MINISTERIO DE CIENCIA E INNOVACIÓN

Cofinanciado por la Unión Europea

AGENCIA ESTATAL DE INVESTIGACIÓN

CURRICULUM VITAE ABREVIADO (CVA)

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

CV date	18/01/2023

Part A. PERSONAL INFORMATION

First name	Luis		
Family name	Oñate-Sánchez		
Gender (*)	Male	Birth date (dd/mm/yyyy)	
Social Security, Passport, ID number			
e-mail	luis.onate@upm.es	URL Web: https://www.cbgp.upm.es/index.php/es/?option=com_content&view=article&id=25	
Open Researcher and Contributor ID (ORCID) (*)		0000-0001-7047-5739	

(*) Mandatory

A.1. Current position

Position	Associate Professor		
Initial date	22/09/2017		
Institution	Universidad Politécnica de Madrid		
Department/Center	Centro de Biotecnología y Genómica de plantas (CBGP)		
Country	Spain	Teleph. number	910679178
Key words	Biochemistry and Molecular Biology, Plant Biology, Genetics		

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

Period	Position/Institution/Country/Interruption cause
23/01/09-21/09/17	Profesor Contratado Doctor (programa I3-indefinido)
20/11/04-22/01/09	Contratado Ramón y Cajal (ETSIA-UPM)
December 2001-19/11/04	Research Scientist. Commonwealth Scientific and Industry Research Organization (CSIRO). Perth-Western Australia.
August 1999-December 2001	Postdoctoral research fellow (CSIRO).
January 1999-August 1999	Postdoctoral research fellow. Department of Molecular, Cell and Developmental Biology, University of California, Los Angeles (USA).
1998	Postdoctoral research fellow. Biotechnology Department (ETSIA-UPM).
1994-1997	PhD student (FPI; ETSIA-UPM).

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
Bachelor of Science (B.Sc.)	Universidad de Murcia	1992
Ph.D. Biological sciences	Universidad Politécnica de Madrid	1997

(Include all the necessary rows)

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

Luis Oñate Sánchez is an independent associate professor (Dept. Biotechnology and plant Biology; ETSIAAB-UPM) and researcher (Plant Development; CBGP). He has been corresponding author of 8 publications (4 in high impact journals) in the last 10 years. Since 1998, he has authored 30 publications, being almost 70% of them in high impact journals with excellent acceptance by the scientific community. He did his PhD in the area of “transcriptional regulation of storage protein genes during seed development in barley” at the ETSIA (UPM) and 3 publications and one patent were produced from his work. In 1999, he obtained a

