CURRICULUM VITAE: MIGUEL ANGEL ROSALES VILLEGAS

1. PERSONAL

Date and place of birth….. November 25, 1980 – Granada (Spain)
Gender…….. Male
Nationality..…….. Spanish
Email..... rosales@ugr.es; miguel.rosales@supagro.inra.fr
Languages…….. Spanish (mother tongue), English (B2) and French (A2)

2. EDUCATION AND ACADEMIC ACHIEVEMENTS

October 2004 ***BSc in Biology*** – Faculty of Sciences, University of Granada

June 2006 ***MSc in Agricultural Biology and Aquaculture*** - Faculty of Sciences, University of Granada. MS thesis title: "*Proline metabolism in different fractions of cherry tomato fruits in relation to temperature and solar radiation*". Supervisor: Dr. Juan M. Ruiz. Mark: *Summa*.

July 2008 ***PhD in Biology*** – Faculty of Sciences, University of Granada. PhD thesis title: "*Production and nutritional quality of cherry tomato fruits grown in two experimental Mediterranean greenhouses: metabolic and physiological responses*". Supervisors: Dr. Juan M. Ruiz and Dr. Luis Romero. Mark: *Summa Cum Laude*.

3. FUNDING AND RESEARCH PROFESSIONAL ACTIVITIES

Aug 2005-Jul 2007 **Research Fellowship** at the Department of Plant Physiology of the University of Granada (Spain). Funding by Government of Andalusia. Supervisors: Dr. Juan M. Ruiz and Dr. Luis Romero.

Jan 2007-Apr 2007 **Fellowship for international academic mobility** at the Institute of Biotechnology of the National Autonomous University of Mexico (UNAM, Mexico). Funding by Government of Andalusia through Ibero-American University Association of Postgraduate. Supervisor: Dr. Alejandra A. Covarrubias.

Sep 2008-Sep 2010 **Postdoctoral Fellowship** at the Institute of Biotechnology of the National Autonomous University of Mexico (UNAM, Mexico). Funding by UNAM. Supervisor: Dr. Alejandra A. Covarrubias.

Aug 2011-Dec 2012 **Postdoctoral Contract** at the Institute of Natural Resources and Agrobiology of the Spanish National Research Council (CSIC, Spain). Funding by CSIC. Supervisor: Dr. José M. Colmenero-Flores.

4. STAYS AT RESEARCH INSTITUTES

Jan 2002-Dic 2006 Department of Plant Physiology, Faculty of Sciences, University of Granada (Granada, Spain).

Jan 2007-Apr 2007 Department of Plant Molecular Biology, Institute of Biotechnology, National Autonomous University of Mexico (Cuernavaca, Mexico).

May 2007-Jul 2008 Department of Plant Physiology, Faculty of Sciences, University of Granada (Granada, Spain).

Sep 2008-Nov 2010 Department of Plant Molecular Biology, Institute of Biotechnology, National Autonomous University of Mexico (Cuernavaca, Mexico).

Jan 2011-Jun 2011 Department of Plant Physiology, Faculty of Sciences, University of Granada (Spain).
Aug 2011-Dec 2012 Department of Plant Biotechnology, Institute of Natural Resources and Agrobiology of the Spanish National Research Council (Sevilla, Spain).

