

**CURRICULUM VITAE ABREVIADO (CVA)****Part A. PERSONAL INFORMATION****CV date**

02/01/2025

First name	Fernando		
Family name	Andrés Lalaguna		
Gender (*)	Male	Birth date	04/05/1977
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Open Researcher and Contributor ID (ORCID) (*)		0000-0003-4736-8876	

(\*) Mandatory

**A.1. Current position**

Position	Group leader ( <a href="#">link</a> )		
Initial date	09/09/2024		
Institution	Consejo Superior de Investigaciones Científicas (CSIC)		
Center	Instituto de Biología Molecular y Celular de Plantas		
Country	Spain	Ph. number	+34963877850
Key words	Plant development, plant molecular biology, flowering time, environmental cues, rice		

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

Period	Position/Institution/Country/Interruption cause
2020-2024	Team leader, National Research Institute for Agriculture, Food and the Environment (INRAE). Genetic Improvement and Adaptation of Mediterranean and Tropical Plants (AGAP institute), France
2016-2020	PI, INRAE. AGAP Institute, France
2008-2016	Postdoc, Max Planck Institute for Plant Breeding Research (MPIPZ), Germany
2004-2008	PhD student, Valencian Institute for Agricultural Research (IVIA), Spain

**A.3. Education**

PhD, Licensed, Graduate	University/Country	Year
PhD Biotechnology	Polytechnic University of Valencia & IVIA/Spain	2008
Master's Degree (TFG)	Polytechnic University of Valencia & IVIA/Spain	2004
Bsc Agronomical Engineering	Polytechnic University of Valencia	2003

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

During my scientific career (R3 researcher), I have strongly contributed to the characterization of molecular mechanisms involved in flowering control of several plant species, including **rice**, **apple tree** and ***Arabidopsis thaliana***. As a PhD student at the IVIA (Spain, 2004-2008), including a 2-months visit at the **University of Arizona (USA)**, I focused on the control of flowering time in rice. The main scientific contributions were: the characterization of a rice mutant collection ([Domingo et al. 2007](#)), the identification of a novel role of plant photoreceptors in controlling flowering time ([Andrés et al. 2009](#)) and establishment of a relationship between auxin homeostasis and fungus resistance ([Domingo et al. 2009](#)). I produced **7 scientific articles**, **1 book chapter** and **2 dissemination papers** in the PhD and undergraduate period. After my PhD, I joined the Prof. George Coupland group as a postdoc at the MPIPZ (Cologne, Germany). There, **I was awarded with a Marie Skłodowska-Curie individual fellowship (MSCA-IF)** ([link](#)) and I have used genetic, molecular and genomic approaches to study gene regulatory networks controlling flowering time in *A. thaliana*. I have participated as an invited researcher in 3 European projects (e.g. FLOWPLAST) and established a **large international network around plant development and genomics**. I took the responsibility for **training Masters and PhD students**, and for **organizing and supervising collaborations** with international research groups. My main scientific contributions during this period were: the identification and characterization of a regulatory network that controls flowering time by affecting the gibberellin hormonal signaling ([Gregis](#)



[et al. 2013](#), [Andrés et al. 2014](#)), and the biochemical, genetic and molecular characterization of a master flowering time regulator (florigen) ([Nakamura et al. 2014](#), [Andrés et al. 2015](#)). I have produced **13 publications during my postdoc**, including 1 book chapter and a highly cited review on the control of flowering time by environmental cues ([Andrés and Coupland, 2012](#)). Several of my publications are co-authored by PhD and undergraduate students I supervised (e.g. [Qing et al. 2020](#)) and in collaboration with international groups (e.g. [Krzymuski et al. 2015](#)).

I passed an INRAE open competition in 2015 and I joined as research scientist the Architecture and Flowering of Fruit Tree Species (AFEF) team of the AGAP institute (Montpellier, France). Initially, I have been the Principal Investigator in charge of the studies on the **molecular control of floral transition and flowering phenology of apple tree**. I was appointed as the AFEF's **team leader** in 2020. The AFEF team was formed by 10 permanent staff and several postdoc, PhD and ungraduated students ([link](#)). At INRAE, I have made important contributions to develop genomic tools for fruit tree species studies ([Estevan et al. 2020](#)) and to understand the molecular control of dormancy cycle in apple trees ([Falavigna et al. 2019](#), [Falavigna et al. 2021](#), [Garighan et al. 2021](#), [Falavigna et al. 2022](#), [Watson et al. 2024](#)). I have **published 7 articles** and have obtained **9 projects as a coordinator** and been involved in **other 2 as a WP leader**. Notably, I **coordinate a European ERA-NET project** involving 3 countries and 8 partners ([link](#)), and an **ANR (France) – DFG (Germany) project** ([link](#)). I am also **coordinator of a MSCA-IF** to Dr Watson ([link](#)) and a Mobility fellowship to M. Al Bolbol ([link](#)). Recently, I have obtained a **CIDEGENT grant** ([link](#)) from the Valencian Government (Spain) to establish a **research group** on the control of flowering time in rice at the IBMCP (CSIC/UPV, Spain). In total, I **have attracted more than 1.7 Million €** in terms of scientific grants.