competitive post-doctoral fellowship (Fundación Séneca) to join Prof. Karam Singh´s lab at the Molecular, Cell and Developmental Biology Department at UCLA (USA) to work on the characterisation of defence and stress signalling pathways. In August 1999, the Singh´s group moved to Australia to set up a new Biotechnology lab in Perth at the Commonwealth Scientific and Industrial Research Organisation (CSIRO). Despite his participation in the extra responsibilities involved in such a transnational relocation, Luis continued developing his research projects and helped with training of new recruits. His involvement with Singh´s lab lasted up to November 2004 rendering 6 publications with good relevance, including articles showing that transcriptional induction kinetics of ERF transcription factors underlies defence responses and highlighting the non-redundant and key role of AtERF14 in this process. This stage produced additional milestones such as a book chapter, two competitive contracts (1 and 3 years, respectively) and promotion from postdoctoral to "Research Scientist" (level 5). By late 2004, he obtained a Ramón and Cajal contract and moved to the ETSIA-UPM to study "molecular mechanisms that regulate seed germination" and established several fruitful collaborations to continue and expand his research. In this same year he was also the first runner-up of "Young investigator awards" (Comunidad de Murcia). In 2005 he also initiated his teaching duties, in 2006 he obtained a Marie Curie international project (2 years-80,000 euros) and in 2009 he was awarded with an indefinite contract (Prof. Contratado Doctor I3), while moving his research activities to the recently built CBGP (UPM). In 2010 he obtained his first BIO project (Spanish Ministry) and, by 2013, he had published 7 articles (5 highly relevant), including a resource for the scientific community (library of TFs in yeast) that have been used by over 30 national and international groups. In 2014 he was positively evaluated as a Group Leader at the CBGP by an International Scientific Committee and awarded with his own lab which is focused in the study of gibberellin signalling to improve plant growth under stress, mainly in traits affecting seed vigor. In 2017, he was one of the 10 Scientific guarantors that backed up the accreditation of the CBGP as Centre of Excellence Severo Ochoa and he also obtained a permanent position as Associate Professor. During the period 2014-present, 15 papers have been published, including results that demonstrate the involvement of two-tissue specific molecular mechanisms in the control of cell elongation during seed germination and the existence of a, still unknown, mobile signal that coordinate cell expansion between embryo epidermis and endosperm. He published these results as corresponding author in 2 papers highlighted by Faculty 1000 (The Plant Cell) and MASC annual report (Molecular Plant). Luis has also been carrying out teaching activities since 2005 (19 academic courses of teaching and 1,900 total hours up to 2022/2023) and has been coordinator and professor of subjects in Biotechnology Degree and various Engineering and Master Degrees as well as Academic Secretary of the Master in Agroforestry Biotechnology (two academic years, 2015-17). As a result of his research and teaching activities he has been awarded with 4 "sexenios" and 3 "quinquenios". In addition to these activities, he is supervising 4 PhD students and has supervised 2 more PhD students (2011 and 2019; both "Sobresaliente cum laude"), 5 Master thesis students since 2013 (scores between 9-9.6) and 4 Bachelor thesis students since 2009 (scores between 9-10). Ha has also been the Editor of the book "Two Hybrid Systems" (ISBN 978-1-4939-7871-7; Springer International, 2018) and of a Special Issue for Plants (2019; JCR impact 3.935-Q1), a reviewer for JCR journals (medium-high impact) and funding agencies (NSF-USA, ANR-Francia, MICINN), member of evaluation panels for Associate and Assistant professors as well as for PhD and Master thesis and member of the Organizing and Scientific Committee for the "XVI Simposio de Fitohormonas. Metabolismo y modo de acción" (2020; postponed due to Covid-19 and ongoing for 2023).

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

C.1. Publications *(see instructions; *Corresponding author))*

1. Carrera-Castaño G, Fañanás-Pueyo I, Calleja-Cabrera J, Molinelli-Rubiato H, Contreras A, Gómez L and **Oñate-Sánchez L*** (2023) A novel membrane-associated signalling mechanism modulates growth control under carbon/nitrogen unbalance via DELLA protein stability. **The Plant Cell** (under review).
2. Contreras A, Merino I, Álvarez E, Bolonio D, Ortiz JE, **Oñate-Sánchez L** and Gómez L (2021) A poplar short-chain dehydrogenase reductase plays a potential key role in biphenyl detoxification. ***Proceedings of the National Academy of Sciences of the United States***

of America, 118(35): e2103378118 (pags1-9) Impact: 11.205 (Journal ranking "Multidisciplinary Sciences": 8/73). DOI: 10.1073/pnas.2103378118.