5. RELEVANT SCIENTIFIC TECNIQUES AND SKILLS ACQUIRED

- Field and greenhouse experience in measurement of environmental variables (temperature, humidity, solar radiation, etc) using HMP45 probes and pyranometer sensors. I am expertise in the growth of agricultural plants under different substrates and abiotic stress treatments, sampling techniques, biomass and yield measurement. Also I have a great experience in statistical analysis using both SPSS and Statgraphics packages.
- Expertise in enzymatic and biochemical determinations by spectrophotometry and HPLC, and mineral nutrient measurement by atomic absorption and flame photometer. Experience in gas-exchange and fluorescence measurements by LICOR-6400 (photosynthesis rate, stomatal conductance, A/Ci curves, respiration and mesophyll conductance estimations), and in pressure probe techniques for measuring water relations of plant cells.
- I have widely worked with diverse molecular biology techniques, such as use of databases and sequences analysis, gene cloning (restriction enzymes and GATEWAY technology), promoter-GUS/GFP fusions and Arabidopsis mutant lines genotyping. I have a solid background in the phenotyping of *Arabidopsis thaliana* transgenic lines, by performing assays of germination, growth and development under different unfavourable conditions. In addition, I have considerable experience in the analysis of gene expression using techniques such as Northern-Blot and real time RT-PCR.

RESEARCHER EXPERIENCE

My researcher experience began during my **undergraduate** studentship. During the two last courses (2002-2004), I collaborated with research projects developed by the Plant Nutrition group (supervised by Dr. **Juan M. Ruiz**) at the Department of Plant Physiology of the University of Granada (Spain). During this period, we evaluated some nutritional and biochemical indicators in selecting salt-resistant tobacco cultivars showing that grafting improved production and quality of this salt-stressed plants (with 1 paper published in SCI as co-author). After finishing my Bachelor Degree in Biology, I started my **predoctoral stage** at the Department of Plant Physiology of the **University of Granada** (Granada, Spain) in the period 2004-2008, carrying out the thesis project titled "Production and nutritional quality of cherry tomato fruits grown in two experimental Mediterranean greenhouses: metabolic and physiological responses", directed by Dr. **Luis Romero** and Dr. **Juan M. Ruiz**. In this project (with **6 papers published in SCI as first-author**), I learned the management of various Mediterranean greenhouses and studied different physiological and biochemical responses of tomato fruit to environmental stresses such as heat stress, increased solar radiation and secondary water-deficit. Indeed, different mechanisms in response to environmental stress were studied: antioxidant response, proline metabolism, sucrolitic activities, cell-wall pectin solubilisation, and the content of compounds that influence the nutritional quality of tomato fruits. Furthermore, during this stage I developed several techniques of biochemical and enzymatic determination and helped in the doctoral training of five lab-partners.

Afterwards, I initiated **molecular biology approaches** during my **two-year postdoctoral fellowship** at the Dr. **Alejandra A Covarrubias's lab** of the **Institute of Biotechnology** of the **National Autonomous University of Mexico** (IBt-UNAM, Cuernavaca, Mexico). The project aims the identification and characterization of a new repressor DEAR family of transcriptional factors in common bean (*Phaseolus vulgaris*), and their involvement in the water deficit tolerance. Thus, I firstly identified candidate genes through database search of *P. vulgaris*-available ESTs containing a characteristic motif of the

DREB2-type transcription factors (typically involved in water deficit response). Subsequently, I studied the expression patterns of these genes in *P. vulgaris* under different abiotic stress conditions (by qRT-PCR). Finally, I conducted over-expression experiments of these two genes in Arabidopsis plants under the control of several promoters, to study their phenotype under different water deficit conditions. Unfortunately, due to lack of funding I returned to Spain and this work has not been completed yet (with 1 SCI-paper in elaboration). Furthermore, from my own initiative, I performed an extensive physiological analysis of common bean cultivars to uncover characteristics related to terminal drought resistance (with 2 SCI-papers as first author), and also conducted phenotypic studies with mutants of LEA4 and LEA6 genes in Arabidopsis (with 2 SCI-paper in elaboration). Later, I returned to my PhD lab collaborating in the project "Cytokinin-dependent metabolic responses in transgenic PSARK::IPT tobacco under N deficiency" (obtaining 3 SCI-papers as co-author).

