



CURRICULUM VITAE (CVA)

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

CV date		12/01/2022	
Part A. PERSONAL INFORMATION			
First name	Juan Carlos		
Family name	Del Pozo Benito		
Gender (*)	Male	Birth date (dd/mm/yyyy)	06/09/1968
Social Security, Passport, ID number	03451382w		
e-mail	pozo@inai.es	URL Web http://www.cbgp.upm.es/index.php/es/informacion-cientifica/desarrollo-de-plantas/lateral-root	
Open Research and Contributor ID (ORCID)(*)	0000-0002-4113-457X		

(*) Mandatory

A.1. Current position

Position	Research Professor		
Initial date	15/08/2018		
Institution	Instituto Nacional de Investigación y Tecnología Agraria y Alimentaria (INIA)		
Department/Center	Centro de Biotecnología y Genómica de Plantas (CBGP, UPM-INIA/CSIC)		
Country	Spain	Teleph. number	(34) 910679176
Key words	Root development, plant nutrition, cell division, root microbiome,		

A.2. Previous positions (research activity interruptions, art. 45.2.c)

Period	Position/Institution/Country/Interruption cause
01/04/2004-15/08/2018	Research Assistant (Científico titular) (INIA)
01/03/2002-01/04/2004	Ramon y Cajal Fellow (CMB-CSIC)

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
PhD in Biology	Universidad Complutense de Madrid	1996
Graduate in Biology	Universidad Complutense de Madrid	1991

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

I got my **PhD in Biology** from the Universidad Complutense de Madrid (1996), working on phosphate deficiency (supervised by Dr. Paz-Ares). In this thesis we were able to identify **new regulators of Pi starvation** that functioned as anti-microRNA. From 1996 to 2000 I carried out a postdoctoral stay in the **USA** at Indiana and at Texas Universities as part of the group of

Dr. Mark Estelle working on auxin signaling. In this period, I published 8 articles and we described for the **first time the role of F-box proteins and ubiquitination in hormonal signaling**.

Upon completion, I was awarded a **Ramon y Cajal** contract to work in Dr. Crisanto Gutierrez's lab in cell division (2000-2003). This stage was also very productive (6 articles) and we were able to demonstrate the role of E2F transcription factors and Ubiquitin-pathway in control of cell cycle and endoreplication processes. In 2004, I joined the Inst. Nacional de Investigaciones Agrarias (**INIA**) as a senior scientist. Since then, my group has contributed to understanding how lateral root founder cells are specified and formed under normal development or in response to changes in the environment. In 2010 we moved to the Centre of Plant Biotechnology and Genomics (**CBGP**) where his group has been studied the root system development in response to nutritional deficiencies and other abiotic stresses such as salinity or drought. Recently we engineered a novel device (**D-Root**) to grow plants in vitro with the **root system in darkness and the shoot in light**. Using the D-Root, we have discovered new insights on Pi deficiency responses and cell division and differentiation in roots. Recently, del Pozo's group has obtained a new cell type specify expression atlas in response to Pi starvation that will be useful for root biologist and researches working on stress. The use of the D-Root has been extended worldwide as offers a simple, low-cost device to cultivate plants in a more natural conditions. Now we are engineering a new device to generate soil temperature gradients to study root-plant responses to heat (TGRooZ). The use of this device is allowing us to identify novel genes and microorganisms that enhance plant growth and nutrition in adverse-warm environments.

In 2017, I was appointed as **Research Professor (INIA)** and awarded with a **FullBright fellowship** as researcher visitor at the California University to investigate new molecules with hormone-like activity. From 2016 to the present, I am the **deputy director of the CBGP**, in charge of scientific programs and plant growth facilities. I am also the **deputy director involved in the implementation of the Severo Ochoa strategic plan at the CBGP**. I have been PI of numerous research projects funded by different national and international agencies. I supervised 5 PhD (3 more under way) and 12 master students, mentored 2 Ramon and Cajal and 3 Juan de la Cierva researchers. I have participated in masters and doctorate courses at different Spanish universities and participated in scientific national committees and evaluation panels of the Spanish Agency of Evaluation and Prospective (ANEP), and the Executive Committee of INVEGEN (INIA representative). I have been invited to give numerous lectures at national and international conferences, and has published **53 scientific articles in SCI journals, 49 in Q1** (Science, PNAS, EMBO J, Plant Cell, New Phytologist, etc). I act as frequent reviewer for several prestigious international scientific journals, as well as a scientific evaluator for ANEP, USDA, and other international funding agencies.

I have written 4 **divulgate articles** to approach plant science to the society and give several talks in **agricultural forums** to non-scientist attenders.

My group has had a strong collaboration with two **companies** (Plant Response Inc. and Roullier) in the plant nutrition area (natural plant growth regulators and microorganisms). I have applied and register 4 patents and I have led 3 contracts with companies. At present, we are initiating collaboration with two companies, **Tradecorp** (a company joined to the CBGP through a Joint Innovation Unit) and **Symborg**. We are analyzing the potential of beneficial entophytic fungi to enhance pplant growth and Pi uptake and usage.

