

## **Curriculum Vitae**

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**University of Salamanca**  
**Spain**

**DOLORES RODRÍGUEZ**

**2008**

## **Personal data**

**Name:** Dolores Rodríguez.

**Nationality:** Spanish

**Place and date of birth:** Salamanca, Mars 7<sup>th</sup>, 1956

**Position:** Professor in Plant Physiology

**Centre/Institution:** School of Biology. CIALE. University of Salamanca. Spain.

**Working address:** Dpt. Fisiología Vegetal. Facultad de Biología.

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## **Career highlights**

- B.S. in Biology, 1980. University of Salamanca. Spain.
- M.S. in Biology, 1980. University of Salamanca. Spain.
- PhD in Biology, 1984. University of Salamanca. Spain.
- Postdoctoral research, 1985-87. University of Cambridge. U.K.
- Lecturer in Plant Physiology, 1989-2003.
- Professor in Plant Physiology, 2003-present.
- Invited Professor at the University Pierre and Marie Curie. Paris VI. Paris. France. 2007.
- Member and fellow of the Executive Committee of the International Society for Seed Sciences (ISSS).
- Member and fellow of the Executive Committee of the Spanish Society of Plant Physiology (SEFV).
- Member and National Representative in the Publications Committee of the Federation of European Societies of Plant Biology (FESPB).
- Member and Delegate Representative for Western Europe and Scandinavia of the International Society for Seed Sciences (ISSS).
- Member of the Spanish Society of Biochemistry and Molecular Biology (SEBBM).
- Member of National and International grant evaluation panels:
  - o Spanish Ministry of Science and Education
  - o National Evaluation Agency for Research (ANEP)
  - o Research Projects Austria Goberment
  - o Ministry of Education, Science and Technology. Argentina.
- Member of the Evaluation Committee for University Professors. National Agency for Evaluation (ANECA).

## **Teaching subjects**

- Plant Physiology. Degree in Biology. University of Salamanca. Spain.
- Plant Molecular Biology. Degree in Biochemistry. University of Salamanca.
- Agricultural Biotechnology. Degree in Biotechnology. University of Salamanca.
- Physiology and Molecular Biology of seed. Postgraduate Degree. Univ. of Salamanca.

## **Research topic**

Physiology and Molecular Biology of seed dormancy, seed germination and stress responses. Hormonal regulation and molecular signaling.