In the last year, I have been studying the effect of chloride anion homeostasis on plant water balance and water deficit tolerance at the Dr. **JM Colmenero-Flores's lab** of the **Institute of Natural Resources and Agrobiology** of the **Spanish National Research Council** (IRNAS-CSIC, Seville, Spain). In addition to the physiological study of Cl^- homeostasis, I am also involved in the functional characterization of two *A. thaliana* genes potentially encoding anion channels, and their possible role in the regulation of chloride homeostasis and water deficit tolerance. By qRT-PCR and GUS reporter lines, I have analysed the regulation of these two genes expression in response to developmental and environmental factors. Moreover, I have supervised the Master thesis of the student Pablo Díaz Rueda (University of Seville, Molecular Genetics and Biotechnology), entitled "Gene expression regulation of anion transporters under different nutritional and abiotic stress treatments in *A. thaliana*" (September 2012; mark: *Summa*).

RESEARCH RESULTS (PUBLICATIONS, TEACHING, PROJECTS, ETC.)

Studies conducted during my PhD showed different **metabolic and physiological mechanisms** of response to **environmental stress** (high temperature and solar radiation, and consequently water deficit) in **tomato fruit**. These studies provided novel results, since usually only tomato quality parameters were explored. Thus, an efficient response antioxidant, an increased sugar degradation to supply antioxidant precursors and an increased proline accumulation and metabolism were three defence mechanisms involved in tomato resistance to stress, which participated in a reduction of physiopaties such as yellow shoulders and blossom-end-rot (obtaining 3 SCI-articles as first author). Furthermore, different parameters of tomato quality and environmental stress were evaluated in various experimental Mediterranean greenhouses, obtaining innovative findings of important application on improving of greenhouses management (with 3 SCI-papers as first author). In addition, I participated directly in projects in relation to plant nutrition of boron, selenium and iodine, and physiological mechanisms of tolerance to environmental stresses (obtaining 11 SCI-papers as co-author). During my post-doc, I made great efforts in the **molecular and functional characterization** of a **new family of transcriptional factors AP2-type** still unknown in common bean (project in process that will soon be submitted). From my own initiative, I conducted an extensive **physiological analysis of common bean cultivars** to uncover characteristics related to **terminal drought resistance** in both field and greenhouse conditions (obtaining 2 SCI-papers as first author), and also performed phenotypic studies with mutants of LEA4 and LEA6 genes in Arabidopsis (forthcoming 2 SCI-papers as co-author). In the last year, I have been exploring physiological and molecular approaches of **chloride homeostasis** and its involvement in plant **water deficit tolerance.** Moreover, I have been responsible of two Bachelor and Master thesis; I have given classes in Masters Courses; and I have reviewed tens of articles in SCI-journals.

1. PUBLICATIONS

International articles (SCI-journals)

