MINISTERIO DE ECONOMÍA, INDUSTRIA Y COMPETITIVIDAD

**CURRICULUM VITAE (maximum 4 pages)**

AGENCIA ESTATAL DE INVESTIGACIÓN

## Part A. PERSONAL INFORMATION

| CV date | 12/09/2023 |
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|---|---|---|---|
| First and Family name | Isabel Allona Alberich | | |
| Social Security, Passport, ID number | | Age | |
| Researcher numbers | Researcher ID | J-5972-2014 | |
| | Orcid code | 0000-0002-7012-2850 | |

### A.1. Current position

| | | | |
|---|---|---|---|
| Name of University/Institution | Universidad Politécnica de Madrid | | |
| Department | Biotecnología-Biología Vegetal (UPM)/Centro de Biotecnología y Genómica de Plantas (CBGP-UPM/INIA) | | |
| Address and Country | Autovía M40, Km 38, Campus de Montegancedo, 28223-Pozuelo de Alarcón | | |
| Phone number | +34910679172/910670832 | E-mail | isabel.allona@upm.es |
| Current position | Catedrática de Universidad y Deputy Director of Scientific InfrastructuresCBGP | From | 09/2017 02/2020 |
| Espec. cód. UNESCO | 2415, 3106 | | |
| Palabras clave | Bioquímica y Biología Molecular de Plantas, Biotecnología Forestal, Control Estacional y Circadiano de los Ciclos Crecimiento-Dormancia en Árboles | | |

### A.2. Education

| PhD | University | Year |
|---|---|---|
| Ingeniero de Montes | Universidad Politécnica de Madrid | 1986 |
| Doctor Ingeniero de Montes | Universidad Politécnica de Madrid | 1991 |

### A.3. JCR articles, h Index, thesis supervised…

- JCR articles (Q1): 28
- Research periods (CNEAI), last finished in 2018
- h index: 23 (Google Scholar)
- Total citation: 2412 (Google Scholar) Citation since 2018: 727 (Google Scholar)
- Thesis Supervised: 3 completed in the last 10 years and 1 in its third year (2020-…)

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

I am a Biochemistry and Molecular Biology Professor in the Biotechnology-Plant Biology Department at the Universidad Politécnica de Madrid (UPM). Since February 2020 I am the Deputy Director of Scientific Infrastructure of the Centre for Plant Biotechnology and Genomics (CBGP-UPM/INIA). Since 2006, I am Principal Investigator of the Group "**Environmental control of poplar development**" at the CBGP-UPM/INIA, that in May 2017 was recognized as Centre of Excellence Severo Ochoa. In our laboratory, **we aim to understand fundamental mechanisms determining environmental control of poplar development for engineering the best climate-smart genetic material to develop plus trees**.

I have more than 30 years' experience in molecular biology, biochemistry, physiology, and forest biotechnology. After my graduation as Forestry Engineer I received in 1991 my PhD in Forest Biotechnology at the UPM, directed by Dr. Aragoncillo. Then I worked as Postdoctoral fellow with Dr. Paz-Ares at the CIB-CSIC and as Assistant Professor at the UPM from 1992 to 1995. During this period I developed pioneer work in biochemistry and molecular biology methods for the analysis of forestry species seed proteins involved in biotic and abiotic defense. From 1995 to 1998, I was granted as Fulbright Postdoctoral fellowship at the Forest Biotechnology Group (NCSU, USA) with Dr. Sederoff (who has been the recipient of the Wallenberg Prize, Oct 2017). There I developed soft skills on the mechanism of transcriptional regulation of xylem development in forestry species, highlighting my work on the application of cutting-edge technology for gene expression analyses in *Pinus taeda* xylem formation. In 1999

I obtain an Associate Professor position and in August 2017 the Professor position at the UPM. I established, with Dr. Aragoncillo at the beginning, a molecular biology research group in woody plants. Our pioneer work in chestnut showed some specific features observed in the circadian clock of woody plants apparently unknown in annual herbaceous plants. During these years I achieved high level of scientific experience and international recognitions. I have been involved in 18 National and International projects, 10 as PI. I am the author of 42 papers in SCI-indexed journals, two of them in the journal PNAS, USA and a recent one in Current Biology. I have been the coordinator of the Spanish Forest Genomics Network and member of the COST Action FP0905 Biosafety of forest transgenic trees, to improving the scientific basis for safe tree development and implementation of EU policy directives. I am reviewer of international journals included in the JCI, of national and international projects and I have been in the panel of several national and international Centres, Grants and Fellowship programs. I teach in the Degree of Biotechnology and the Master in Agricultural and Forest Biotechnology, at the Escuela Técnica Superior de Ingeniería Agronómica, Alimentaria y de Biosistemas (ETSIAAB). I have supervised 5 PhD thesis (another under development) and directed master and DEA works. I belonged to the Scientific Committee of the Consejo Superior de Investigaciones Científicas (CSIC), belong to the UPM Ethics Commission and I am the responsible of the UPM research group “Plant Biotechnology”.