Regarding **supervision and training**, in addition to the permanent staff of the team I lead, I have supervised 2 PhD students (Q. Sang [MPIPZ 2013-16] and J. Garighan [AGAP 2018-22]), and I am currently supervising another one (AGAP M. Al Bolbol, 2022-25), 17 internship students (AGAP and MPIPZ), 5 postdoctoral researchers at AGAP (Dr. Falavigna [2017-19], Dr. Watson [2022-24], Dr. Jeong [2022-23], Dr. Giopatto [2023-24] and Dr. Fernández [2023-24]) and 2 research specialists under fix-term contract (AGAP C. Foray [2022-24] and S. El Khoury [2023-24]).

In terms of editorial and evaluating activities, I have reviewed papers for more than 15 journals (PNAS, Nat Plants, etc.), edited two topic collections (e.g. [Hisajo et al. 2023](#)) and been **assistant editor** of Frontiers. I have been **elected member of the scientific committee** of BAP INRAE (2020-2024). I am an **expert within the evaluators' panel of the Spanish Agency for Research (AEI)**. I have evaluated projects for **INRAE, BBSRC (UK), NSF (USA) and DFG (Germany)** and been part of the **scientific committee** of an international symposium ([link](#)). I have participated as a member in **6 Thesis committees, 8 Thesis external evaluations** and **6 Thesis Advisory Committees**.

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

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

Total of 30 publications: **26 peer-reviewed** papers; i.e.: 6 as first author and 7 as corresponding author (an additional one being revised: Watson et al.), 2 book chapters and 2 dissemination articles. Google scholar cites: **3712 (H-index: 21)**; WOS cites: **2545 (H-index: 18)**.

**Legend:** (CA): corresponding author; (+): equal contribution; (X/Y): "X" refers to the position of the applicant; "Y" refers to the total number of authors

1. Amy E Watson, Baptiste Guitton, Alexandre Soriano, ... , **Fernando Andrés (CA)** (16/16) (2024) Target enrichment sequencing coupled with GWAS identifies MdPRX10 as a candidate gene in the control of budbreak in apple. *Frontiers in Plant Science* 15, 1352757 <https://doi.org/10.3389/fpls.2024.1352757>
2. Vítor da Silveira Falavigna, Edouard Severing, Xuelei Lai, Joan Estevan, ... , **Fernando Andrés (CA)** (11/11) (2021) Unraveling the role of MADS transcription factor complexes in apple tree dormancy. *New Phytologist* 232 (5):2071-2088. <https://dx.doi.org/10.1111/nph.17710>
3. **Fernando Andrés<sup>+</sup> (CA)**, Atsuko Kinoshita<sup>+</sup>, Naveen Kalluri, ... , George Coupland (CA) (1/12) (2020) The sugar transporter SWEET10 acts downstream of FLOWERING LOCUS T during floral transition of *Arabidopsis thaliana*. *BMC Plant Biology* 20 (53). <https://dx.doi.org/10.1186/s12870-020-2266-0>



