

C.v. Javier Abadía

Aula Dei Experimental Station-Spanish Council for Scientific Research (EEAD-CSIC),
Zaragoza, Spain

(full c.v. at http://www.stressphysiology.com/pdf/cv_J_Abadia.doc)

02-04-1954 Born in Zaragoza, Spain

Education

<i>Institution and Location, Degree</i>	<i>Year Conferred</i>	<i>Field of study</i>
University of Zaragoza, Spain	Lic. 1976	Chemistry
University of Zaragoza, Spain	Dr. 1981	Sciences/Chemistry

Scientific career

2003-present	Research Professor CSIC, EEAD. Plant stress physiology
1989-2003	Researcher CSIC, EEAD. Plant stress physiology
1988-1989	Research Associate CSIC, EEAD. Plant stress physiology
1987	Visiting Scientist, OECD Fellow, University of Essex, Colchester, UK. Chlorophyll fluorescence techniques
1986-1988	Postdoctoral Fellow MEC, EEAD. Iron nutrition in plants
1984-1985	Postdoctoral Fellow CSIC and Assistant Specialist, University of California, Berkeley, California, USA. Iron nutrition in plants
1981-1983	Postdoctoral Fellow CSIC, EEAD. Iron nutrition in plants
1979-1981	Predoctoral Fellow CSIC, EEAD. Manganese nutrition in plants

Main research topics-competences

Experience in: plant nutrition studies, with special emphasis in iron and other metals, in crops -including fruit trees- and model plant species; photosynthesis studies, including chlorophyll fluorescence, determination of plant pigments (chlorophylls and carotenoids), separation and analysis of pigment-protein complexes; application of mass spectrometry techniques to agricultural science studies; plant metabolomics (GC-MS) and proteomics (gel based and non-gel based techniques).

Responsibilities in Research Organization

2018-	Member of the External Advisory Board MeditBio (Centre for Mediterranean Bioresources and Food), Faro, Algarve, Portugal
2004-2008	Member of the CSIC Agricultural Sciences Commission
2002-2004	Deputy Director of the CSIC Institute "Estación Experimental de Aula Dei"
1995-1998	Member of the Joint Commission CSIC-DGA
1995-1998	Coordinator of the project AIR3-CT94-1973, with 6 laboratories, funded by the Commission of the European Communities
1994-1998	Director of the CSIC Institute "Estación Experimental de Aula Dei"
1994-1995	Member of the Agronomic Sciences Committee of the Advisory Research Council of the Diputación General de Aragón (DGA, Local Government)

Membership in Scientific Societies

American Society of Plant Physiologists/Biologists	since 1984
Sociedad Española de Fisiología Vegetal	" 1985
European Society of Plant Physiologists	" 1985
Japanese Society of Plant Physiologists	" 2000
Sociedad Española de Proteómica	" 2006
American Society for Horticultural Science	" 2017

Responsibilities in Scientific Societies

1991-2012	Member of the Steering Committee of the International Symposium on Iron Nutrition and Interactions in Plants
1998-2004	Member of the Steering Committee of the Iberic Symposia Series on Plant Mineral Nutrition, of the Spanish Society of Plant Physiologists

PUBLICATIONS

Articles in SCI peer-reviewed Journals

Researcher ID: <http://www.researcherid.com/rid/B-8804-2008>

H index (WOS ResearcherID, jan. 2018)	46
Articles in Dissemination and Technical Journals	39
Books and Special Journal issues edited	6
Invited Book Chapters	6
PhD Thesis supervised	15
Communications to Symposia	231

Articles in SCI peer-reviewed Journals 2012-2018

2018

- 155** Davarpanah S, Tehranifar A, **Abadía J**, Val J, Davarynejad G, Aran M, Khorassani R (2018) Foliar calcium fertilization reduces fruit cracking in pomegranate (*Punica granatum* cv. Ardestani). **Scientia Horticulturae** 230, 86-91 (doi: 10.1016/j.scienta.2017.11.023) ^{Q1}
- 154** Ceballos-Laita L, Gutierrez-Carbonell E, Takahashi D, **Abadía A**, Uemura M, **Abadía J**, **López-Millán A-F** (2018) Effects of Fe and Mn deficiencies on the protein profiles of tomato (*Solanum lycopersicum*) xylem sap as revealed by shotgun analyses. **Journal of Proteomics** 170, 117-129 (doi: 10.1016/j.jprot.2017.08.018) ^{Q1} **Data in Brief**, in press