3. Carrera-Castaño G, Calleja-Cabrera J, Pernas M, Gómez L and **Oñate-Sánchez L*** (2020) An updated overview on the regulation of seed germination. **Plants** 9(6), 703. Impact: 3.935 (Journal ranking "Plant sciences": 47/235). DOI: 10.3390/plants9060703
4. Calleja-Cabrera J, Boter M, **Oñate-Sánchez L** and Pernas-Ochoa M (2020) Root growth adaptation to climate change in crops. **Frontiers in Plant Science** 11: 544. Impact: 4.402 (Journal ranking "Plant sciences": 19/234). DOI: 10.3389/fpls.2020.00544.
5. Boter M, Calleja-Cabrera J, Carrera-Castaño G, et al…Pernas M* and **Oñate-Sánchez L***(2019) An integrative approach to analyze seed germination in *Brassica napus*. **Frontiers in Plant Science** 10: 1342. Impact: 4.402 (Journal ranking "Plant sciences": 19/234 = 8,1%). DOI: 10.3389/fpls.2019.01342. (12 autores)
6. Sánchez-Montesino R, Bouza-Morcillo L, Marquez J, et al… **Oñate-Sánchez L*** (2019) A regulatory module controlling GA-mediated endosperm cell expansion is critical for seed germination in Arabidopsis. **Molecular Plant** 12: 71-85. Impact: 12.084 (Journal ranking "Plant sciences": 5/234 = 2,1%). **Highlighted by MASC**. DOI: 10.1016/j.molp.2018.10.009. (9 autores)
7. Sánchez-Montesino R and **Oñate-Sánchez L*** (2018) Screening arrayed libraries with DNA and protein baits. Methods Mol. Biol. Vol. 1794 p.131-149. (**Oñate-Sánchez L.** ed**). Scopus CiteScore: 1.6 (Journal ranking "Biochemistry, Genetics and Molecular Biology": 260/321). DOI: 10.1007/978-1-4939-7871-7_9.
8. Marín-de la Rosa N, Sotillo B, Mizckolczi P, et al… Blázquez MA (2014) Large-scale identification of gibberellin-related transcription factors defines Group VII ERFs as functional DELLA partners. **Plant Physiology** 166: 1022-1032**.** Impact: 6.841 (Journal ranking "Plant sciences": 8/204 = 3,9%). DOI: 10.1104/pp.114.244723. (posición autor 7/11)
9. Rombolá-Caldentey B, Rueda-Romero P, Iglesias-Fernández R, Carbonero P and **Oñate-Sánchez L*** (2014) Arabidopsis DELLA and two HD-ZIP transcription factors regulate GA signalling in the epidermis through the L1-box cis-element. **The Plant Cell** 26: 2905-2919. **Article recommended by Faculty of 1000 and cover image of July issue.** Impact: 9.338 (Journal ranking "Plant sciences": 4/204 = 1,9%). DOI: 10.1105/tpc.114.127647.
10. Rueda-Romero P, Barrero-Sicilia C, Gómez-Cadenas A, Carbonero P and **Oñate-Sánchez L*** (2012) Arabidopsis thaliana DOF6 negatively affects germination in non-after-ripened seeds and interacts with TCP14. **Journal of Experimental Botany** 63: 1937-1949. Impact: 5.242 (Journal ranking "Plant sciences": 13/196 = 6,6%) DOI: 10.1093/jxb/err388.

C.2. Congress, indicating the modality of their participation (invited conference, oral presentation, poster)

76 presentations at national (43) and international meetings (36). Twenty nine in the last 10 years. Selected presentations:

- Sánchez-Montesino R, Rombolá-Caldentey B, Carrera-Castaño G, Calleja-Cabrera J, Gómez L, Holdsworth M, Bassel G, Gómez L and **Oñate-Sánchez L*** (2019) GA-regulated molecular mechanisms controlling growth in the seed to seedling transition. Gibberellins 2019, Current progress in Gibberellin Research. Olomouc, 30 June - 2 July, Czech Republic (**oral**).
- Sánchez-Montesino R, Bouza-Morcillo L, Marquez J, Ghita M, Duran-Nebreda, S, Gómez L, Holdsworth M, Bassel G and **Oñate-Sánchez L*** (2018) A regulatory module controlling endosperm cell expansion with an impact on seed germination. XV Simposio de Fitohormonas. Metabolismo y modo de acción. Valencia, December 13th-14th, Spain (**oral**).
- Sánchez-Montesino R, Ghita M, Bouza-Morcillo L, Holdsworth M, Bassel G and **Oñate-Sánchez L*** (2016) Molecular mechanisms controlling growth in the seed. XIV Simposio sobre Metabolismo y Modo de Acción de Fitohormonas, Canet d'En Berenguer (Valencia), 13-15 de abril (**oral**).
- Rombolá-Caldentey B, Rueda-Romero P, Iglesias-Fernández R, Sánchez-Montesino R, Bouza-Morcillo L, Carbonero P and **Oñate-Sánchez L*** (2015) Tissue-specific molecular mechanisms of gibberellin signalling during seed germination. XXI Reunión de la sociedad