**Scientific Field (UNESCO):** 241719, 241715, 241502

- Plant Physiology
- Plant Development
- Plant Molecular Biology

## **SCIENTIFIC PUBLICATIONS**

### **Articles**

- Fernández-Marcos M, Dueñas M, Santos-Buelgas C, Solano R, Rodríguez D, Lorenzo O. NO acts on auxin-regulated root growth through PIN1 degradation and flavonoids accumulation. (Submitted). 2008.
- Saavedra-Contreras X., Lorenzo O., Modrego A., González-García M.P., Nicolás G., Rodríguez D. 2008. An ABA-regulated, seed-specific PP2C from *Fagus sylvatica* interacts with a new family of plant proteins. Polish J. Nat. Sci., Suppl. 5: 59.
- Fernández-Arbaizar A., Fernández-Marcos M., Rodríguez D., Nicolás G., Lorenzo O. 2008. Nitric Oxide and Jasmonates: Two Plant Growth Regulators with a role in Arabidopsis Seed Germination. Polish J. Nat. Sci., Suppl. 5: 73.
- Reyes D, Rodríguez D, González-García MP, Lorenzo O, Nicolás G, García-Martínez JL, Nicolás C. Overexpression of a protein phosphatase 2C from *Fagus sylvatica* L. (FsPP2C2) in Arabidopsis shows phenotypes related with ABA responses and GA biosynthesis. Plant Physiol. 141: 1414-1424. 2006.
- Reyes D., D. Rodríguez, O. Lorenzo, G. Nicolás, R. Cañas, F.R. Cantón, F.M. Cánovas, C. Nicolás. Immunolocalization of FsPK1 correlates this abscisic acid-induced protein kinase with germination arrest in *Fagus sylvatica* L. seeds. J. Exp. Bot. 57: 923–929. 2006.
- Reyes D, D. Rodríguez, G. Nicolás, C. Nicolás. Evidences of a role for tyrosine dephosphorylation in the control of postgermination arrest of development by abscisic acid in *Arabidopsis thaliana* L. Planta 223: 381-385. 2006.
- Gonzalez M.P., D. Rodriguez, C. Nicolas, P.L. Rodriguez, G. Nicolas, O. Lorenzo. A protein phosphatase 2A from *Fagus sylvatica* is regulated by GA3 and okadaic acid in seeds and related to the transition from dormancy to germination. Physiol. Plant. 128: 153-162. 2006.
- Jiménez J.A., D. Rodríguez, O. Lorenzo, G. Nicolás, C. Nicolás. Characterization of a protein kinase (FsPK4) with an acidic domain, regulated by ABA and specifically located in *Fagus sylvatica* L. seeds. J. Plant Physiol. 163: 761—769. 2006.
- Jiménez J.A., D. Rodríguez, A.P. Calvo, L.C. Mortensen, G. Nicolás, C. Nicolás. Expression of a transcription factor (FsERF1) involved in ethylene signalling during the breaking of dormancy in *Fagus sylvatica* L. seeds. Physiol. Plant. 125: 373-380. 2005.
- Calvo A.P., C. Nicolas, O. Lorenzo, G. Nicolas, D. Rodriguez. Evidence for positive regulation by gibberellins and ethylene on ACC oxidase expression and activity during transition from dormancy to germination in *Fagus sylvatica* L. seeds. J. Plant Growth Reg. 23: 44-53. 2004.
- Calvo A.P., C. Nicolas, G. Nicolas, D. Rodriguez. Evidences of a cross-talk regulation of a GA 20-oxidase (FsGA20ox1) by gibberellins and ethylene during the breaking of dormancy in *Fagus sylvatica* L. seeds. Physiol. Plant. 120: 623-630. 2004.
- Mortensen L.C., Rodríguez D, Nicolás G, Eriksen En, Nicolás C. Decline in a seed-specific abscisic acid-responsive glycine rich protein (GRPF1) mRNA may reflects the release of seed dormancy in *Fagus sylvatica* during moist prechilling. Seed Sci. Res. 14: 27-34. 2004.
- Gonzalez M.P., D. Rodriguez, C. Nicolas, P.L. Rodriguez, G. Nicolas, O. Lorenzo. Negative regulation of ABA-signaling by the *Fagus sylvatica* FsPP2C1 plays a role in seed dormancy regulation and promotion of seed germination. Plant Physiol. 133: 135-144. 2003.

