CV date	11/12/2020

Part A. PERSONAL INFORMATION

First and Family name	JOSÉ ROMÁN PÉREZ CASTIÑEIRA		

(*) Optional
(**) Mandatory

A.1. Current position

Name of University/Institution	UNIVERSITY OF SEVILLA		
Department	PLANT BIOCHEMISTRY AND MOLECULAR BIOLOGY		
Address and Country	AVENIDA AMÉRICO VESPUCIO, 49. 41092 SEVILLA. SPAIN		
Current position	PROFESOR TITULAR ("Associate Professor")	From	29/2/2008
Key words	BIOENERGETICS, MOLECULAR BIOLOGY, BIOMEMBRANES, BIOCHEMISTRY, HETEROLOGOUS EXPRESSION, YEAST		

A.2. Education

PhD, Licensed, Graduate	University	Year
"Licenciado" in Chemistry	SEVILLA	1986
Ph. D.	EDINBURGH (SCOTLAND, U. K.)	1991

A.3. General indicators of quality of scientific production *(see instructions)*

- Total citation number: 673 (Scopus), 1044 (Google Scholar).
- Average number of citations last 5 years: 275 (Google Scholar).
- Total number of publications in the first quartile (Q1): 20.
- H index: 15 (WOS),16 (Google Scholar)
- Six-year research merit ("sexenios"): 4, last 31/12/2019.
- Congress organization: 1 national, 4 international.

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

José R. Pérez Castiñeira (JRPC) obtained his "Licenciado" (5 years' degree) in Chemistry at the University of Sevilla in 1986, and was awarded the Ph. D. at the University of Edinburgh in September 1991, where he was supervised by Dr. David K. Apps. The experimental part of the Ph. D. thesis involved the purification and functional and structural characterization of the vacuolar (V-)type H^+-ATPase of bovine chromaffin granules. After successfully defending his Doctoral Thesis in an oral exam ("viva"), he remained one more year (until December 1992) in Edinburgh finishing work, training a new Ph. D. student and preparing papers (4 in total). This stay was financially supported by a Ph. D. studentship from the Spanish Ministry of Education and Science (1988-1992). On his return to Spain, he joined Professor José M. Vega's group at the Department of Plant Biochemistry and Molecular Biology of the University of Sevilla (USE) where he worked on sulfur metabolism in microalgae. This work eventually resulted in 4 papers in international journals and two (co-)supervised Doctoral Theses. In 1994, JRPC joined Profesor Ramón Serrano at the Polytechnic University of Valencia (Department of Biotechnology) where he was supported by a "reincorporación" contract and participated as a post-doctoral researcher in an European Project on the Molecular Biology of P-type H^+-ATPases from higher plants. This research resulted in two publications in *Plant Molecular Biology* and *Plant Cell*. In May 1996 he joined Profesor Losada's group (led by Dr. Aurelio Serrano, from the Spanish Research Council -CSIC-, after Prof. Losada's retirement) at the "Instituto de Bioquímica Vegetal y Fotosíntesis", a joint

research centre of the USE and CSIC. From 1996 until 2021, his research involved the study at molecular, biochemical, cellular and structural levels of proteins that hydrolyse inorganic pyrophosphate (PPi), mainly PPi-dependent H^+ and Na^+ pumps. This research has resulted in 19 publications in international journals. Since 1996, JRPC's positions were: CSIC'S post-doctoral researcher and "Profesor Asociado" (Assistant Professor), "Profesor Contratado Doctor" and "Profesor Titular" (Associate Professor) at the USE. The last position was obtained after passing a national exam ("habilitación") for University professors held in June 2007 at University of Salamanca, Spain. Since September 2021, J. R. Pérez-Castiñeira participates in the project "ESTUDIO DEL PAPEL DE LA SEÑALIZACION POR FOTOPERIODO EN NUEVAS FUNCIONES FISOLOGICAS Y DE DESARRROLLO EN PLANTAS", financially supported by the Spanish Ministry for Science and Innovation (Reference: PID2020-117018RB-I00) whose principal researchers are Drs Federico Valverde (Spanish Research Council CSIC) and José M.ª Romero (University of Sevilla, Spain)

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

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

Drake R., Serrano, A., **Pérez-Castiñeira J.R.**. N-terminal chimeras with signal sequences enhance the functional expression and alter the subcellular localization of heterologous membrane-bound inorganic pyrophosphatases in yeast. *Biochem J.* **426,** 147-157 **(2010)**