2017

- 153** Ben Abdallah H, Mai H-G, **Álvarez-Fernández A**, **Abadía J**, Bauer P (2017) Natural variation reveals contrasting abilities to cope with alkaline and saline soil among different *Medicago truncatula* genotypes. **Plant and Soil** 418, 45-60 (doi: 10.1007/s11104-017-3379-6) ^{Q1}
- 152** Banakar R, **Álvarez-Fernández A**, **Díaz-Benito P**, **Abadía J**, Capell T, Christou P (2017) Phytosiderophores determine thresholds for iron and zinc accumulation in biofortified rice endosperm while inhibiting the accumulation of cadmium. **Journal of Experimental Botany** 68, 4983-4995 (doi: 10.1093/jxb/erx304) ^{Q1}
- 151** Banakar R, **Álvarez-Fernández A**, **Abadía J**, Capell T, Christou P (2017) A heterologous Fe (III) phytosiderophore transporter expressed in rice increases Fe uptake, translocation and seed loading but excludes heavy metals by selective Fe transport. **Plant Biotechnology Journal** 15, 423-432 (doi: 10.1111/pbi.12637) ^{Q1}
- 150** Davarpanah S, Tehranifar A, Davarynejad G, Aran M, **Abadía J**, Khorasani R (2017) Effects of foliar nitrogen fertilizers on the physical and chemical properties of pomegranate (*Punica granatum* cv. Ardestani) fruits. **Hortscience** 52, 288-294 (doi: 10.21273/HORTSCI11248-16) ^{Q2}

2016

- 149** Sisó-Terraza P, Luis-Villarroya A, Fourcroy P, Briat J-F, **Abadía A**, Gaymard F, **Abadía J**, **Álvarez-Fernández A** (2016) Accumulation and secretion of coumarinolignans and other coumarins by *Arabidopsis thaliana* roots in response to iron deficiency at high pH. **Frontiers in Plant Science** 7, 1711 ^{Q1}
- 148** Solti A, Kovács K, Muller B, Vázquez S, Tóth B, **Abadía J**, Fodor F (2016) Does a voltage-sensitive outer envelope transport mechanism contribute to the chloroplast iron uptake? **Planta** 6, 1303-1313 (doi: 10.1007/s00425-016-2586-3) ^{Q1}
- 147** Gutierrez-Carbonell E, Takahashi D, Lüthje S, González-Reyes JA, Contreras-Moreira B, Uemura M, **Abadía J**, **López-Millán AF** (2016) A shotgun proteomic approach reveals that Fe deficiency causes marked changes in the protein profiles of plasma membrane and detergent resistant microdomain preparations from *Beta vulgaris* roots. **Journal of Proteome Research** 15, 2510-2524 (doi: 10.1021/acs.jproteome.6b00026) ^{Q1}
- 146** Davarpanah S, Davarynejad G, **Abadía J**, Khorasani R (2016) Effects of foliar applications of zinc and boron nano-fertilisers on pomegranate (*Punica granatum* cv. Ardestani) fruit yield and quality. **Scientia Horticulturae**, 210, 57-64 (doi: 10.1016/j.scienta.2016.07.003) ^{Q1}
- 145** Rios JJ, Carrasco-Gil S, **Abadía A**, **Abadía J** (2016) Using Perls staining to trace the iron uptake pathway in leaves of a Prunus rootstock treated with iron foliar fertilizers. **Frontiers in Plant Science** 7, 893 (doi: 10.3389/fpls.2016.00893) ^{Q1}
- 144** Rodríguez-Celma J, Ceballos-Laita L, Grusak M, **Abadía J**, **López-Millán AF** (2016) Plant fluid proteomics: delving into the xylem sap, phloem sap and apoplastic fluid proteomes. **Biochimica Biophysica Acta Proteins and Proteomics** 1864, 991-1002 (doi: 10.1016/j.bbapap.2016.03.014) ^{Q2}