- Lorenzo O, Nicolás C, Nicolás G, Rodríguez D. Characterization of a dual plant protein kinase (FsPK1) up-regulated by abscisic acid and calcium and specifically expressed in dormant seeds of *Fagus sylvatica* L. *Seed Sci. Res.* 13: 261-271. 2003.
- Lorenzo O., C. Nicolas, G. Nicolas, D. Rodriguez. GA3-induced expression of a new functional AAA-ATPase (FsA1) is correlated with the onset of germination in *Fagus sylvatica* L. seeds (beechnuts). *Plant and Cell Physiol.* 43: 27-34. 2002.
- Lorenzo O., C. Nicolas, G. Nicolas, D. Rodriguez. Molecular cloning of a functional protein phosphatase 2C (FsPP2C2) with unusual features and synergistically up-regulated by ABA and calcium in dormant seeds of *Fagus sylvatica*. *Physiol. Plant.* 114: 482-490. 2002.
- Lorenzo O., D. Rodriguez, G. Nicolas, PL. Rodriguez, C. Nicolas. A new protein phosphatase 2C (FsPP2C1) induced by ABA is specifically expressed in dormant beechnut seeds. *Plant Physiol.* 125: 1949-1956. 2001.
- A. P. Calvo, O. Lorenzo, C. Nicolas, D. Rodriguez. "Expression and characteristics of a cDNA encoding a Pathogenesis-Related protein from *Fagus sylvatica* seeds." *Plant Physiol.* 120: 933. 1999.
- A. P. Calvo, O. Lorenzo, C. Nicolas, G. Nicolas, D. Rodriguez. "Isolation and characterization of a metallothionein-coding cDNA from *Fagus sylvatica* L. seeds." *Plant Physiol.* 120: 633. 1999.
- O. Lorenzo, A. P. Calvo, C. Nicolas, G. Nicolas, D. Rodriguez. "Isolation, sequence analysis and expression characteristics of a cDNA encoding a Xyloglucan Endotransglycosylase of *Fagus sylvatica* L. seeds." *Plant Physiol.* 119: 1148. 1999.
- O. Lorenzo, A. P. Calvo, C. Nicolas, G. Nicolas, D. Rodriguez. "Isolation, sequence analysis and expression of a LEA protein of *Fagus sylvatica* L. seeds." *Plant Physiol.* 119: 805. 1999.
- Nicolas C., J.M. Deprada, O. Lorenzo, G. Nicolas, D. Rodriguez. "Abscisic acid and stress regulate the expression of calmodulin in germinating chick-pea seeds." *Physiol. Plant.* 104: 379-384. 1998.
- Nicolas C., G. Nicolas, D. Rodriguez. "Transcripts of a gene, encoding a small GTP-binding protein from *Fagus sylvatica*, are induced by ABA and accumulated in embryo axis of dormant seeds." *Plant Mol. Biol.* 36:487-491. 1998.
- Nicolas C., D. Rodriguez, F. Poulsen, E. N. Eriksen, G. Nicolas. "The expression of an abscisic acid-responsive glycine-rich protein coincides with the level of seed dormancy in *Fagus sylvatica*." *Plant & Cell Physiol.* 38:1303-1310. 1997.
- C. Nicolas, G. Nicolas, D. Rodriguez. "Isolation, sequencing and expression of a calmodulin-coding cDNA from *Fagus sylvatica* L. seeds". *Plant Physiol.* 113:306. 1997.
- Nicolas C., G. Nicolas, D. Rodriguez. "Antagonistic effects of abscisic acid and gibberellic acid on the breaking of dormancy of *Fagus sylvatica* seeds". *Physiol. Plant.* 96: 244-250. 1996.
- Colorado P., G. Nicolas, D. Rodriguez. "Convergent effects of stress and ABA on gene expression during germination of chick-pea seeds". *J. Plant Physiology* 146: 535-540. 1995.
- Colorado P., G. Nicolas, D. Rodriguez. "Unusual sequence and characteristics of a chick-pea seed protein which is regulated by abscisic acid and is similar to late-embryogenesis-abundant proteins." *Planta* 196: 622-625. 1995.
- Colorado P., C. Nicolas, G. Nicolas, D. Rodriguez. "Expression of three ABA-regulated clones and their relationship to maturation processes during the embryogenesis of chick-pea seeds." *Physiol. Plant.* 94: 1-6. 1995.
- Colorado P., A. Rodriguez, G. Nicolas, D. Rodriguez. "Abscisic acid and stress regulate gene expression during germination of chick-pea seeds. Possible role of calcium". *Physiol. Plant.* 91: 461-467. 1994.
- Colorado P., G. Nicolas, D. Rodriguez. "Calcium dependence of the effects of abscisic acid on RNA synthesis during germination of *Cicer arietinum* seeds". *Physiol. Plant.* 83: 457-462. 1991.
- Rodriguez D., R.S. Ginger, A. Baker, D.H. Northcote. "Nucleotide sequence analysis of a cDNA clone encoding malate synthase of castor bean (*Ricinus communis*) reveals