## Part C. RELEVANT MERITS

### C.1. Publications (including books)

**1-** Sreedasyam, A, …. **Allona, I**, ….. Schmutz, J. (2023). **“JGI Plant Gene Atlas: an updateable transcriptome resource to improve functional gene descriptions across the plant kingdom”**. Nucleic Acids Research 51: 8383–8401

**2-** Vigneaud, J; …. **Allona, I**; Strauss, S; Veneault-Fourrey, C; Maury, S (2023). **“DNA hypomethylation of the host tree impairs interaction with mutualistic ectomycorrhizal fungus”** New Phytologist 238:2561-2577

**3-** Gómez-Soto, D; **Allona,I**; Perales, M (2022). **“FLOWERING LOCUS T2 promotes shoot apex development and restricts internode elongation via the 13-hydroxylation gibberellin biosynthesis pathway in poplar”** Frontiers in plant science 12, 814195

**4-** Gómez-Soto, D., Ramos-Sánchez, J.M., Alique, D., Conde, D., Triozzi, P.M., Perales, M., **Allona, I***. (2021). **“Overexpression of a SOC1-Related Gene Promotes Bud Break in Ecodormant Poplars”**. Frontiers in Plant Science 12, 670497

**5-** Ramos-Sánchez, JM; Triozzi, PM; Alique, D; Geng,F; Gao,M; Jaeger, KE; Wigge, PA; **Allona, I***; Perales, M* (2019). **“LHY2 integrates night-length information to determine timing of poplar photoperiodic growth”** Current Biology, Vol. 29, Issue 14, p2402–2406.e4.

**6- Allona, I**., Kirst, M., Boerjan, W., Strauss, S., Sederof, R. (Eds.) (2019). Forest Genomics and Biotechnology. Frontiers in Plant Science. DOI: 10.3389/978-2-88963-178-0

**7-** Conde, D; Perales, M; Sreedasyam, A; Tuskan, G; Lloret, A; Badenes, ML; Rios, G; **Allona, I*** (2019) **“Engineering Tree Seasonal Cycles of Growth Through Chromatin Modification”** Frontiers in plant science 10, 412.

**8-** Triozzi, P; Ramos-Sánchez, JM; Hernandez-Verdeja, T; Moreno-Cortes, A.; **Allona, I***; Perales, M*. (2018). **“Photoperiodic regulation of shoot apical growth in poplar”**. Frontiers in Plant Science. 9 -10030.

**9-** Conde, D; Moreno-Cortés, A; Dervinis, C; Ramos-Sánchez, JM; Kirst, M; Perales, M; González-Melendi, P; **Allona, I*.** (2017). **"Overexpression of DEMETER, a DNA demethylase, promotes early apical bud maturation in poplar"**. Plant, Cell & Environment. DOI: 10.1111/pce.13056".

**10-** Conde, D; Le Gac, A-L; Perales, M; Dervinis, C; Kirst, M; Maury, S; González-Melendi, P; **Allona, I.*** (2017). **"Chilling responsive DEMETER-LIKE DNA demethylase mediates in poplar bud break"**. Plant, Cell & Environment. DOI: 10.1111/pce.13019".

**11-** Moreno-Cortés, A; Ramos-Sánchez, JM; Hernández-Verdeja, T; González-Melendi, P; Alves, A; Simòes, R; Rodrigues, JC; Guijarro, M; Canellas, I; Sixto, H; **Allona, I***. (2017). **"Impact of RAV1-engineering on poplar biomass production: a short-rotation coppice field trial"**. Biotechnology for Biofuels. DOI: 10.1186/s13068-017-0795-z".

