

Part A. PERSONAL INFORMATION

CV date

09/10/2019

First and Family name	Victor Rolo Romero		
Social Security, Passport, ID number	76031853V	Age	37
Researcher codes	WoS Researcher ID (*)	H-1713-2016	
	SCOPUS Author ID(*)	36342843200	
	Open Researcher and Contributor ID (ORCID) **	0000-0001-5854-9512	

A.1. Current position

Name of University/Institution	Universidad de Extremadura		
Department	Plant Biology, Ecology and Earth Sciences		
Address and Country	Av. Virgen de Puerto s/n Plasencia, Cáceres, SPAIN		
Phone number	615244497	E-mail	rolo@unex.es
Current position	Researcher	From	20/09/2019
Key words	Agroforestry, Forest restoration, Dehesa, Shrub encroachment, Functional Diversity, Soil carbon, Biodiversity, Ecosystem functions		

A.2. Education

Academic Degree	University	Year
PhD	University of Extremadura	2011
M.Sc.	University of Extremadura	2009
B.S.	University of Extremadura	2005

A.3. JCR articles, h Index, thesis supervised...

Number of SCI publications in the first decile: 10 (5 first author)
 Number of SCI publications in the first quartile (excluding previous): 12 (7 first author)
 Number of SCI publications in the second quartile: 5 (2 first author)
 Number of SCI publications in the third and fourth quartile: 1
 Number of citations: 259 (WoS); 397 (Google Scholar)
 h index: 8 (Wos); 11 (Google Scholar)
 Thesis supervised: 1 (Expected end-date: June 2020)

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

The main research lines that I have pursued during my scientific career have focused on the key processes that govern the functioning, productivity, and persistence of managed wood-pastures and forests and how these processes are affected by the components of global change. Throughout my scientific career, I have studied several components of global change, focusing mainly on those derived from the abandonment of agricultural lands and restoration of degraded agroecosystems. In my PhD (University of Extremadura; 2007-2011), my research focused on the consequences of the global phenomenon of shrub encroachment on the pastoral value, persistence and water relations of the dehesa, the most extended agroecosystem in south-western Iberian Peninsula. The main output of my PhD research work was its contribution to improving the persistence of the dehesa, which are endangered by the lack of tree regeneration.

After the completion of my PhD, I continued to be interested in informing management strategies in a context of global change. This led me to take a postdoctoral position in the Department of Silviculture at the University of Mendel (Czech Republic; 2012-2014). In this competitive position, I tested if mixed plantations of two tree species of major importance for temperate forestry (*Fagus sylvatica* and *Picea abies*) can help to mitigate the impact of CO₂ fertilization. During my stay in the Czech Republic, my research interests developed to understand how these principles of adaptive management could be used to address other global threats such as forest loss and subsequent restoration. This led me to take a position in the University of Pretoria (South Africa; 2014-2017). This position, funded by the government of South Africa through a competitive call, allowed me to face the challenge of using functional traits to guide the restoration of degraded forests.



Since 2017, I work in the Forest Research Group of the University of Extremadura, first as a Juan de la Cierva fellow (Agriculture) and currently with a contract from the Talento program of the regional government of Extremadura. In my current position, I use the knowledge acquired in my previous posts to inform management strategies aimed at reducing the impact of climate change on the dehesa. Particularly, I have started a research line on the use of process-based models to predict the exposure to drought of the dehesa at multiple spatial and temporal scales. In addition, I am also interested in understanding how changes in the functional composition of the herbaceous layer are key to understand their carbon balance.

I have self-funded my whole career from pre- to post-doctoral fellowships, obtaining ca. 260.000 € through competitive calls. Recently, I have obtained 77.000 € as Principal Investigator of a research project funded in a competitive call by Fundación Biodiversidad. I have also collaborated in seven research projects (two of them at international level) and in the proposal of various European projects of the Horizon H2020 that are currently under consideration. My scientific production has resulted in 28 SCI articles (14 as the first author). Most of the articles as the first author are placed in the first quartile (92.8 %) with fair representation in the first decile (35.7 %) of the Forestry category. I have mentored various undergraduate students, I am co-advisor of a PhD student and have served as a lecturer at international level.