During this time, my group has tackled different biological problems such as response to abiotic stresses, hormone signaling, cell division regulation, cell fate determination, alternative polyadenylation, gene expression control or has engineered new devices to resolve technical problems. Without a doubt, this expertise in different areas has contributed to building a solid laboratory able to explore and answer new biological questions, aimed to develop a more sustainable and efficient agriculture.

Part C. RELEVANT MERITS (sorted by typology)

C.1. Publications (see instructions)

- Cabrera, J., Conesa, C. **del Pozo, J.C.** (2022) "May the dark be with roots: a perspective on how root illumination may bias in vitro research on plant–environment interactions." *New Phytologist*. doi.org/10.1111/nph.17936.
- Silva-Navas J, Salvador N, **Del Pozo JC***, Benito C, Gallego FJ. The rye transcription factor ScSTOP1 regulates the tolerance to aluminum by activating the ALMT1 transporter. (2021) *Plant Sci*. doi: 10.1016/j.plantsci.2021.110951. *. Corrsponding Author. Epub
- Perianez-Rodriguez, J., Rodriguez, M., Marconi, M, Bustillo-Avendaño, E., Wachsman, G., Sanchez-Corrienero, A., De Gernier, H., Cabrera, J., Perez-Garcia, P., Gude, I., Saez, A., Serrano-Ron, L., Beeckman, T., Benfey, P., Rodríguez-Patón, A., **Del Pozo, J.C.**, Wabnik, K., Moreno-Risueno, M.A.* (2020) An auxin-regulable oscillatory circuit drives the root clock in *Arabidopsis*. **Science Advances**, 1;7(1):eabd4722 DOI: 10.1126/sciadv.abd4722.
- Olmo, R., (+10), **del Pozo**, (+4), Escobar, C. (2020). "Root-knot nematodes induce gall formation by recruiting developmental pathways of post-embryonic organogenesis and regeneration to promote transient pluripotency." **New Phytologist** 227(1): 200-215. (IF´ 2020 8.5).
- Conesa, C. M., Saez, A., Navarro-Neila, S., de Lorenzo, L., Hunt, A. G., Sepulveda, E. B., Baigorri, R., Garcia-Mina, J. M., Zamarreno, A. M., Sacristan, S., **del Pozo, J.C.** (2020). "Alternative Polyadenylation and Salicylic Acid Modulate Root Responses to Low Nitrogen Availability." **Plants**, 9(2). (IF´ 2019: 2.76).
- González-García, M. P., Bustillo-Avendaño, E., Sanchez-Corrienero, A. Moreno-Risueño and **del Pozo JC** (2020). "Fluorescence-Activated Cell Sorting Using the D-Root Device and Optimization for Scarce and/or Non-Accessible Root Cell Populations." **Plants**, 9(4). (IF´ 2019: 2.76).
- Silva-Navas, J. Conesa CM, Saez A, Navarro-Neila S, Garcia-Mina JM, Zamarreño AM, Baigorri R, Swarup R, **del Pozo JC**. Role of cis-zeatin in root responses to phosphate starvation. **New Phytologist** 24, 1: 242-257, doi:10.1111/nph.16020. (IF´ 2019: 8.51).
- B. Telléz-Robledo, C. Manzano, A. Saez, S. Navarro-Neila, J. Silva-Navas, L. de Lorenzo, M.P. González-García, R. Toribio, A. G. Hunt, R. Baigorri, I. Casimiro, S. M. Brady, M. M. Castellano, **J. C. del Pozo** (2019) The polyadenylation factor FIP1 is important for plant development and root responses to abiotic stresses. **Plant J**. 99: 1203-1219 DOI. 10.1111/tpj.14416. (IF´ 2019: 5.76).
- E. Bustillo-Avendaño, S. Ibáñez, O. Sanz, J. Aline Sousa Barross, I. Gude, J Perianez-Rodriguez, J. Luis Micol, J.C. **del Pozo**, M. A Moreno-Risueno and J. M. Perez-Perez (2018) Regulation of Hormonal Control, Cell Reprogramming and Patterning during De Novo Root Organogenesis. **Plant Physiol**. pp.17.00980; DOI: 10.1104/pp.17.00980 (IF´ 2019: 6.42).
- Manzano, C., Pallero-Baena, M., Silva-Navas, J., Navarro Neila, S., Casimiro, I., Casero, P., Garcia-Mina, J. M., Baigorri, R., Rubio, L., Fernandez, J. A. Norris, M., Ding, Y., Moreno-Risueno, M. A., **Del Pozo, J. C.** (2017). A light-sensitive mutation in *Arabidopsis* LEW3 reveals the important role of N-glycosylation in root growth and development. **J. Exp. Bot** 68, 5103-5116. (IF´ 2019: 5.35).
- Ramirez-Parra E, Perianez-Rodriguez J, Navarro-Neila S, Gude I, Moreno-Risueno M, and **del Pozo, J.C.** (2017) The Transcription Factor OBP4 Controls Root Growth and Promotes Callus Formation. **New Phytologist** 214: 1787-1801 DOI: 10.1111/nph.14315. (IF´ 2019: 7.43).
- J. Silva-Navas, M. A. Moreno-Risueno, C. Manzano; B. Téllez-Robledo, S. Navarro-Neila, V. Carrasco, S. Pollmann, F. J. Gallego and **Juan C. del Pozo** (2016). Flavonols mediate root phototropism and growth through regulation of Proliferation to-Differentiation Transition. **Plant Cell**, 28: 1372–1387. (IF´ 2016: 8.68).
- Silva-Navas, Moreno-Risueño, M., J., Manzano, C., Tellez, Barbara, Pallero-Baena, M., Navarro-Neila, S. Tellez, B., Garciamina, J.M., Roberto Bigorri, R., Gallego F.G. and **del Pozo, J.C.** (2015) The Plant Journal D-Root: a system to cultivate plants with the root in darkness or under different light conditions. **Plant Journal** 84, 244-255 doi:10.1111/tpj. 12998 (IF´ 2019: 5.46).