- 143** Rodríguez-Celma J, Lattanzio G, Villarroya D, Gutierrez-Carbonell E, Ceballos-Laita L, Rencoret J, Gutiérrez A, del Río JC, Grusak MA, Abadía A, Abadía J, López-Millán AF (2016) Effects of Fe deficiency on the protein profiles and lignin composition of stem tissues from *Medicago truncatula*. **Journal of Proteomics** 140, 1-12 (doi: 10.1016/j.jprot.2016.03.017) ^{Q1}
- 142** Carrasco-Gil S, Ríos JJ, Álvarez-Fernández A, Abadía A, García-Mina JM, Abadía J (2016) Effects of individual and combined metal foliar fertilization on iron- and manganese-deficient *Solanum lycopersicum* plants. **Plant and Soil** 402, 27-45 (doi: 10.1007/s11104-015-2759-z) ^{Q1}
Erratum **Plant and Soil** 402, 409-410
- 141** Sisó-Terraza P, Ríos JJ, Abadía J, Abadía A, Álvarez-Fernández A (2016) Flavins secreted by roots of iron deficient *Beta vulgaris* enable mining of ferric oxide via reductive mechanisms. **New Phytologist** 209, 733-745 (doi: 10.1111/nph.13633) ^{Q1}

2015

- 140** Gutierrez-Carbonell E, Lattanzio G, Albacete A, Ríos JJ, Kehr J, Abadía A, Grusak MA, Abadía J, López-Millán AF (2015) Effects of Fe deficiency on the protein profile of *Brassica napus* phloem sap. **Proteomics** 15, 3835-3853 (doi: 10.1002/pmic.201400464) ^{Q1}
- 139** Ceballos-Laita L, Gutierrez-Carbonell E, Lattanzio G, Vázquez S, Contreras-Moreira B, Abadía A, Abadía J, López-Millán AF (2015) Protein profile of *Beta vulgaris* leaf apoplastic fluid and changes induced by Fe deficiency and Fe resupply. **Frontiers in Plant Science** 6, 145 (doi: 10.3389/fpls.2015.00145) ^{Q1}
- 138** Larbi A, Vázquez S, El-Jendoubi H, Msallem M, Abadía J, Abadía A, Morales F (2015) Canopy light heterogeneity drives leaf anatomical, eco-physiological and photosynthetic changes in olive trees grown in a high-density plantation. **Photosynthesis Research** 123, 141-155 (doi: 10.1007/s11120-014-0052-2) ^{Q1}

2014

- 137** Gutierrez-Carbonell E, Takahashi D, Lattanzio G, Rodríguez-Celma J, Soll J, Philippar K, Kehr J, Uemura M, Abadía J, López-Millán A (2014) The distinct functional roles of the inner and outer chloroplast envelope of pea (*Pisum sativum*) as revealed by proteomic approaches. **Journal of Proteome Research** 13, 2941-2953 (doi: 10.1021/pr500106s) ^{Q1}
- 136** Ojeda-Barríos DL, Perea-Portillo E, Hernández-Rodríguez OA, Martínez-Téllez J, Abadía J, Lombardini L (2014) Foliar fertilization with zinc in pecan trees. **HortScience** 49, 562-566 ^{Q2}
- 135** Álvarez-Fernández A, Díaz-Benito P, Abadía A, López-Millán AF, Abadía J (2014) Metal species involved in long distance metal transport in plants. **Frontiers in Plant Science** 5, 105 (doi: 10.3389/fpls.2014.00105) ^{Q1}
- 134** El-Jendoubi H, Vázquez S, Calatayud A, Vavpetic P, Vogel-Mikuš K, Pelicon P, Abadía J, Abadía A, Morales F (2014) The effects of foliar fertilization with iron sulfate in chlorotic leaves are limited to the treated area. A study with peach trees (*Prunus persica* L. Batsch) grown in the field and sugar beet (*Beta vulgaris* L.) grown in hydroponics. **Frontiers in Plant Science** 5, 2 (doi: 10.3389/fpls.2014.00002) ^{Q1}
- 133** Sobrino-Plata J, Carrasco-Gil S, Abadía J, Escobar C, Álvarez-Fernández A, Hernández LE (2014) The role of glutathione in mercury tolerance resembles its function under cadmium stress in *Arabidopsis*. **Metallomics** 6, 356-66 (doi: 10.1039/c3mt00329) ^{Q2}
- 132** Basa B, Lattanzio G, Solti Á, Tóth B, Abadía J, Fodor F, Sárvári É (2014) Changes induced by cadmium stress and iron deficiency in the composition and organization of thylakoid complexes in sugar beet (*Beta vulgaris* L.). **Environmental Experimental Botany** 101, 1-11 (doi: 10.1016/j.envexpbot.2013.12.026) ^{Q1}
- 131** Fourcroy P, Sisó-Terraza P, Sudre D, Savirón M, Reyt G, Gaymard F, Abadía A, Abadía J, Álvarez-Fernández A, Briat JF (2014) Involvement of the ABCG37 transporter in secretion of scopoletin and derivatives by *Arabidopsis* roots in response to iron deficiency. **New Phytologist** 201, 155-167 (doi: 10.1111/nph.12471) ^{Q1}