Part C. RELEVANT MERITS

C.1. Relevant Publications

- Rolo, V., Moreno, G., 2019. Shrub encroachment and climate change increase the exposure to drought of Mediterranean wood-pastures. *Science of The Total Environment* 660, 550–558. <https://doi.org/10.1016/j.scitotenv.2019.01.029>
- Arenas-Corraliza, M.G., Rolo, V., López-Díaz, M.L., Moreno, G., 2019. Wheat and barley can increase grain yield in shade through acclimation of physiological and morphological traits in Mediterranean conditions. *Sci Rep* 9, 1–10. <https://doi.org/10.1038/s41598-019-46027-9>
- Hernández-Esteban, A., Rolo, V., López-Díaz, M.L., Moreno, G., 2019. Long-term implications of sowing legume-rich mixtures for plant diversity of Mediterranean wood pastures. *Agriculture, Ecosystems & Environment* 286, 106686. <https://doi.org/10.1016/j.agee.2019.106686>
- Rolo, V., Olivier, P.I., Pfeifer, M., van Aarde, R.J., 2018. Functional diversity mediates contrasting direct and indirect effects of fragmentation on below- and above-ground carbon stocks of coastal dune forests. *Forest Ecology and Management* 407, 174–183. <https://doi.org/10.1016/j.foreco.2017.10.059>
- Rolo, V., Olivier, P., van Aarde, R., 2016. Seeded pioneer die-offs reduce the functional trait space of new-growth coastal dune forests. *Forest Ecology and Management* 377, 26–35. <https://doi.org/10.1016/j.foreco.2016.06.039>
- Rolo, V., Amat, B., Cortina, J., 2016a. Water availability and species identity control shrub colonization in abandoned semiarid steppes. *Agriculture, Ecosystems & Environment* 228, 62–69. <https://doi.org/10.1016/j.agee.2016.05.014>
- Rolo, V., Rivest, D., Lorente, M., Kattge, J., Moreno, G., 2016. Taxonomic and functional diversity in Mediterranean pastures: Insights on the biodiversity–productivity trade-off. *J Appl Ecol* 53, 1575–1584. <https://doi.org/10.1111/1365-2664.12685>
- Rolo, V., Andivia, E., Pokorný, R., 2015a. Response of *Fagus sylvatica* and *Picea abies* to the interactive effect of neighbor identity and enhanced CO₂ levels. *Trees* 29, 1459–1469. <https://doi.org/10.1007/s00468-015-1225-0>
- Rolo, V., Rivest, D., López-Díaz, M.L., Moreno, G., 2015b. Microhabitat effects on herbaceous nutrient concentrations at the community and species level in Mediterranean open woodlands: the role of species composition. *Grass Forage Sci* 70, 219–228. <https://doi.org/10.1111/gfs.12110>
- Rolo, V., Plieninger, T., Moreno, G., 2013. Facilitation of holm oak recruitment through two contrasted shrubs species in Mediterranean grazed woodlands. *Journal of Vegetation Science* 24, 344–355. <https://doi.org/10.1111/j.1654-1103.2012.01458.x>
- Rolo, V., Moreno, G., 2012. Interspecific competition induces asymmetrical rooting profile adjustments in shrub-encroached open oak woodlands. *Trees-Structure and Function* 26, 997–1006. <https://doi.org/10.1007/s00468-012-0677-8>
- Rivest, D., Rolo, V., López-Díaz, L., Moreno, G., 2011. Shrub encroachment in Mediterranean silvopastoral systems: *Retama sphaerocarpa* and *Cistus ladanifer* induce contrasting effects on



pasture and *Quercus ilex* production. Agriculture, Ecosystems & Environment 141, 447–454.
<https://doi.org/10.1016/j.agee.2011.04.018>

C.2. Research projects and grants

Name of the project: Evaluación de la productividad y secuestro de Carbono en la dehesa extremeña por teledetección. Estimación de huella de carbono de sus productos comerciales
Entity where project took place: University of Extremadura
Type of entity: University
City of entity: Plasencia, Extremadura, Spain
Name principal investigator (PI, Co-PI...): Gerardo Moreno Marcos
N° of researchers: 6
Funding entity or bodies: Junta de Extremadura Type of entity: Regional Government
City funding entity: Spain
Type of participation: Researcher
Start-End date: 03/06/2017 - 02/06/2020 Duration: 3 years
Total amount: 132.497,2 €

