, 1-4/07/2025, Murcia, Spain. Oral.
- 2- Gloria Serrano-Bueno, Carolina Camacho-Fernández, Manuela Rodríguez-Delgado, Mateus H Vicente, Javier Pérez Hormaeche, Fernando Baile, Ana M Pereira, Jessy Silva, Silvia Coimbra, Federico Valverde. ‘Photoperiodic control of fertility in *Arabidopsis thaliana*’. Workshop on Molecular Mechanisms Controlling Flowering. June 16th-20th, 2024. **Oral.**
- 3- Catarino, B., Rodríguez, F., Úrbez, C., Arvanitidou, C., Álvarez, E., Franco, J., Valverde, F., Romero, F. and Blázquez, M.A. Multisensory integration of light and temperature predates plant terrestrialisation. Iberian Plant Biology, Braga, Portugal, July 9th-12th, 2023. **Oral.**
- 4- Gloria Serrano-Bueno, Pedro de los Reyes, Andrea Chini, Gabriel Ferreras-Garrucho, Víctor Sánchez de Medina-Martínez, Roberto Solano, and Federico Valverde. ‘CONSTANS and jasmonate signaling coordinate floral senescence in *Arabidopsis*’. Workshop on Molecular Mechanisms Controlling Flowering. May 29th - June 1st 2022. Alicante, Spain. **Oral.**
- 5- De los Reyes, P.; Gao, H.; Coupland, G.; Romero-Campero, F.J.; Romero, J.M.; Valverde, F. Oral. Control of the circadian clock by the photoperiodic pathway in *Arabidopsis*. American Society of Plant Biologists, Plant Biology Worldwide Summit, USA. July 19th-23rd, 2021. **Oral.**

National:

- 1- Valverde F. A pervasive effect of photoperiod in the physiology of *Arabidopsis* and tomato. Red Temática de EvoDevoSigNet. 2- 4 junio 2025, La Cristalera, Madrid, Spain. **Oral.**
- 2- Catarino B, et al. ‘Multisensory integration of light and temperature at the dawn of land plant colonisation’. XVII Plant Molecular Biology Meeting. Spain. 03-05/06/2024. **Oral.**
- 3- Valverde F. ‘The pervasive effect of photoperiod in plant physiology regulatory circuits’ Seminar Series 1 Centro de Biotecnología y Genómica de Plantas (CBGP, UPM-UNIA, CSIC). 10/12/2024. **Oral, invited.**
- 4- Pedro de los Reyes, Francisco J Romero-Campero, He Gao, Gloria Serrano-Bueno, Jose M Romero, George Coupland and Federico Valverde. CONSTANS alter the circadian clock in *Arabidopsis thaliana*. Reunión Biología Molecular de Plantas. Sevilla, Sep. 14-16th, 2022. **Oral.**
- 5- Serrano-Bueno, G.; Sánchez de Median, V.; Chini, A.; Solano, R.; Valverde, F. Flower senescence promotion by CONSTANS through jasmonate pathway in *Arabidopsis thaliana*. XV Reunión Biología Molecular de Plantas, Alicante, November 26-27th, 2020. **Oral.**

C.3. Research projects (10 selected).