1. **Rosales MA,** Ruiz JM, Hernández J, Soriano T, Castilla N, Romero L (2006) Antioxidant content and ascorbate metabolism in cherry tomato exocarp in relation to temperature and solar radiation. *J. Sci. Food Agric.* 86, 1545-1551
2. Ruiz JM, Ríos JJ, **Rosales MA**, Rivero RM, Romero L (2006) Grafting between tobacco plants to enhance salinity tolerance. *J. Plant Physiol.* 16, 1229-1237
3. **Rosales MA**, Rubio-Wilhelmi MM, Castellano R, Castilla N, Ruiz JM, Romero L (2007) Sucrolytic activities in cherry tomato fruits in relation to temperature and solar radiation. *Sci. Hort.* 113, 244-249
4. **Rosales MA**, Castellano R, López-Carrión AI, Romero L, Ruiz JM (2007) Proline metabolism in cherry tomato exocarp in relation to temperature and solar radiation. *J. Hort. Sci. Biotech.* 82, 739-744
5. Ríos JJ, **Rosales MA**, Blasco B, Cervilla LM, Romero L, Ruiz JM (2008) Biofortification of Se and induction of the antioxidant capacity in lettuce plants. *Sci. Hort.* 116, 248-255
6. López-Carrión AI, Castellano R, **Rosales MA**, Ruiz JM, Romero L (2008) Role of nitric oxide under saline stress: implications on proline metabolism. *Biol. Plant.* 52, 587-591
7. Ríos JJ, Blasco B, Cervilla LM, **Rosales MA**, Sánchez-Rodríguez E, Romero L, Ruiz JM (2009) Production and detoxification of H2O2 in lettuce plants exposed to selenium. *Ann. Appl. Biol.* 154, 107-116
8. **Rosales MA**, Ríos JJ, Cervilla LM, Rubio-Wilhelmi MM, Blasco B, Ruiz JM, Romero L (2009) Environmental conditions in relation to stress in cherry tomato fruits in two experimental Mediterranean greenhouses. *J. Sci. Food Agric.* 89, 735-742
9. Cervilla LM, **Rosales MA**, Rubio-Wilhelmi MM, Sánchez-Rodríguez E, Blasco B, Ríos JJ, Romero L, Ruiz JM (2009) Involvement of lignification and membrane permeability in the tomato root response to boron toxicity. *Plant Sci.* 176, 545-552
10. **Rosales MA**, Cervilla LM, Ríos JJ, Blasco B, Sánchez-Rodríguez E, Romero L, Ruiz JM (2009) Environmental conditions affect pectin solubilization in cherry tomato fruits grown in two experimental Mediterranean greenhouses. *Environ. Exp. Bot.* 67, 320-327
11. Cervilla LM, Blasco B, Ríos JJ, **Rosales MA**, Rubio-Wilhelmi MM, Sánchez-Rodríguez E, Romero L, Ruiz JM (2009) Response of nitrogen metabolism to boron toxicity in tomato plants. *Plant Biol.* 11, 671-677
12. Sánchez-Rodríguez E, Rubio-Wilhelmi MM, Cervilla LM, Blasco B, Ríos JJ, **Rosales MA**, Romero L, Ruiz JM (2009) Genotypic differences in some physiological parameters symptomatic for oxidative stress under drought in tomato plants. *Plant Sci.* 178, 30-40
13. Ríos JJ, Blasco B, **Rosales MA**, Sánchez-Rodríguez, Leyva R, Cervilla LM, Romero L, Ruiz JM (2010) Response of nitrogen metabolism in lettuce plants subjected to different doses and forms of selenium. *J. Sci. Food Agric.* 90, 1914-1919
14. Blasco B, Ríos JJ, Cervilla LM, Sánchez-Rodríguez E, Rubio-Wilhelmi MM, **Rosales MA**, Ruiz JM, Romero L (2010) Photorespiration process and nitrogen metabolism in lettuce plants (*Lactuca sativa* L.): induced changes in response to iodine biofortification. *J. Plant Growth Regul.* 29, 477-486
15. Ríos JJ, Blasco B, Cervilla LM, Rubio-Wilhelmi MM, **Rosales MA**, Sánchez-Rodríguez E, Romero L, Ruiz JM (2010) Nitrogen-use efficiency in relation to different forms and application rates of Se in lettuce plants. *J. Plant Growth Regul.* 29, 164-170
16. **Rosales MA**, Cervilla LM, Sánchez-Rodríguez E, Rubio-Wilhelmi MM, Blasco B, Ríos JJ, Soriano T, Castilla N, Romero L, Ruiz JM (2011) The effect of environmental conditions on nutritional quality of cherry tomato fruits: evaluation of two experimental Mediterranean greenhouses. *J. Sci. Food Agric.* 91, 152-162