C.2. Congress

2021: All congresses were virtual. Invited talks in SEFV (Spain), Rooting (world wide), 3rd D-Rooting (Viena) and SAIB-SAMIGE_BIOCELL(Argentina).

2020: All congresses were virtual. Invited talks in 2nd D-Rooting (Viena).

2019: Invited talks in SEFV (Pamplona), AECID, Montevideo

2018: Invited talks in PBSC (Chile), RBMP (Salamanca), MPIPZ (Germany), Fitohormonas (Valencia)

C.3. Research projects

- **PID2020-113479RB-I00.** Effect of global warming on plant nutrition, root growth and microbiome association (WAROOT- μ). 01/09/2021 – 31/08/2024. AEI Ministerio de Ciencia e Innovación. IP: Juan Carlos del Pozo Benito. 170.000 €. Tipo de participación: profesor ayudante doctor.

- **BIO2017-82209-R** Root Responses to Phosphate Starvation: New Approaches to improve Plant Growth with reduced Fertilization. IP y coordinador: Juan Carlos del Pozo. INIA-CBGP. 150.000 €. 2018- 2020.

- **BIO2014-52091-R** Identificación de nuevos genes y productos bio-activos para la Optimización de los recursos naturales dentro una agricultura sostenible. IP y coordinador: Juan Carlos del Pozo. INIA-CBGP. 140.000 €. 2014- 2017.

- **655406-ROOT-BARRIERS.** H2020-Molecular mechanisms controlling endodermis and exodermis differentiation in tomato roots. Marie Curie Fellowship (Awarded to Concepcion Manzano, U of Davis USA). Coordinator at the INIA: Juan C. del Pozo. € 263,000. January 2016-December 2017-at U. California, Davis, USA. 02/2018-12/2018 – at INIA, Spain.

- **BIO2011-28184-C02-01.** Conexión de las Auxinas y el Ciclo Celular a través del complejo SCF-SKP2. Desarrollo de las Raíces Laterales II. MICINN-(Convocatoria del Plan Nacional I+D). IP y coordinador: Juan Carlos del Pozo. INIA-Dpto. de Biotecnología-CBGP. 199.650 €. 2012- 2014.

C.4. Contracts, technological or transfer merits

Contrast with companies:

4.1- Expression of celluloses in chloroplast to potentiate the degradation of the cell wall to generate biofuel. CENIT. Contrato con la compañía **Plant Bioproducts**. IP: Juan Carlos del Pozo. INIA-Dpto. de Biotecnología. 160.000 €. 2007- 2010

4.2- Analyses of leeks growth post-packing. Effect of light. Company: **Reypama SAT**. IP: Juan Carlos del Pozo. INIA-Dpto. de Biotecnología-CBGP. 5000 €. 2010- 2011.

4.3- Desarrollo nuevas moléculas vegetales que promuevan y potencien el desarrollo de las plantas. Convenio con la empresa **TimacAgro-Roullier group**. IP: Juan Carlos del Pozo. INIA-CBGP. 60000 €. 2017-2020.

Patents

4.1- **del Pozo, J.C.** and Gutierrez, C. Transgenic plants SKP2D: Obtención and applications. Número de aplicación: 200402349. (11-10-04) País de prioridad: España Entidad titular: CSIC

4.2- **Juan Carlos del Pozo Benito**, Javier Gallego Rodríguez, Javier Silva Navas. New device to cultivate roots in in vitro. Número de aplicación: U201300727. Priority Date: 19-08-2013) País de prioridad: España. Entidad titular: INIA-UCM.

4.3- **Juan Carlos del Pozo Benito**, Concepcion Manzano Fernandez, Pilar Hoyos Vidal, Maria Josefa Hernaiz, Stephan Pollmann Title: Use of natural compounds to regulate vegetal growth. Application Number: P201630412 Priority country: Spain Priority Date: 05-04-16 España Entidad titular: INIA-UCM-UPM.