### C.2. Research projects and grants

**1-**Título del proyecto: Bases moleculares de la respuesta del chopo a las señales ambientales y estreses abioticos para maximizar su crecimiento.
Referencia del proyecto: PID2021-123060OB-I00
Entidad financiadora: MICINN
Duración: 2022 - 2025
Financiación recibida (en euros): 242.000€
Investigadores responsables: Mariano Perales e **Isabel Allona Alberich**
Tipo de participación: investigador principal.
Estado del proyecto o contrato: concedido.
**2-**Título del proyecto: BIOremediation systems exploiting SYnergieS for improved removal of Mixed pOllutants.
Referencia del proyecto: HORIZON-CL6-2021-ZEROPOLLUTION-01
Entidad financiadora: European Union
Duración: 2022 - 2026
Cuantía de la subvención: 386.950€
Investigador responsable en la UPM: **Isabel Allona Alberich**
Tipo de participación: investigador principal.
Estado del proyecto o contrato: concedido.
**3-**Título del proyecto: Predicting and tuning seasonal responses of apple and peach to improve orchard yield and climate change resilience.
Referencia del proyecto: PCI2020-120696-2
Entidad financiadora: European Union
Duración: 2021 - 2024
Cuantía de la subvención: 69.408,03€
Investigador responsable en la UPM: **Mariano Perales**
Tipo de participación: participante.
Estado del proyecto o contrato: concedido
**4-**Título del proyecto: Regulación de la adaptación y el crecimiento de chopo.
Referencia del proyecto: PGC2018-093922-B-100
Entidad financiadora: Ministerio de Ciencia e Innovación.
Duración: 2019 - 2021
Cuantía de la subvención: 181.500 €
Investigador responsable: **Isabel Allona Alberich** y Mariano Perales
Tipo de participación: investigador principal.
Estado del proyecto o contrato: concedido
**5-**Título del proyecto: Desarrollo de herramientas genéticas para modular los ciclos de dormancia-crecimiento en especies leñosas.
Referencia del proyecto: AGL2014-53352-R
Entidad financiadora: Ministerio de Ciencia e Innovación.
Duración: 2015 - 2018
Cuantía de la subvención: 181.500 €
Investigador responsable: **Isabel Allona Alberich** y Mariano Perales
Tipo de participación: investigador principal.
Estado del proyecto o contrato: concedido.
**6-**Título del proyecto: TREEFORJOULES: Improving eucalypt and poplar wood properties for bioenergy.
Referencia del proyecto: PIM2010PKB-00702
Entidad financiadora: Plant KBBE - European 5th Call for transnational research projects
Duración: 2011 - 2014
Cuantía de la subvención: 130.000 €
Investigador responsable: **Isabel Allona Alberich** (en la UPM)
Tipo de participación: investigador principal.
Estado del proyecto o contrato: concedido.

**C.4. Patents**

**Isabel Allona**, Alicia Moreno, Cipriano Aragoncillo. « Method for increasing or reducing the development of sylleptic and/or proleptic branching in a ligneous plant »
P201131186 Priority country: Spain 13/07/2011
Organization : Universidad Politécnica de Madrid.

**C.5, Thesis supervised in the last 10 years**

**1-** Título: Functional analysis of developmental transitional regulators of annual growth cycles in poplar
Doctorando: Daniela Gómez Soto
Co-dirigida con Mariano Perales
Universidad: Politécnica de Madrid
Facultad / Escuela: ETSIAAB
Fecha: Inicio 1-3-2020

**2-**Título: RAV1 mediated circadian transcriptional control of growth-dormancy cycle in poplar
Doctorando: Paolo Maria Triozzi
Co-dirigida con Mariano Perales
Universidad: Politécnica de Madrid
Facultad / Escuela: ETSIAAB
Fecha: 9-7-2019

**3-**Título: Circadian and seasonal control of growth dormancy cycles in trees
Doctorando: José Manuel Ramos Sánchez
Co-dirigida con Mariano Perales
Universidad: Politécnica de Madrid
Facultad / Escuela: ETSIAAB
Fecha: Septiembre 2017

**4-**Título: Functional Characterization of Demeter-Like DNA Demethylases during Growth-Dormancy Cycles in Poplar
Doctorando: Daniel Conde Rodríguez
Co-dirigida con Pablo Gonzalez-Melendi
Universidad: Politécnica de Madrid
Facultad / Escuela: ETSIAAB
Fecha: Febrero 2017

**C.6, Membership of Committees and positions of responsibility**

- Since February 2020 I am the Deputy Director of Scientific Infrastructure of the Centre for Plant Biotechnology and Genomics (CBGP-UPM/INIA).
- Member of the Scientific Advisor Committee of the CSIC (Consejo Superior de Investigaciones Científicas)
- Member of the Ethic Committee of UPM
- Coordinator of the “Red de Genómica y Diversidad Genética Forestal Española” 2008-10
- I belong to “Plataforma Forestal Española”, “Red Nacional de Desarrollo Vegetal” and “Bioplat”.
- Member of the “Sociedad Española de Fisiología Vegetal” and “Sociedad Española de Bioquímica y Biología Molecular”
- I have been member of “Comisión Científica Asesora del CBGP” and in the Scientific Commission of several Scientific Congresses.

**C.7, Evaluations**

- Evaluator of the Research periods (CNEAI) section 3, 2019, 2020
- Evaluator of the Juan de la Cierva contracts in Agriculture, 2019
- "Scientific Evaluator for the Berzelii Centre" Umea University (Sweden), one of the most prestigious research Centers in Forest Biotechnology August 2011 and November 2014.
- Reviewer of PNAS, Plant Physiology, Nature plants, Current Biology, Planta, Tree Physiology, New Phytologist, etc.
- Editor of Tree Physiology
- Evaluator of national grants (ANEP) and international grants (BARD, USA-Israel, Foncyt, etc..).
- Panel Evaluation of fellowships and grants (ANEP)
- Evaluator of PhD thesis and contracts in the University, CSIC and INIA
- Opponent in 2 PhD thesis in Umea (Sweden) and 2 Master Thesis in Pretoria (SouthAfrica)