CURRICULUM VITAE ABREVIADO (CVA)

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

Part A. PERSONAL INFORMATION

First name	Angeles		
Family name	Aroca Aguilar		
Gender (*)	Female	Birth date (dd/mm/yyyy)	22/11/1979
Social Security, Passport, ID number	47056456C		
e-mail	aaroca@us.es	URL Web	
Open Researcher and Contributor ID (ORCID) (*)		http://orcid.org/0000-0003-4915-170X	

A.1. Current position

Position	Associate Professor (Profesor Contratado Doctor)		
Initial date	23/11/2021		
Institution	University of Seville		
Department/Center	Plant biochemisty and molecular biology		
Country	Spain	Teleph. number	954489635
Key words	Hydrogen sulfide, PTM, persulfidation, Arabidopsis, redox, signaling		

A.2. Previous positions (research activity interruptions, indicate total months)

Period	Position/Institution/Country/Interruption cause
2021	Associate professor (Profesor contratado doctor) at University of Seville.
2019-2021	Postdoc Marie Curie Global Fellowship (MSCA-IF-GF) at Iowa State University (iowa, USA)
2018-2018	Postdoc EMBO short-term fellowship at Institut de Biochimie et Genetique Cellulaires (CNRS), (Bordeaux, France.)
2012-2018	Postdoc researcher in the Cysteine Biosynthesis and Metabolic Networks Research Group. IBVF-CSIC, Sevilla.
2010-2011	Postdoc FEBS short-term fellowship in NMR Swedish Centre, (Goteborg, Sweden).
2009-2011	Postdoc Department of Plant Biochemistry and Molecular Biology. University of Seville.
2004-2008	PhD student fellowship, INIA (Madrid)

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
Licensed on Food sciences	University of Murcia, Spain	2003
PhD.	Polytechnic University of Madrid, Spain	2008

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

My postdoctoral research career during the last 10 years has been focused on the study of post-translational modifications of cysteine, especially persulfidation. I have applied state-of-the-art techniques and technology focused mainly on the proteomic analysis of the physiological effects of sulfide on molecular targets regulated by these post-translational modifications. In this regard, three fundamental milestones I have addressed during this research include: a) elucidate the mechanism of action of sulfide in plants through a new post-translational modification of proteins named persulfidation; b) decipher wide range of action of persulfidation in diverse biological processes and c) describe a new regulation mechanism of

bulk and selective autophagy through sulfide in Arabidopsis, which constituted the first time cited that sulfide regulates autophagy in a eukaryotic organism.
In 2021, I got a position as a member of the teaching staff of the Plant Biochemistry and Molecular Biology Department at University of Seville as Associate Professor, where I have been teaching since 2020 in Biology and Chemistry degree and postgraduate Master. My experience mentoring young researchers is based on I have trained young researchers through the direction of TFGs and TFMs from the University of Seville and PhD students from Iowa State University (USA).
During my research career, I have established collaborations with various laboratories and research groups at a national and international level with European, Chinese, and American groups to enrich my scientific and technical knowledge. I have dedicated most of my effort to researching these lines, with the main objective of publishing the results in high-impact journals within each of their respective areas, which has been reflected in the 36 articles published in indexed high impact journals, most of them in Q1 position and 3 international book chapters. I have reached an h index of 22.
Throughout my research career I have been able to participate in 5 post-doctoral stays, funded by 6 post-doctoral fellowships. And regarding funding, I have participated in 15 Research Projects with competitive concurrence, where I have been responsible researcher (PI) in 3 research projects.
My contributions to society include the creation of one patent, participation in national and international workshops with 49 communications, the publication of outreach articles in RAEA, Phytoma, Encyclopedia, newspapers; the performance of outreach activities (plant fascination day; science fairs, European researcher´s night), as well as dissemination of my research on social networks and institutional websites. I have also been chair and the main organizer of 2 international meetings. I have developed an important editorial activity participating in the editorial committees of journals, as "Invited Editor" in Frontiers in Plant Science journal, Antioxidants and Journal Experimental botany by also editing special issues associated with my research lines. I have also reviewed a huge number of publications in Plant Biology.