Name of the project: Manejo de la biodiversidad de la dehesa para aumentar su resiliencia frente al cambio climático
Geographical area: National
Degree of contribution: Principal Investigator
Entity where project took place: University of Extremadura Type of entity: University
City of entity: Plasencia, Extremadura, Spain
Name principal investigator (PI, Co-PI...): Victor Rolo Romero
N° of researchers: 8
Type of participation: **Principal investigator**
Start-End date: 01/06/2018 - 30/04/2019 Duration: 11 months
Total amount: 70.139,54 €

Name of the project: Gap dynamics in a coastal dune forest. Implications for species assemblages into local communities
Geographical area: National
Entity where project took place: University of Pretoria Type of entity: University
City of entity: Pretoria, South African Republic
Name principal investigator (PI, Co-PI...): Víctor Rolo Romero; Rudolf van Aarde
N° of researchers: 2
Funding entity or bodies: National Research Foundation Type of entity: State agency
City funding entity: Pretoria, South African Republic
Type of participation: **Co-Principal investigator**
Start-End date: 06/2014 - 05/2016 Duration: 3 years
Total amount: 6.700 €
Dedication regime: Full time

Name of the project: Manejo silvopastoral para la producción de madera de calidad: bases funcionales, productividad y servicios ambientales
Geographical area: National
Degree of contribution: Researcher
Entity where project took place: University of Extremadura Type of entity: University
City of entity: Plasencia, Extremadura, Spain
N° of researchers: 5
Funding entity or bodies: Ministerio Economía y Competitividad Type of entity: State agency
Type of participation: Team member
Start-End date: 07/2011 - 07/2014 Duration: 3 years
Total amount: 80.000 €
Dedication regime: Part time

Name of the project: Interactions between Beech (*Fagus silvatica*) and Spruce (*Picea abies*) under elevated CO₂ conditions
Entity where project took place: Mendel University Type of entity: University



City of entity: Brno, Czech Republic

Name principal investigator (PI, Co-PI...): Víctor Rolo Romero; Radek Pokorný

N° of researchers: 2

Funding entity or bodies:

Fondo Social Europeo

Type of entity: State agency

Type of participation: **Co-Principal investigator**

Start-End date: 05/2012 - 05/2014

Duration: 2 years

Total amount: 24.000 €

Dedication regime: Full time

C.3. Contracts

C.4. Patents

C.5 Awards and distinctions

- PhD Extraordinary Award, University of Extremadura, Spain
- European Doctor

C.6 Postdoctoral and short-stays

- Postdoctoral researcher. Conservation Ecology Research Unit. Faculty of Agricultural and Natural Sciences. University of Pretoria (South Africa, 3 years).
- Short stay at the Department of Ecology of the University of Alicante under the supervision of Prof. Jordi Cortina (2013, 6 months)
- Postdoctoral stay. Department of Silviculture. Faculty of Forestry and Wood Technology. Brno (Czech Republic, 2 years).
- Short stay at Centre d'Ecologie Fonctionnelle et Evolutive (Montpellier, France) under the supervision of Prof. Serge Rambal (2010, 3 months)
- Stable Isotope Workshop. University of Hohenheim (Stuttgart, Germany) under the supervision of Prof. Georg Cadisch (2011, 1 month)

C.7 Other Achievements

- Invited speaker: Impact of Green and Blue Infrastructure on biodiversity levels of European agroecosystems. University of Alcalá, Madrid (2019)
- Invited speaker: Vegetation dynamics in the Dehesa system after land abandonment. Images for the future of the Dehesa. Salamanca (2017)
- Invited speaker: Shrub encroachment of silvopastoral systems as a management tool. Restoration Ecology, University of Alicante, Alicante (2014).
- External reviewer for several journals of forestry and agriculture areas
- Assistant lecturer of Agroforestry Systems and Silviculture and Forest Functions at Mendel University (Czech Republic)
- Dendroecology and Stable Isotopes, 40 h. University of Napoli (2017)
- Programming in R, 20 h. University of Mendel (2014)
- Multivariate Statistics for Ecology and Evolution in R, 40 h. University of Porto (2012)
- Cost Dynamic Training School. Forest and Water stress. Orvieto, Italy (2009)
- Erasmus Agroforestry International Course. University of Santiago de Compostela (2008)
- Teaching skills certificate, University of Extremadura. 300 h