- homology to DAL7, a gene involved in allantoin degradation in *Saccharomyces cerevisiae*". *Plant Mol. Biol.* 15: 501-504. 1990.
- Hernandez-Nistal J., D. Rodríguez, G. Nicolas, J. J. Aldasoro. "Abscisic acid and temperature modify the levels of calmodulin in embryonic axes of *Cicer arietinum* L.". *Physiol. Plant.* 75: 255-260. 1989.
- Rodríguez D., J. Dommès, D. H. Northcote. "Effect of abscisic acid and gibberellic acid on malate synthase transcripts in germinating castor bean seeds". *Plant Mol. Biol.* 9: 227-235. 1987.
- Labrador E., D. Rodríguez, G. Nicolas. "Changes in cell wall composition of embryonic axes of germinating *Cicer arietinum* L. seeds. Effects of abscisic acid and temperature". *Plant Sci.*, 48: 23-30. 1987.
- Rodríguez, D. G. Nicolas, J. Aldasoro, J. Hernandez-Nistal, J. Babiano, A. Matilla. "Altered development of polysomal RNA activity in chick-pea (*Cicer arietinum* L.) embryonic axes. Effects of abscisic acid and temperature". *Planta* 164: 517-523. 1985.
- Babiano J., J. Aldasoro, J. Hernandez-Nistal, D. Rodríguez, A. Matilla, G. Nicolas. "Effect of nonanoic acid and other short chain fatty acids on exchange properties in embryonic axes of *Cicer arietinum* L. during germination". *Physiol. Plant.* 61: 391-395. 1984.
- Rodríguez D., A. Matilla, J. Aldasoro, J. Hernandez-Nistal, G. Nicolas. "Germination of *Cicer arietinum* L. seeds and thiourea induced phytotoxicity". *Physiologia Plantarum* 57: 267-272. 1983.
- Hernandez-Nistal J., J. Aldasoro, D. Rodríguez, A. Matilla, G. Nicolas. "Effect of thiourea on the ionic content and dark fixation of CO<sub>2</sub> in embryonic axes of *Cicer arietinum* L. seeds". *Physiologia Plantarum* 57: 273-278. 1983.
- Rodríguez D., A. Matilla, G. Nicolás. Reactivation of nucleic acid synthesis during early germination of *Cicer arietinum* L. Embryonic axis. *Acta Physiol. Plant.* 4: 97-102. 1982.

### **Book Editor**

- D. Rodríguez, C. Nicolás (eds.). "Metabolismo y Modo de Acción de Fitohormonas". Aquilafuente 71. Ediciones Universidad de Salamanca. 2004.
- J.J. García Marín, M. A. Serrano García & M. D. Rodríguez Martín. (eds) "Investigación en Ciencias Biomédicas I". Ediciones Universidad de Salamanca. 1991.

### **Book chapters (english)**

- D. Reyes, C. Nicolás, M.P. González-García, O. Lorenzo, G. Nicolás, D. Rodríguez. Constitutive Expression of a *Fagus* ABA-Induced PP2C (FsPP2C2) in *Arabidopsis* Suggests Interactions Between ABA and GAs in Seed dormancy. In: *Seeds: Biology, Development and Ecology*. Chapter 25. CAB International. 2006. pp. 245-253.
- M.P. González-García, D. Rodríguez, C. Nicolás, G. Nicolás, O. Lorenzo. Transcriptomic and Proteomic Profiling of FsPP2C1-overexpressing *Arabidopsis* Plants. In: *Seeds: Biology, Development and Ecology*. Chapter 24. CAB International. 2006. pp. 235-244.
- A.P. Calvo, J.A. Jiménez, C. Nicolas, G. Nicolas, D Rodríguez. Isolation and characterization of genes related with the breaking of beechnuts dormancy and putatively involved in ethylene signal perception and transduction. In: "The Biology of Seeds: Recent Research Advances". Eds: G. Nicolás, K. Bradford, D. Come, H. Pritchard. CAB International. Pg. 141-147. 2003.
- O. Lorenzo, D. Rodríguez, C. Nicolas, G. Nicolas. "Characterization and expression of two protein kinase and an EIN3-like genes, which are regulated by ABA and GA3 in dormant *Fagus sylvatica* seeds". In: "Seed Biology: Advances and Applications". Eds. M. Black, K.J. Bradford and J. Vázquez-Ramos. CAB International. Pg. 329-340. 2000.
- G. Nicolas, C. Nicolas, D. Rodríguez. "Molecular approach to the role of ABA and GA3 in the dormancy of *Fagus sylvatica* seeds". In: "Basic and applied aspects of seed biology" Eds. R.H. Ellis, M. Black, A.J. Murdoch, T.D. Hong. Kluwer Acad. Publ.. Pg. 323-333. 1997.