Part C. RELEVANT MERITS

C.1. Publications

1. **Aroca, A** and Gotor, C. **2022**. Hydrogen Sulfide: A Key Role in Autophagy Regulation from Plants to Mammalians. *Antioxidants 11(2): 327.* Aroca A. ***Corresponding author.*** Impact factor: 7.675. Quartile: 4/63 **Q1.** Cited: 5
2. Gotor, C.; **Aroca, A.;** Romero, L.C. **2021.** Persulfidation is the mechanism underlying sulfide-signaling of autophagy. *Autophagy 18(3): 695-697*. Impact factor: 13.39. Quartile: 22/195 **Q1.** Cited: 7
3. **Aroca A**, Zhang J, Xie Y, Romero LC, Gotor C. **2021.** Hydrogen sulfide signaling in plant adaptations to adverse conditions: molecular mechanisms. J Exp Bot **72**(16): 5893-5904. Impact factor: 7.378 Quartile: 15/239 **Q1** Cited: 25
4. **Aroca A,** Yruela I, Gotor C, Bassham DC. **2021**. Persulfidation of ATG18a regulates autophagy under ER stress in Arabidopsis. *Proc Natl Acad Sci U S A (PNAS) 118(20): e2023604118***.** Aroca A. ***Corresponding author.*** Impact factor: 10.700. Quartile: 9/74 **Q1** Cited: 27
5. **Aroca A**, Gotor C, Bassham DC, Romero LC. **2020**. Hydrogen sulfide: from a toxic molecule to a key molecule of cell life. *Antioxidants, 9 (7), 621.* Impact factor: 6.313. Aroca A. ***Corresponding author.*** Quartile: 7/61 **Q1** Cited: 61
6. Laureano-Marín AM*, **Aroca A*,** Perez-Perez ME, Yruela I, Jurado-Flores A, Moreno I, Crespo JL, Romero LC, Gotor C. **2020**, Abscisic Acid-Triggered Persulfidation of Cysteine Protease ATG4 Mediates Regulation of Autophagy by Sulfide. *** Authors contributed equally**. *The Plant Cell, 32(12):3902-3920*. Impact factor: 11.27. Quartile: 6/234 **Q1** Cited: 43

7. C Gotor, I García, **Á Aroca**, et al. **2019**. Signaling by hydrogen sulfide and cyanide through post-translational modification. *Journal of experimental botany 70 (16), 4251-4265*. Impact factor: 5.360. Quartile: 14/228 **Q1**. Cited: 86
8. **Aroca A.**, Gotor C, Romero LC**. 2018**. Hydrogen Sulfide Signaling in Plants: Emerging Roles of Protein Persulfidation. *Frontiers in Plant Science 9*. Aroca A. ***Corresponding author.*** Impact factor: 3.678. Quartile: 224/222 **Q1.** Cited: 43
9. **Aroca A,** Benito JM, Gotor C, Romero LC. **2017**. Persulfidation proteome reveals the regulation of protein function by hydrogen sulfide in diverse biological processes in Arabidopsis. *Journal Experimental Botany 68(17):4915-4927*. Impact Factor: 5.83. Quartile: 12/209 **Q1** Cited: 204
10. **Aroca,** A; Schneider M, Scheibe R, Gotor C, Romero LC. **2017**. Hydrogen sulfide regulates the cytosolic/nuclear partitioning of glyceraldehyde-3-phosphate dehydrogenase by enhancing its nuclear localization. *Plant Cell Physiology 58 (6), 983-992*. Impact Factor: 4.77. Quartile: 17/209 **Q1.** Cited:18

Books:

11. **Aroca A,** Jurado-Flores A, Filipovic MR, Gotor C, Romero LC. **2022**. Chapter Fifteen - Detection of protein persulfidation in plants by the dimedone switch method. In: Jez J ed. Methods in Enzymology: Academic Press, 385-402. (ISBN 9780323955614)
12. A M. Laureano-Marín, et al. Regulation of Autophagy by Hydrogen Sulfide. **2016**. In: Gasotransmitters in plants: the rise of a new paradigm in cell signaling. (ISBN: 978-3-319-40713-5).
13. Gotor, C., et al. Advances in Plant Sulfur Metabolism and Signaling. **2016**. Part of the series Progress in Botany 1-22 (ISSN:0340-4773).