4. Martín Krzymuski, **Fernando Andrés**, Juan I Cagnola, Seonghoe Jang, Marcelo J Yanovsky, George Coupland, Jorge J Casal (CA) (2015) The dynamics of FLOWERING LOCUS T expression encodes long-day information. *Plant Journal* 83 (6): 952-961. <https://dx.doi.org/10.1111/tpj.12938>
5. **Fernando Andrés**, Maida Romera-Branchat, Rafael Martínez-Gallegos, ... , George Coupland (CA) (1/9) (2015). Floral Induction in Arabidopsis by FLOWERING LOCUS T Requires Direct Repression of BLADE-ON-PETIOLE Genes by the Homeodomain Protein PENNYWISE. *Plant Physiology*, 169 (3), 2187-2199. <https://dx.doi.org/10.1104/pp.15.00960>
6. Yuki Nakamura, **Fernando Andrés**, Kazue Kanehara, Yu-Chi Liu, Peter Dörmann, George Coupland (CA) (2014). Arabidopsis florigen FT binds to diurnally oscillating phospholipids that accelerate flowering. *Nature Communications* 5, 3553. <https://dx.doi.org/10.1038/ncomms4553>
7. **Fernando Andrés**<sup>+</sup>, Aimone Porri<sup>+</sup>, Stefano Torti<sup>+</sup>, ... , George Coupland (CA) (1<sup>+</sup>/10) (2014). SHORT VEGETATIVE PHASE reduces gibberellin biosynthesis at the Arabidopsis shoot apex to regulate the floral transition. *Proceedings of the National Academy of Sciences of the United States of America* 111 (26): E2760-E2769. <https://dx.doi.org/10.1073/pnas.1409567111>
8. Veronica Gregis<sup>+</sup>, **Fernando Andrés**<sup>+</sup>, Alice Sessa<sup>+</sup>, ... , Martin M Kater (CA) (1<sup>+</sup> /15) (2013). Identification of pathways directly regulated by SHORT VEGETATIVE PHASE during vegetative and reproductive development in Arabidopsis. *Genome Biology* 14 (6): R56. <https://dx.doi.org/10.1186/gb-2013-14-6-r56>
9. **Fernando Andrés**, George Coupland (CA) (2012). The genetic basis of flowering responses to seasonal cues. *Nature Reviews Genetics* 13 (9): 627-639. <https://dx.doi.org/10.1038/nrg3291>
10. **Fernando Andrés**, David W Galbraith, Manuel Talón, Concha Domingo (CA) (2009). Analysis of PHOTOPERIOD SENSITIVITY5 sheds light on the role of phytochromes in photoperiodic flowering in rice. *Plant Physiology* 151 (2): 681-690. <https://dx.doi.org/10.1104/pp.109.139097>

## C.2. Congress

I have presented 54 communications in conferences, seminars and symposiums, including 16 as an invited speaker and 7 as a selected speaker. Selected communications:

1. [Invited speaker] **Fernando Andrés** (10/10/2024). FruitFlow–Predicting and tuning seasonal responses of apple and peach to improve orchard yield and climate change resilience. Presented at: Towards New Horizons - Sustainable solutions in Agri-Food and Biotechnology. Berlin, Germany.
2. [Oral presentation] Virginia Fernández, Mohamad Al Bolbol, Kwanho Jeong, ... , **Fernando Andrés** (CA) (10/10 )(16/06/2024). A genetic regulatory network controlling floral transition in apple. Presented at: Workshop on Molecular Mechanisms Controlling Flowering, Palermo, Italy.
3. [Invited speaker] **Fernando Andrés** (23/02/2023). Multi-omic approaches to study bud dormancy in apple tree. Presented at: Plant Biotechnology for Agriculture of the XXI century, Milan, Italy.
4. [Invited speaker] **Fernando Andrés** (22/02/2023). Using multi-omics to study bud dormancy in apple tree. Presented at: INUPRAG Symposium on Integrative Plant Biology, Umea, Sweden.
5. [Invited speaker] **Fernando Andrés** (01/06/2023). A genetic network governed by MADS transcription factors controls dormancy and flowering time in apple trees. Presented at: Workshop on Molecular mechanisms controlling flower development, Alicante, Spain.
6. [Invited speaker] **Fernando Andrés** (09/02/2022). Etude du contrôle génétique et moléculaire de la floraison du pommier pour améliorer sa résilience au changement climatique. Presented at: Plant Alliance seminars; La résilience des plantes face aux variations de leur environnement, Virtual, France
7. [Invited speaker] **Fernando Andrés** (25/11/2021). Control of flowering in fruit trees. Presented at: Minisymposium on Reproductive development in plants - control of flowering time and growth cycle in crops, Virtual, Finland.
8. [Invited speaker] **Fernando Andrés** (08/11/2021). Genetic and molecular control of bud dormancy cycle in apple trees. Presented at: 1st International Symposium on the Reproductive Biology of Fruit Tree Species, Virtual, France
9. [Oral presentation] Vitor Falavigna, Baptiste Guitton, Célia Ahier, ... , **Fernando Andrés** (CA) (9/9) (26/06/2018). Control of bud dormancy process in apple: a genetic-molecular study. Presented at: 9<sup>th</sup> International Rosaceae Genomics Conference, Nanjing, China.
10. [Invited speaker] **Fernando Andrés** (12/12/2017). Genetic and molecular characterization of bud



dormancy in apple. Presented at: International Conference on Plant Developmental Biology (ICPDB), Niser, India.