- 1- PID2023-146331OB-I00. Explorando la complejidad del fotoperiodo como una señal robusta para combatir el cambio climático (ROPHOT). IPs F Valverde (CSIC) y G Serrano-Bueno (US). MICIN-AEI Proyectos Generales de Conocimiento 2023. (231.250,00 €). 3 years.
- 2- PID2020-117018RB-I00. Estudio del papel de la señalización por fotoperiodo en nuevas funciones fisiológicas y de desarrollo en plantas (PHOTOFLOW). IPs F Valverde (IBVF, CSIC) y JM Romero (US). MICIN-AEI, convocatoria RETOS de la Sociedad. 09/2021 - 08/2024 - 2/2025 (extension) (205.700,00 €).
- 3- US-1380550. Effect of FRIGIDA protein stabilization by sugars in flowering time in *Arabidopsis thaliana*. IPs JM Romero (US) y F Valverde (IBVF, CSIC). Junta de Andalucía. Convocatoria Proyectos de Excelencia – US.01/01/2021-31/12/2022 (80.000,00 €).
- 4- COOPB20504. Identifying photoperiodic targets in tomato introgressing genes from ancient partners (PHOTOGEAN). IP F Valverde (IBVF, CSIC). CSIC, I-COOP+2020, colaboración U. Sao Paulo, Brasil y empresa Bio-Gold, Sudáfrica. 01/2021 - 12/2022 (24.000,00 €). **INTERNATIONAL.**
- 5- P18-FR-3307. Ecology Meets Functional Genomics: Understanding the Genetic Basis of Adaptive Plant Development in Rapidly Changing Environments. IPs, FJ Picó (EBD, CSIC) y F Valverde (IBVF, CSIC). Junta de Andalucía. Convocatoria Proyectos de Excelencia. 01/2020 – 12/2022 (99.800,00 €).
- 6- BIO2017-83629-R. Integración del fotoperiodo con señales fisiológicas y ambientales en plantas. IPs F Valverde (IBVF, CSIC) y JM Romero (US). Dirección General de Investigación Científica y Técnica (MINECO). Convocatoria RETOS. 01/2018 – 09/2021 (205.700,00 €).
- 7- MSCA-IF-2018 838317. LONGFLOW, Role of CONSTANS in flower longevity. IPs F Valverde (IBVF, CSIC) y G Serrano-Bueno (IBVF, CSIC). *EUROPEAN COMMISSION Research Executive Agency*, proyecto MSCF. 09/2019 – 08/2021 (172.856,00 €). **INTERNATIONAL.**
- 8- BIO2014-52425-P. Interacción entre las señales de nutrientes, luz y temperatura en la transición floral en *Arabidopsis*. IPs F Valverde (IBVF, CSIC) y JM Romero (US). Dirección General de Investigación Científica y Técnica (MINECO). 01/2015 – 12/2017 (205.700,00 €).
- 9- BIO2011-28847-C02-00 (proyecto coordinado). Mecanismos moleculares implicados en la regulación conjunta de la respuesta fotoperiódica y el metabolismo del carbono en plantas. IP F Valverde (coordinador IBVF, CSIC). MICINN. 01/2012 – 31/12/2014 (204.000,00 €).
- 10- BIO2007-61837. Bases moleculares de la floración: fotoperiodo y metabolismo. IP F Valverde (IBVF, CSIC). Ministerio de Educación y Ciencia (MEC). 01/2007 – 12/2010 (112.530,00 €).

C.4. Contracts, technological or transfer merits.

1- Aplicaciones biotecnológicas de la señal floral mediada por fotoperiodo en cultivos de interés agronómico. CONTRATO PARA LA REALIZACIÓN DE ACTIVIDADES DE I+D: Desarrollo Agronómico de inductores de la floración. Junta de Andalucía. Coordinador F. Valverde (IBVF, CSIC) Consejo Superior de Investigaciones Científicas y New Biotechnic S.A. (NBT). 02/2009 – 02/2013 (35.000,00 €).

2- Contractual Framework Agreement Between the **Consejo Superior de Investigaciones Científicas**, M.P. and the Enterprise **Cambri.CO S.A.** IPs F Valverde (IBVF, CSIC) and M. Rey (Cambri.CO S.A). Starting date XI 2021, contract running.

3- Patent: JM Romero, A Serrano, F Valverde. **Use of a nucleotide sequence that regulates flowering time, plants expressing same and production method thereof.** doi: 10.13140/2.1.3398.2408. Application number: P0200900458. Priority country: Spain. Priority date: 2009 Entity: CSIC. Extended countries: All from EU, USA. **In exploitation:** Plant Bioscience Limited (PBL) and licensed to Pioneer Hi-Bred International, Inc. (end exploitation 2013-).

EVALUATION ACTIVITIES (since 2020)

- Editor “Frontiers in Plant Science”. 2013-2026; Editor “Plants”. 2018-2026
- Evaluator, Spanish Science Agency (AEI): National Plan Projects (2007-2026), ‘Juan de la Cierva’ contracts (2018) and ‘Ramón y Cajal’ contracts (2019), project commission (2022, 2025).
- Review evaluator peer reviewed: Nature Communications, Molecular Plant, Plant Journal, Plant Cell, Plant Molecular Biology, Plant Physiology, PLOS One, ...
- Evaluator of International Agencies AEI (Spain), NSF (USA), CONICET (Argentina), ANR (France), DGH (Germany), IRC (Ireland)
- Expert Evaluator Research Executive Agency (REA) for ‘Marie Curie Individual Fellowships’ from FP7-PEOPLE-2010-2012 and MSCFA (RISE, ITN) H2020 European Union (2010-2019), Horizon Europe (HE programs, 2022).
- Expert in Biofertilizers, Spanish Ministry of Agriculture (2016-2026).