17. Blasco B, Rios JJ, Leyva R, Cervilla LM, Sanchez-Rodriguez E, Rubio-Wilhelmi MM, **Rosales MA**, Ruiz JM, Romero L (2011) Does iodine biofortification affect oxidative metabolism in lettuce plants? *Biol. Trace Elem. Res.* 142, 831-842
18. Sánchez-Rodríguez E, Rubio-Wilhelmi MM, Ríos JJ, Blasco B, **Rosales MA**, Melgarejo R, Romero L, Ruiz JM (2011) Ammonia production and assimilation: its importance as mechanism tolerance during water deficit in tomato plants. *J. Plant Physiol.* 168, 816-823
19. Rubio-Wilhelmi MM, Sánchez-Rodríguez E, **Rosales MA**, Blasco B, Rios JJ, Romero L, Blumwald E, Ruiz JM (2011) Effect of cytokinins on oxidative stress in tobacco plants under nitrogen deficiency. *Environ. Exp. Bot.* 72, 167-173
20. Rubio-Wilhelmi MM, Sánchez-Rodríguez E, **Rosales MA**, Blasco B, Rios JJ, Romero L, Blumwald E, Ruiz JM (2011) Cytokinin-dependent Improvement in Transgenic PSARK::IPT Tobacco under N Deficiency. *J. Agric. Food Chem.* 59, 10491-10495
21. **Rosales MA**, Ocampo E, Rodríguez-Valentín R, Olvera-Carrillo Y, Acosta-Gallegos J, Covarrubias AA (2012) Physiological analysis of common bean (*Phaseolus vulgaris* L.) cultivars uncovers characteristics related to terminal drought resistance. *Plant Physiol. Biochem.* 56, 24-34
22. Rubio-Wilhelmi MM, Sánchez-Rodríguez E, **Rosales MA**, Blasco B, Rios JJ, Romero L, Blumwald E, Ruiz JM (2012) Ammonium formation and assimilation in PSARK::IPT tobacco transgenic plants under low N. *J. Plant Physiol.* 169, 157-162
23. **Rosales MA**, Cuellar-Ortiz SM, Arrieta-Montiel MP, Acosta-Gallegos J, Covarrubias AA (2013) Physiological traits related to terminal drought resistance in common bean (*Phaseolus vulgaris* L.). *J. Sci. Food Agric.* 93, 324-331
24. Rodríguez-Valentín R, Campos F, Battaglia M, Solórzano RM, **Rosales MA**, Covarrubias AA. (2014) Group 6 LEA proteins in monocotyledoneous plants: genomic organization and transcript accumulation patterns in response to stress in *Oryza sativa*. *Plant Mol. Biol. Rep.* 32,198-208
25. Colmenero-Flores JM and **Rosales MA** (2014) Interaction between salt and heat stress: when two wrongs make a right. *Plant Cell Environ.* (in press; doi: 10.1111pce.12229)

Significant publications in preparation:

Rosales MA, et al. Molecular cloning and functional characterization of a repressor DEAR family of common bean (*Phaseolus vulgaris*). (Shortly to be submitted to *Plant Physiol.*)

Franco-Navarro JD, **Rosales MA**, et al. Chloride nutrition at macronutrient levels regulates tobacco plant development and water balance. (Shortly to be submitted to *Plant Cell Environ.*)

Rosales MA, et al. Chloride nutrition alleviates limitations to photosynthesis in tobacco plants by adjustment of stomatal and mesophyll conductances to CO_2. (Shortly to be submitted to *Plant Cell Environ.*)

Work currently in development, to be published

Rosales MA, et al. Functional characterization of a chloride transporter of *Arabidopsis thaliana*.

Cubero-Font P, **Rosales MA**, et al. Functional characterization of an anion transporter of *A. thaliana*.

Scientific disclosure

Rubio-Wilhelmi MM, **Rosales MA**, et al. (2008) Variation of stress indicators in Quercus species grown at different areas in Spain. *Current Topics in Plant Biology* 9, 135-145

Cervilla LM, Blasco B, Rios JJ, **Rosales MA**, et al. (2012) Parameters symptomatic of boron toxicity in tomato plants. *Journal of Botany* (doi:10.11552012726206)

Full books

Rosales MA (2008) Production and nutritional quality of cherry tomato fruits grown in two experimental Mediterranean greenhouses: metabolic and physiological responses. Ed. Universidad de Granada. I.S.B.N.: 978-84-691-4849-5. Granada, Spain. Vol. 1, pp. 1-230. Doctoral Thesis.