Pérez-Castiñeira JR, Hernández A, Drake R, Serrano A. A plant proton-pumping inorganic pyrophosphatase functionally complements the vacuolar ATPase transport activity and confers bafilomycin resistance in yeast. *Biochem J.* **437(2)**, 269-78 **(2011)**

Serrano-Bueno G, Hernández A, López-Lluch G, **Pérez-Castiñeira JR**, Navas P, Serrano A. Inorganic pyrophosphatase defects lead to cell cycle arrest and autophagic cell death through NAD+ depletion in fermenting yeast *J Biol Chem.* **288(18)**, 13082-92 **(2013)**

Hernández A, Serrano-Bueno G, **Perez-Castiñeira JR**, Serrano A. 8-Dehydrosterols induce membrane traffic and autophagy defects through V-ATPase dysfunction in *Saccharomyces cerevisae*. *Biochim Biophys Acta.* **1853 (11 Pt A),** 2945-2956 **(2015)**. doi: 10.1016/j.bbamcr.2015.09.001

Serrano-Bueno G, Madroñal JM, Manzano-López J., Muñiz M., **Pérez-Castiñeira JR**, Hernández A, Serrano A. Nuclear proteasomal degradation of Saccharomyces cerevisiae inorganic pyrophosphatase Ipp1p, a nucleocytoplasmic protein whose stability depends on its subcellular localization, *Biochim Biophys Acta - Molecular Cell Research*. 1866 (6): 1019-1033 **(2019)**. ISSN 0167-4889. https://doi.org/10.1016/j.bbamcr.2019.02.015.

Perez-Castineira JR, Serrano A. The H^+-translocating inorganic pyrophosphatase from *Arabidopsis thaliana* is more sensitive to sodium than its Na+-translocating counterpart from *Methanosarcina mazei*. *Frontiers in Plant Science* 11: 1240 (**2020).** doi: 10.3389/fpls.2020.01240. ISSN=1664-462X

Perez-Castiñeira JR, Docampo, R, Ezawa T, Serrano-Delgado, A. Editorial: Pyrophosphates and Polyphosphates in Plants and Microorganisms. *Frontiers in Plant Science* 12 **(2021)** https://doi.org/10.3389/fpls.2021.653416

C.2. Research projects

TITLE: "Bioenergética y metabolismo del pirofosfato y polifosfatos inorgánicos en microalgas y plantas: Análisis molecular y funcional de las proteínas implicadas."
SUPPORTING INSTITUTION: Dirección General de Investigación. MEC. Spanish National Research Program
GROUP LEADER: Dr. Aurelio Serrano, "Instituto de Bioquímica Vegetal y Fotosíntesis", joint research centre of the USE and CSIC

DATE: 2004 – 2007

TITLE: “Genómica funcional de la tolerancia al estrés abiótico en arroz: una aproximación básica a su potencial aplicación en la mejora de la producción”
SUPPORTING INSTITUTION: Andalucía Regional Government (Code: P06-CVI-01450)
GROUP LEADER: Dr. José María Romero Rodríguez, “Instituto de Bioquímica Vegetal y Fotosíntesis”, joint research centre of the USE and CSIC
DATE: 2007

TITLE: “Proteínas de la bioenergética y el metabolismo del pirofosfato y polifosfatos inorgánicos: implicaciones funcionales de su localización subcelular en eucariotas”
SUPPORTING INSTITUTION: Spanish National Research Program (Code: BFU2007-61887)
GROUP LEADER: Dr. Aurelio Serrano, “Instituto de Bioquímica Vegetal y Fotosíntesis”, joint research centre of the USE and CSIC
DATE: 2007 - 2010

TITLE: “Modificación mediante enzimas vegetales del metabolismo del pirofosfato inorgánico en levadura y líneas celulares animales. Implicaciones biotecnológicas y biomédicas”
SUPPORTING INSTITUTION: Andalucía Regional Government (Code: P07-CVI-03082)
GROUP LEADER: Dr. Aurelio Serrano, “Instituto de Bioquímica Vegetal y Fotosíntesis”, joint research centre of the USE and CSIC
DURACION: 2008-2012