- C. Nicolas, O. Lorenzo, G. Nicolas, D. Rodriguez. "Isolation and characterization of a protein kinase regulated by ABA and calcium in dormant beechnuts". In: Abscisic acid signal transduction in plants". Eds. R.S. Quatrano, M. Pagès. Texts published by the Centre for International Meetings on Biology. 60: 78. 1996.
- J. Hernandez-Nistal, J. J. Aldasoro, D. Rodriguez, J. Babiano, G. Nicolas. "Intracellular location of calmodulin in embryonic axes of *Cicer arietinum* L." In: "Molecular and cellular aspects of calcium in plant development". Ed. A. J. Trewavas. NATO ASI Series, Vol 104. Plenum Press, New York. Pag. 313-315. 1986.

### **Book chapters (spanish)**

- XA Saavedra, A Modrego, MP González-García, O Lorenzo, G. Nicolás, D. Rodríguez. Interacción de proteín-fosfatasa de tipo 2C (PP2C) con otras proteínas y su papel en la señalización de ABA. "Fitohormonas: Metabolismo y Modo de acción." Eds. Isabel Díaz y Manuel Martínez. Servicio de Publicaciones de la ETSIA. 85-90. (2008).
- M Fernández-Marcos, A Fernández-Arbaizar, MP González-García, XA Saavedra, O Lorenzo. Regulación hormonal de las respuestas a estrés en plantas: algo más que una hormona. "Fitohormonas: Metabolismo y Modo de acción." Eds. Isabel Díaz y Manuel Martínez. Servicio de Publicaciones de la ETSIA. 181-190. (2008).
- M Fernández-Marcos, D. Rodríguez, I López-Vidriero, R Solano, O Lorenzo. El Óxido Nítrico (NO) como regulador de la expresión génica en procesos de desarrollo. "Fitohormonas: Metabolismo y Modo de acción." Eds. Isabel Díaz y Manuel Martínez. Servicio de Publicaciones de la ETSIA. 111-116. (2008).
- D Rodríguez, D Reyes, C Nicolás, O Lorenzo, MP González-García. Procesos de fosforilación reversible de proteínas en la regulación de la dormición de semillas por ABA y GAs. "Fitohormonas: Metabolismo y Modo de Acción.", pp: 167-187. Publicacions de la Universitat Jaume I. 2006.
- D Reyes, D Rodríguez, O Lorenzo, Ja Jiménez, Mp González-García, G Nicolás, C Nicolás. Inmunolocalización y análisis funcional de una proteína kinasa de haya (FsPK1) inducida por ABA. In: "Fitohormonas: Metabolismo y Modo de Acción" pp: 113-122. Publicacions de la Universitat Jaume I. 2006 .
- A Alonso-Ramírez, D Reyes, D Rodríguez, G Nicolás, C Nicolás. Efecto de las tirosina fosfatasa en la inhibición de la germinación mediada por ABA. In: "Fitohormonas: Metabolismo y Modo de Acción.", pp: 97-103. Publicacions de la Universitat Jaume I. 2006.
- D. Reyes, C. Nicolas, M. P. Gonzalez-Garcia, O. Lorenzo, G. Nicolas, D. Rodriguez. La expresión constitutiva de una proteína fosfatasa 2C de haya (FsPP2C2) en *Arabidopsis* sugiere interacciones entre la señalización de ABA y GAs. In: "Metabolismo y Modo de Acción de Fitohormonas". Aquilafuente 71. Ediciones Universidad de Salamanca. Pp. 105-107. 2004.
- D. Reyes, D. Rodriguez, G. Nicolas, C. Nicolas. Evidencias del papel de la desfosforilación en restos de tirosina en el control de la actividad MAPK durante la inhibición por ABA del crecimiento postgerminativo en semillas de *Arabidopsis thaliana*. In: "Metabolismo y Modo de Acción de Fitohormonas". Aquilafuente 71. Ediciones Universidad de Salamanca. Pp.117-120..2004.
- D. Rodriguez, O. Lorenzo, C. Nicolas. "El ácido abscísico y la dormición de semillas". In: "Fisiología Hormonal". Ed. A. J. Matilla. Univ. Santiago de Compostela. Pg. 41-51. 2000.
- O. Lorenzo, C. Nicolas, A. P. Calvo, G. Nicolas, D. Rodriguez. "Caracterización de dos proteín-fosfatasa del tipo 2C (FsPP2C1 y FsPP2C2) reguladas por ácido abscísico y relacionadas con la dormición de semillas de haya". In: "Fisiología Hormonal". Ed. A. J. Matilla. Univ. Santiago de Compostela. Pg. 61-70. 2000
- A. P. Calvo, O. Lorenzo, G. Nicolas, D. Rodriguez, C. Nicolas. "Aislamiento y caracterización de un clon de cDNA que codifica para una ACC oxidasa (FsACO1), responsable de la biosíntesis de etileno y relacionada con la eliminación de la dormición de semillas de