Rosales MA et al. (2011) Physiology and nutritional quality of tomatoes grown in greenhouses. Editorial Académica Española - LAP LAMBERT Academic Publishing GmbH & Co KG. I.S.B.N.: 978-3-8443-4325-0. Germany. Vol 1, pp. 1-242.

Significant book chapters

Rosales MA et al. (2006) Study of some phytonutrients in cherry tomato fruits grown in two experimental Mediterranean greenhouses. Proceeding of Horticulture. X Workshops of the Horticultural Group. Ed. Spanish Society for Horticultural Science. I.S.B.N.: 84-690-1423-4. Spain. Vol. 46, pp. 79-82.

Rosales MA et al. (2007) Influence of different environmental variables on proline metabolism in cherry tomato fruits grown under greenhouse. Proceeding of Horticulture. Ed. Spanish Society for Horticultural Science. I.S.B.N.: 978-84-690-5619-6. Spain. Vol. 48, pp. 290- 293.

Rosales MA et al. (2008) Production and nutritional status in cherry tomato fruits grown under different environmental conditions. Present and future of plant mineral nutrition. I.S.B.N.: 978-84-89780-10-7. Spain. Vol. 1, pp. 1151-1170.

Rosales MA et al. (2012) Chloride nutrition improves water use efficiency and drought tolerance in tomato plants. "Plant Mineral Nutrition as the basis for sustainable agriculture". Spain. Vol. 1, pp. 314-320. ISBN: 978-84-695-5571-2.

2. SIGNIFICANT COMUNICATIONS

2005 - Evora (Portugal) - Rosales MA et al. Influence of some environmental factors on the antioxidant content of cherry tomato fruits. XVI Reunión de la S.E.F.V. - IX Congreso Hispano-Luso de Fisiología Vegetal (Poster)

2006 - Granada (Spain) - Rosales MA et al. Study of several phytonutrients in cherry tomato fruits grown in two greenhouses experimental Mediterranean. X Jornadas del Grupo de Horticultura de la S.E.C.H. (Oral)

2007 - Albacete (Spain) - Rosales MA et al. Influence of different environmental factors on proline metabolism in cherry tomato fruits grown under greenhouse. XI Congreso Nacional de Ciencias Hortícolas de la SECH (Poster)

2007 - Alcalá de Henares (Spain) - Rosales MA et al. Study of antioxidant capacity in cherry tomato fruits grown in two experimental Mediterranean greenhouses. X Congreso Hispano-Luso de Fisiología Vegetal (Poster)

2008 - Granada (Spain) - Rosales MA el al. Effect of environmental conditions on the mineral elements content of cherry tomato fruits in two experimental Mediterranean greenhouses. XII Simposio Ibérico sobre Nutrición Mineral de las Plantas – NUTRIPLANT2008 (Poster)

2009 - Guanajuato (México) - Rosales MA et al. Identification and analysis of the AP2 gene family of transcription factors in Phaseolus vulgaris L. and their involvement in the drought response. XIII Congreso Nacional de Bioquímica y Biología Molecular de Plantas – 6º Simposium México-USA (Poster)

2012 - Madrid (Spain) - Rosales MA et al. Chloride nutrition improves water use efficiency and water stress tolerance in tomato plants. XIV Simposio Hispano-Luso de Nutrición Mineral de las Plantas – NUTRIPLANT2012 (Poster)