2013

- 130** Gutierrez-Carbonell E, Lattanzio G, Sagardoy R, Rodríguez-Celma J, Ríos JJ, Matros A, Abadía A, Abadía J, López-Millán A-F (2013) Changes induced by zinc toxicity in the 2-DE protein profile of sugar beet roots. **Journal of Proteomics** 94, 149-161 (doi: 10.1016/j.jprot.2013.09.002). ^{Q1}
- 129** López-Millán A-F, Grusak MA, Abadía A, Abadía J (2013) Iron deficiency in plants: an insight from proteomic approaches. **Frontiers in Plant Science** 4, 254 (doi: 10.3389/fpls.2013.00254) ^{Qx}

- 128 Rodríguez-Celma J**, Lin W-D, Fu G-M, **Abadía J**, **López-Millán A-F**, Schmidt W (2013) Mutually exclusive alterations in secondary metabolism are critical for the uptake of insoluble iron compounds by *Arabidopsis* and *Medicago truncatula*. **Plant Physiology** 162, 1473-1485 (doi: 10.1104/pp.113.220426) ^{Q1}
- 127 Lattanzio G**, **Andaluz S**, Matros A, Calvete JJ, Kehr J, **Abadía A**, **Abadía J**, **López-Millán AF** (2013) Protein profile of *Lupinus texensis* phloem sap exudates: searching for Fe and Zn containing proteins. **Proteomics** 13, 2283-2296 (doi:10.1002/pmic.201200515) ^{Q1}
- 126 Sudre D**, **Gutierrez-Carbonell E**, **Lattanzio G**, **Rellán-Álvarez R**, Gaymard F, Wohlgemuth G, Fiehn O, **Álvarez-Fernández A**, Zamarreño AM, Bacaicoa E, Duy D, García-Mina JM, **Abadía J**, Philippar K, **López-Millán AF**, Briat JF (2013) Iron-dependent modifications of the flower transcriptome, proteome, metabolome and hormonal content in an *Arabidopsis* ferritin mutant. **Journal of Experimental Botany** 64, 2665-2688 (doi: 10.1093/jxb/ert112) ^{Q1}
- 125 Martínez-Cuenca MR**, Iglesias DJ, Talón M, **Abadía J**, **López-Millán AF**, Primo-Millo E, Legaz F (2013) Metabolic responses to iron deficiency in roots of Carrizo citrange (*Citrus sinensis* (L.) Osb. x *Poncirus trifoliata* (L) Raf.). **Tree Physiology** 33, 320-329 (doi: 10.1093/treephys/tpt011) ^{Q1}
- 124 Rodríguez-Celma J**, **Lattanzio G**, Jiménez S, Briat JF, **Abadía J**, **Abadía A**, Gogorcena Y, **López-Millán AF** (2013) Changes induced by Fe deficiency and Fe resupply in the root protein profile of a peach-almond hybrid rootstock. **Journal of Proteome Research** 12, 1162-1172 (doi: 10.1021/pr300763c) ^{Q1}
- 123 El-Jendoubi H**, **Abadía J**, **Abadía A** (2013) Assessment of nutrient removal in bearing peach trees (*Prunus persica* L. Batsch) based on whole tree analysis. **Plant and Soil** 369, 421-437 (doi: 10.1007/s11104-012-1556-1) ^{Q1}