11. [Oral presentation] Vitor Falavigna, Baptiste Guitton, Célia Ahier, ... , **Fernando Andrés** (CA) (14/14) (03/09/2017). Genetic and molecular characterization of bud dormancy in apple: deciphering candidate gene roles in dormancy regulation. Presented at: Workshop on molecular mechanisms controlling flower development, Padova, Italy.

### C.3. Research projects

Direct participation in 11 projects: 9 as the project coordinator funded by INRAE (3), ANR (1), ERANET (1) and Agropolis foundation (2), MCSA IF to Dr. Watson ([link](#)) (1), GVA (1), and 2 as a work package leader funded by Agropolis foundation (1) and by INRAE (1A selection of 5 projects are detailed:

**1. Molecular mechanisms of flowering time control mediated by warm temperatures in rice (FlowRice)** - Reference: CIDEXG/2023/28

Funding body and call: Generalitat Valenciana (GVA), Call CIDEAGENT 2023

Principal Investigator(s): Dr. Fernando Andrés (IBMCP CSIC/UPV)

Start date and end date: 09/09/2024-08/09/2028 (with the option for 2 fully-funded additional years)

Total amount of the grant: 610 000 €

Participation of the candidate: Project coordinator

**2. Analysis of a gene regulatory network underlying trait divergence between annual and perennial plants (DAAP)** - Reference: ANR-21-CE20-0031

Funding body and call: ANR (France) and DFG (Germany); call ANR PRCI 2021

Principal Investigator(s): Dr. Fernando Andrés (UMR AGAP), Prof. George Coupland (MPIPZ) and Prof. Martin Hülkamp (University of Cologne)

Start date and end date: 01/02/2022-31/01/2025

Total amount of the grant: 856 000 € (240 000€ for Dr. Andrés group)

Participation of the candidate: Coordinator (for the ANR funding body)

**3. Predicting and tuning seasonal responses of apple and peach to improve orchard yield and climate change resilience (FruitFlow)** - Reference: ANR-21-SUSC-0002

Funding body and call: ANR (France), AEI (Spain), DFG (Germany); call ERA-NET SUSCROP2 2021

Principal Investigator(s): Dr. Fernando Andrés (AGAP Institute), Prof. George Coupland (MPIPZ), Dr. Mariano Perales (UPM/CBGP), Dr. Gabino Ríos (IVIA), Dr. Jesús García (IMIDA). Industrial partners: IDAI Nature (Spain), UTW (Spain), SudExpe (France).

Start date and end date: 01/06/2021-31/05/2024

Total amount of the grant: 822 000 € (289 000€ for Dr. Andrés group)

Participation of the candidate: European project coordinator

**4. Exploring a gene inducible system for functional studies related to flowering phenology in apple (GenFun)** - Reference: PROJECT 1702-023

Funding body and call: Agropolis foundation (France), call Young Researchers 2018

Principal Investigator(s): Dr. Fernando Andrés (AGAP Institute), Dr. Benoit Lacombe (UMR BPMP)

Start date and end date: 01/06/2018-31/12/2019

Total amount of the grant: 19 915 € (16 000€ for Dr. Andrés group)

Participation of the candidate: Project coordinator

**5. Genetic and molecular characterization of bud dormancy in apple: deciphering candidate gene roles in dormancy regulation (DormAp)** - Reference: PROJECT 1503-008

Funding body and call: Agropolis foundation (France), Embrapa (Brazil); call AAP AF-EMBRAPA 2016

Principal Investigator(s): Dr. Evelynne Costes (AGAP Institute), Dr. Luis Fernando Revers (EMBRAPA)

Start date and end date: 01/11/2016-31/12/2019

Total amount of the grant: 99 684€ (49 842€ for Dr. Andrés group)

Participation of the candidate: Work Package Leader

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

My main research activities have been related to fundamental research. As technological merits, I have produced the following transcriptomics data bases on GEO NCBI: GSE125054, GSE48948, GSE89109, GSE32397, GSE16796. I have contributed to these ones: GSE189658, PRJNA698061 and PRJNA560053.