C.2. Congress, indicating the modality of their participation (invited conference, oral presentation, poster)

1. Hydrogen sulfide acts a signaling molecule regulating autophagy.11th International Plant sulfur workshop. Conegliano (Italy). 2018. Oral Communication
2. Hydrogen sulfide acts as a signaling molecule regulating autophagy. SEFAGIA 2018. Miraflores de la Sierra (Madrid, Spain). Oral Communication
3. The role of sulfide in reticulophagy through the regulation of ATG18a by persulfidation. GDCB research day. Iowa state University. Iowa (USA). 2019. Poster.
4. The role of sulfide in reticulophagy through the regulation of ATG18a by persulfidation. ASBMB annual meeting. San Diego (California, USA). Online meeting. 2020. Oral Communication
5. Persulfidation of ATG18a regulates autophagy under ER stress in Arabidopsis. GEIRLI webinar. Online meeting, 2021. Oral Communication
6. Persulfidation of ATG18a regulates autophagy under ER stress in Arabidopsis. SEBBM 2021. Barcelona (Spain). Oral Communication.
7. Persulfidation of ATG18a regulates autophagy under ER stress in Arabidopsis. Joint meeting for Plant and Human Sulfur Biology and Glucosinolates. Seville (Spain). 2021. Oral Communication.
8. Hydrogen sulfide signaling in plant adaptation to adverse conditions through persulfidation. UNIA Environment Workshops 2021: “Understanding Plant Responses to Climate Change: Redox-Based Strategies”. Baeza, Jaen (Spain). **2021**. Oral Communication.
9. Persulfidation: a new perspective of redox regulation by sulfide under nonphotorespiratory conditions in Arabidospsis. XVI Reunión de biología molecular de Plantas. Seville (Spain). **2022**. Oral Communication.

10. H_2S regulates selective ER-phagy and mitophagy through persulfidation in Arabidopsis. SEFAGIA. Toledo (Spain). 2022. Oral Communication.

C.3. Research projects, indicating your personal contribution. In the case of young researchers, indicate lines of research for which they have been responsible.

1. **PROYEXCEL_00177:** Sulfide-mediated redox regulation of photorespiration in Arabidopsis. 2023-2025 Junta de Andalucía. (€144K). PI: Angeles Aroca.
2. **MSCA 834120: SSHelectPhagy.** Role of sulfide in reticulophagy and mitophagy through the regulation of proteins by persulfidation. 2019-2021. H2020. (€177K). PI: Angeles Aroca
3. **US-1255781:** Regulación de la fotorrespiración mediada por sulfuro. 2020-2022. Junta de Andalucía. (€29.7K). PI: Angeles Aroca
4. **PID2019-109785GB-I00:** Mecanismo de acción y dianas moleculares en la señalización de sulfuro de hidrógeno en plantas. 2020-2023. Ministerio de Ciencia e Innovación. (€121K). Angeles Aroca as scientific work team. PI:Cecilia Gotor
5. **BIO2016-76633**: Intracellular signaling in plants mediated by sulfur and cyanide. 2016-2019. Ministerio de Economía y Competitividad (€205K). Angeles Aroca as scientific work team. PI:Cecilia Gotor
6. **BIO2013-44648:** Intracellular signaling in plants mediated by cysteine and other related molecules. 2014-2017. Ministerio de Economía y Competitividad (€200K). Angeles Aroca as scientific work team. PI:Cecilia Gotor
7. **CVI-7190:** Implication of S-Sulfocysteine Metabolite on Chloroplast Function. Climate Adaptation and Immune Response in Plants. 2013-2016. Junta de Andalucía. (€60K). Angeles Aroca as scientific work team. PI:Cecilia Gotor

C.4. Contracts, technological or transfer merits, Include patents and other industrial or intellectual property activities (contracts, licenses, agreements, etc.) in which you have collaborated. Indicate: a) the order of signature of authors; b) reference; c) title; d) priority countries; e) date; f) Entity and companies that exploit the patent or similar information, if any

Patents

1. **P200700598:** Primers for detection of *Phaeoacremonium* species through Polymerase chain reaction (PCR). Priority country: Spain. Priority date: March 2007. Holder Entity. National Institute of Agricultural Research.

Organization of International conferences

2. Organizing committee of Workshop on “Understanding Transient Molecular Interactions in Biology”. May 18-21, 2010. Seville, Spain.
3. Chair and Organizing committee of workshop S-BIO: Plant and Human Sulfur Biology and Glucosinolates. Seville (Spain). 2021.
4. Chair and Organizing committee of workshop XVI Reunión de Biología Molecular de Plantas. Sevilla (Spain). 2022.