2012

- 122 Schuler M**, **Rellán-Álvarez R**, Fink-Straube C, **Abadía J**, Bauer P (2012) Nicotianamine functions in the phloem-based transport of iron to sink organs, in pollen development and in pollen tube growth in *Arabidopsis*. **Plant Cell** 24, 2380-2400 (doi: 10.1105/tpc.112.099077) ^{Q1}
- 121 López-Millán AF**, Grusak MA, **Abadía J** (2012) Carboxylate metabolism changes induced by Fe deficiency in barley, a Strategy II plant species. **Journal of Plant Physiology** 169, 1121-1124 (doi: 10.1016/j.jplph.2012.04.010) ^{Q1}
- 120 Ojeda-Barrios D**, **Abadía J**, Lombardini L, **Abadía A**, **Vázquez S** (2012) Zinc deficiency in field-grown pecan trees: changes in leaf nutrient concentrations and structure. **Journal of the Science of Food and Agriculture** 92, 1672-1678 (doi: 10.1002/jsfa.5530) ^{Q1}
- 119 El-Jendoubi H**, Igartua E, **Abadía J**, **Abadía A** (2012) Prognosis of iron chlorosis in pear (*Pyrus communis* L.) and peach (*Prunus persica* L. Batsch) trees using bud, flower and leaf mineral concentrations, **Plant and Soil** 354, 121-139 (doi:10.1007/s11104-011-1049-7) ^{Q1}
- 118 Peukert M**, Matros A, **Lattanzio G**, Kaspar S, **Abadía J**, Mock H-P (2012) Spatially resolved analysis of small molecules by matrix-assisted laser desorption/ionization mass spectrometric imaging (MALDI-MSI). **New Phytologist** 193, 806-815 (doi:10.1111/j.1469-8137.2011.03970.x) ^{Q1}

Member of Editorial Committees in Scientific Journals

-Frontiers in Plant Science (Plant Nutrition)	2011-2015
-Functional Plant Biology	2009-2014
-BioMetals	2005-2008

Review of Grant Proposals

Agencia Nacional de Evaluación y Prospectiva ANEP (1988), Israel Basic Research Foundation (1992-), International Science Foundation ISF (1993), BARD US-Israel (1995-), USDA (1997-), Italian Ministry for University and Research MURST (2000-)

Review of Research Papers

Plant Physiology (1991-), Journal of Plant Nutrition (1995-), Physiologia Plantarum (1997-), European Journal of Agronomy (1997-), Protoplasma (1998-), Plant Physiology Biochemistry (1999-), Plant and Soil (1999-), J Photochemistry Photobiology (1999-), Annals of Botany (2002-), Tree Physiology (2002-), Inorganic Chemistry (2003-), Plant Science (2003-), Plant Molecular Biology (2005-), Journal of Separation Science (2005-), Scientia Horticulturae (2006-), Journal of Plant Physiology (2006-), Journal of Experimental Botany (2006-), Plant & Cell Environment (2006-), New Phytologist (2008-), Journal of Hazardous Materials (2008-), Pedosphere (2009-), Environmental Experimental Botany (2009-), Journal of Agricultural and Food Chemistry (2010-), Journal of Plant Growth Regulation (2010-), Critical Reviews In Biochemistry & Molecular Biology (2010-), BMC Plant Biology (2010-), Journal of Plant Nutrition and Soil Science (2010-), Journal of Proteomics (2010-), Journal of Proteome Research (2010-), Plant and Cell Physiology (2011-), Journal of Biological Chemistry (2011-

), BMC Plant Genomics (2011-), Talanta (2011-), Journal of the Science of the Food and Agriculture (2011-), Frontiers in Plant Nutrition (2011-), Plant Cell (2017-)

Participation in Master and Doctorate courses

Universidad de Zaragoza: Química Analítica Agrícola (1990), Técnicas analíticas en Bioquímica y Fisiología Vegetal (1992), Técnicas fisiológicas y bioquímicas en Agronomía (1994, 1996).

Universidad Autónoma de Madrid: Master Química Agrícola (2006, 2007, 2008, 2009, 2010, 2011).

Universidad Autónoma de Chihuahua, México: Maestría Agricultura (2008).

Participation in PhD Thesis Committees at Universities

Spain: Autónoma de Madrid, Zaragoza, Granada, Córdoba, Murcia, Autónoma de Barcelona, Navarra, Pública de Navarra, Alcalá de Henares

Abroad: Bologna (Italy), Lund (Sweden), Algarve (Faro, Portugal), Copenhagen (Denmark), Bogotá (Colombia).