- haya". In: "Fisiología Hormonal". Ed. A. J. Matilla. Univ. Santiago de Compostela. Pg. 91-99. 2000.
- O. Lorenzo, A. P. Calvo, C. Nicolas, G. Nicolas, D. Rodriguez. "Caracterización y expresión de una ATPasa regulada por GA3 en semillas durmientes de haya (*Fagus sylvatica*) y con un posible papel como factor de transcripción". In: Metabolismo y modo de acción de fitohormonas. Eds. R. Sánchez-Tamés, B. Fernández, A. Rodríguez, J. Majada. Servicio de Publicaciones de la Universidad de Oviedo. Pgs. 163-172. 1998.
- D. Rodriguez. "Síntesis de proteínas durante la germinación de semillas. Regulación hormonal." In: Nuevos conceptos sobre el desarrollo estructural y funcional de los seres vivos. Eds. J. J. García Marín, M.A. Serrano García, A. Tabernero Urbieta. Biblioteca de las Ciencias 75. Ediciones Universidad de Salamanca. Pg. 119-123. 1995.
- D. Rodriguez. "Regulación de la germinación a nivel de transcripción y traducción: Función de Giberelinas y ABA". In: "Notas Biotecnológicas". Eds. A. J. Matilla & J. M. Sánchez-Calle. Universidad de Granada. Pág. 93-99. 1991.
- P. Colorado, G. Nicolas, D. Rodriguez. "Efecto conjunto del ácido abscísico y el calcio sobre la expresión génica en la germinación de semillas de garbanzo". In: Acta Salmanticensia 71: 129-132. 1991.
- D. Rodriguez. Regulación de la germinación en semillas de *Cicer arietinum* L.: Traducción y transcripción en ejes embrionarios. Ediciones Universidad de Salamanca. 1984.

### **Granted projects:**

- \*Participation in 17 Research Projects Granted by Spanish and European Public Institutions
- \*6 as Project Leader

### **Scientific Conferences and Meetings**

\*Invited communications:

- International Conferences: 3
- National Conferences: 5

\*International Conferences: 29

- Oral Presentations: 13
- Poster: 16

\*National Conferences: 52

- Oral Presentations: 30
- Poster: 22

### **R&D management**

- Member of the Scientific Committee. XVIII Reunión de la Sociedad Española de Fisiología Vegetal (SEFV) - XI Congreso Hispano-Luso de Fisiología Vegetal. Zaragoza, Spain. 2009.
- Member of the Spanish Scientific Committee. XVII Congress of the Federation of European Societies of Plant Biology (FESPB) to be held in Valencia, Spain on 5-9 July 2010.
- President of the Organizing Committee. 2nd ISSS Workshop on Molecular Aspects of Seed Dormancy and Germination. Salamanca, Spain. 2007.
- Member of the Scientific Committee. 2nd ISSS Workshop on Molecular Aspects of Seed Dormancy and Germination. Salamanca, Spain. 2007.
- Member of the Scientific Committee. X Simposio sobre Metabolismo y Modo de Acción de Fitohormonas. Castellón, Spain. 2004.
- President of the Organizing Committee. IX Simposio sobre Metabolismo y Modo de Acción de Fitohormonas. Salamanca, Spain. 2004.
- Member of the Organizing Committee. VII International Workshop on Seeds. Salamanca, Spain. 2002.

- Member of the Scientific Committee. VII Simposio sobre Metabolismo y Modo de Acción de Fitohormonas. Santiago de Compostela, Spain. 2000.

### **Others**

- Supervisor of 7 PhD Thesis.
- Supervisor of 8 Degree Tesis.
- 4 PhD Thesis currently under supervision.
- Referee of the Journals: *Physiologia Plantarum*, *Plant Molecular Biology*, *Journal of Experimental Botany*, *Journal of Plant Physiology*.

Nov 11<sup>th</sup>, 2008

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