española de Fisiología vegetal and XIV Congreso hispano-luso de Fisiología vegetal, 14-17 Junio, Toledo, España. ISBN: 978-84-15107-51-4 (**oral**).

C.3. Research projects, indicating your personal contribution. In the case of young researchers, indicate lines of research for which they have been responsible.

1. 2021-2022: Proyecto Semilla de Investigación Internacional en Asia en el marco del programa del Programa Propio de I+D+i 2021 (Universidad Politécnica de Madrid; ASIA-21-P2QUFQ0Y-12-FD4WBA). 5,000 euros (1 year)
2. 2020-2023: Utilización de componentes de la ruta de las giberelinas para mejorar el vigor de las semillas y crecimiento de los cultivos. MICINN (PID2019-109154RB-I00). Amount: 145,200 euros (3 years).
3. 2020: Next generation sequencing (NGS). Ayudas para actuaciones de alto impacto de resultados de la actividad de I+D+i de la Universidad Politécnica de Madrid 2020 (VIMPACTO20L). 12,044 euros (1 year)
4. 2021-2023: Improving crop protection and yield using microalgae-derived natural compounds. Doctorado industrial Comunidad de Madrid with AlgaEnergy S.A. (IND2020-BIO17311). 148,889.74 euros (3 years)
5. 2020-2022: Improving crop protection and yield using natural compounds. Doctorado industrial Comunidad de Madrid with Plant Response Biotech SL (IND2019/BIO-17102). 148,618 euros (3 years).
6. 2018-2021: Improving seed vigour in Brassica crops. Grant SEV-2016-0672 to the CBGP (Centre of Excellence Severo Ochoa Program of the Agencia Estatal de Investigación, Spain) Programa Severo Ochoa (EoI-TSP2-05). One posdoc for 34 months and 1 FPI student for 4 years.
7. 2021-2025: Hormonal coordination between plant growth and nutrients assimilation in response to temperature. Granted by the Centre of Excellence in Plant Environment-Interactions (CEPEI). One FPI student (4 years).
8. 2017-2019: Arabidopsis genes regulating seed germination and growth as targets to improve crop biomass and yield. MINECO (BIO2016-77840-R). 157,300 euros (3 years).
9. 2014-2016: Studying gibberellin signaling to improve seed germination and resistance to stress. MINECO-BIO2013-46076-R. 157,300 euros (3 years)
10. 2011-2013: Regulation of the hormonal balance controlling the transition between seed dormancy and germination. Spanish Ministry for Science and Innovation. MICINN-BIO2010-17334. 72,600 euros (3 years).

Collaborator

2017-2021: Centros de excelencia Severo Ochoa. Programa Estatal de Fomento de la Investigación Científica y Técnica de Excelencia. Subprograma estatal de fortalecimiento institucional. Agencia Estatal de Investigación (SEV-2016-0672). PI: Antonio Molina Fernández (LO-S one of the 10 guarantors). 4 million euros.

C.4. Contracts, technological or transfer merits, Include patents and other industrial or intellectual property activities (contracts, licenses, agreements, etc.) in which you have collaborated. Indicate: a) the order of signature of authors; b) reference; c) title; d) priority countries; e) date; f) Entity and companies that exploit the patent or similar information, if any

IP of two Industrial doctorate grants (Comunidad de Madrid; in collaboration with AlgaEnergy SA (2021-2023; IND2020-BIO17311; 148.889,74 euros) and Plant Response Biotech SL (2020-2022; IND2019/BIO-17102; 148.618 euros).