TITLE: Nuevas facetas funcionales de la bioenergética del pirofosfato: homeostasis de iones y optimización metabólica
SUPPORTING INSTITUTION: National Research Program, Spanish “Ministerio de Ciencia y Tecnología” (Code: BFU2010-15622/BMC)
GROUP LEADER: Dr. Aurelio Serrano, “Instituto de Bioquímica Vegetal y Fotosíntesis”, joint research centre of the USE and CSIC
DATE: 2011-2013

C.3. Contracts with other Spanish Institutions

Researcher responsible for the following contracts:

TITLE: “Identification of microorganisms by Molecular Biology techniques”
ACTIVITY: Contract for the provision of services between the Spanish Research Council (CSIC) and the Andalusian Institute of Historical Heritage (IAPH)
DATE: 2008

TITLE: “Identification of microorganisms by Molecular Biology techniques”
ACTIVITY: Contract for the provision of services between the Research Foundation of the USE and the Andalusian Institute of Historical Heritage (IAPH)
DATE: 2009

TITLE: “Identification of microorganisms by Molecular Biology techniques”
ACTIVITY: Contract for the provision of services between the Research Foundation of the USE and the Andalusian Institute of Historical Heritage (IAPH)
DATE: 2010

TITLE: “Molecular Biology techniques to study photosynthetic microorganisms and to identify other biological factors of alteration in the BIC building, former “Hospital de las cinco llagas”, and current site of the Parlamento of Andalucía and the Andalucía Audit Chamber”
ACTIVITY: Contract for the provision of services between the Research Foundation of the USE and the Regional Parliament and the Audit Chamber (“Cámara de cuentas) of Andalucía
DATE: 2019

C.4. Patents

Inventors: Aurelio Serrano Delgado, Agustín Hernández López, José Román Pérez Castiñeira
Title: “Uso de secuencias nucleotidicas que codifican pirofosfatasas translocadoras de protones para producir levaduras, hongos y células animales resistentes a fármacos citotóxicos y fungicidas y método para producirlas”
N.º of applicaction: P201130852 Priority date: 3/9/2014
Institution: UNIVERSITY OF SEVILLA and CSIC

C.5. Supervision of projects and theses

Doctoral Theses

1. TITLE: Metabolismo del azufre inorgánico en la microalga eucariótica *Chlamydomonas reinhardtii*. Ph. D. STUDENT: D. José Luis Prieto Rodríguez. UNIVERSITY: Sevilla. FACULTY: Chemistry. YEAR: 1997. QUALIFICATION: Sobresaliente *cum laude* (Top qual.)

2. TITLE: Metabolismo del azufre inorgánico en la microalga eucariótica *Monoraphidium braunii*. Purificación y caracterización de la O-acetil-L-serina(tiol)liasa. Ph. D. STUDENT: D. Jorge Guillermo González Arroyo. UNIVERSITY: Sevilla. FACULTY: Chemistry. YEAR: 1997. QUALIFICATION: Sobresaliente *cum laude* (Top qual.)

3. TITLE: Fisiología Molecular y Bioquímica de pirofosfatasas translocadoras de protones. Ph. D. STUDENT: Dª. Rosa Laura López Marqués. UNIVERSITY: Sevilla. FACULTY: Chemistry. YEAR: 2004. QUALIFICATION: Sobresaliente *cum laude* (Top qual.)

4. TITLE: Estudios funcionales de las pirofosfatasas inorgánicas de *Saccharomyces cerevisiae* y organismos fotosintéticos. Ph. D. STUDENT: D. Juan Madroñal de Sancha. UNIVERSITY: Sevilla. FACULTY: Biology. YEAR: 2017. QUALIFICATION: Sobresaliente *cum laude* (Top qual.)

Supervisor of 4 Master Theses and 10 Final Year Projects

C.6. Books

TITLE: Chemistry and Biochemistry of Food.
PUBLISHER: Walter de Gruyter GmbH & Co KG.
https://doi.org/10.1515/9783110595482.
ISBN 978-3-11-059547-5, e-ISBN (PDF) 978-3-11-059548-2, e-ISBN (EPUB) 978-3-11-059316-7.
DATE OF PUBLICATION: September 2020

TITLE: Pyrophosphates and polyphosphates in plants and microorganisms
doi: 10.3389/978-2-88966-810-6
EDITORS: Perez-Castineira, J. R., Docampo, R., Ezawa, T., Serrano, A., eds. (2021).
PUBLISHER: Lausanne: Frontiers Media SA.
DATE OF PUBLICATION: March 2021