3. PARTICIPATION IN RESEARCH PROJECTS

- 2003-2006**:** *Environmental evaluation and improvement of production quality and efficiency of resource use of agrosystem Mediterranean greenhouses*. Project leader: Dr. Nicolás Castilla. Financial entity: National Institute for Agricultural Research (Spain, INIA, IRTA03-096-C5-1).
- 2004-2007: *Nutritional analysis of six species of oaks of forest interest in Andalucia and proposals for its management.* Project leader: Dr. Luis Romero. Financial entity: Government of Andalusia (Spain).
- 2007-2009: *Analysis of different resistance strategies to boron toxicity in plants*. Project leader: Dr. Juan M. Ruiz. Financial entity: Ministry of Education and Science (Spain, MEC, AGL2006-03164).
- 2006-2009: *Functional analysis of several plant hydrofilins*. Project leader: Dr. Alejandra A. Covarrubias. Financial entity: National Council on Science and Technology (Mexico, CONACYT-50485-Q).
- 2009-2010: *Functional characterization of transcriptional factors of common bean involved in the water deficit response: analysis of its potential as tools to confer or select drought resistance*. Project leader: Dr. Francisco Campos. Financial entity: National Council on Science and Technology (Mexico, CONACYT-83553).
- 2010-2013: *Functional study of some plant hydrofilins and the impact of their heterologous expression in drought tolerance*. Project leader: Dr. Alejandra A. Covarrubias. Financial entity: National Council on Science and Technology (Mexico, CONACYT-132258).
- 2010-2012: *Drought tolerance in plants based on the regulation of Cl- anion homeostasis and ploidy level*. Project leader: Dr. José M. Colmenero-Flores. Financial entity: Ministry of Science and Innovation (Spain, MICINN, AGL2009-08339).

4. POSTGRADUATE COURSES

2009 - **Assistance** to the "*Course of Training for Radiation Safety"* at the Institute of Biotechnology of the National Autonomous University of Mexico (UNAM, Mexico). 10 hours.

2009 - **Teaching** of the theme "*Eukaryotic Transcription*", in the course "*Molecular Biology*" of the Master in Biochemistry of the National Autonomous University of Mexico (UNAM, Mexico). 14 hours.

2010 - **Teaching** of the themes " *Physiology and Biochemistry of Fruit Ripening*" and "*Flower*", in the course "*Plant Biology*" of the Master in Biochemistry of the National Autonomous University of Mexico (UNAM, Mexico). 5 hours.

2012 - **Assistance** to the course titled "*The researcher office: collecting funds, transfer and diffusion of the research*" organized by Institute of Natural Resources and Agrobiology (CSIC, Spain). 28 hours.

5. THESIS SUPERVISED

- **Thesis of University Master** in Molecular Genetics and Biotechnology. International Center for Postgraduate and Doctorate, University of Seville (Seville, Spain). Degree student: Pablo Díaz Rueda. Tittle: Gene Expression Regulation of Anion Transporters under different Nutritional and Abiotic Stress Treatments in *A. thaliana*. Sep-2012. Mark: *Summa*.

- **Bachelor thesis** in Biological Sciences. Faculty of Sciences, Autonomous University of Morelos State (Cuernavaca, Mexico). Degree student: Edilia Ocampo Flores. Title: Impact of proline content and osmotic adjustment in drought resistance of different cultivars of bean (*Phaseolus vulgaris* L.). In process.

- **PhD thesis** in Biology. University of Seville (Seville, Spain). Degree student: Juan de Dios Franco Navarro. Tittle: Novel functions of chloride nutrition in plant development, physiology and water relations, and its function in plant drought tolerance. In process.

6. OCASSIONAL REFEREE IN SCI-JOURNALS

Annals of Applied Biology, Chemosphere, Journal of Agricultural and Food Chemistry, Journal of the American Society for Horticultural Science, Journal of the Science of Food and Agriculture, Physiologia Plantarum, Plant and Soil, Plant Physiology and Biochemistry, Plant Foods for Human Nutrition, PLOS ONE, Postharvest Biology and Technology, Scientia Horticulturae, The Journal of Horticultural Science and Biotechnology.