

## CURRICULUM VITAE (CVA)

### Part A. PERSONAL INFORMATION

<b>CV date</b>	05-12-2023
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First and Family name	<b>Sara Mayo Prieto</b>		
Social Security, Passport, ID number	<b>71.440.764 G</b>	Birth date (dd/mm/yyyy)	<b>14/04/1983</b>
Researcher numbers	Researcher ID	<b>V-2750-2017</b>	
	ORCID code	<b>0000-0002-8291-680X</b>	
	Scopus Author ID	<b>57205243620</b>	

#### A.1. Current position

Name of University/Institution	<b>University of León (Spain)</b>		
Department	<b>Engineering and Agricultural Science /School of Agricultural and Forestry Engineering</b>		
Address and Country	<b>Avda. de Portugal, 41, 24009, León (Spain)</b>		
Phone number	<b>+34 987290000 Ext. 5058</b>	E-mail	<a href="mailto:smayp@unileon.es">smayp@unileon.es</a>
Current position	<b>Contracted Professor Doctor</b>	From	<b>18-04-2023</b>
Espec. cód. UNESCO	<b>3101.- Agroquímica; 3103.- Agronomía; 3108.- Fitopatología.</b>		
Keywords	<b>Biological control, <i>Trichoderma</i> spp., integrated pest management, crop protection, microorganism - plant interaction, <i>Phaseolus vulgaris</i>, <i>Rhizoctonia solani</i>, soil microorganisms</b>		

#### A.2. Education

Education	University	Year
Engineering Agricultural Technical	University of León (Spain)	2006
Engineering Agronomy	University of León (Spain)	2009
Research Master in Biosystems Engineering	University of León (Spain)	2010
Ph.D. in Biosystem engineering	University of León (Spain)	2017

#### A.3. JCR articles, h Index, supervised degree and/or master projects

- Direction of degree and master projects (in the last six years): **7**
- Publications in SCR journals: **35**
- Total citations: **376** citations by **268** documents
- H-index: 10 (source: Scopus - Elsevier)

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

#### Former positions

2017-2021	Postdoctoral Researcher (University of León)
2013-2017	Research Personnel in Training (Ministry of Education, Spain)
2011-2012	Research Personnel in Training (University of León)
2010	Researcher at the Plant pest and disease diagnostic laboratory (University of León) (3 months)

#### Professional career

Since 2010, my research career has been focused on the interactions between fungi of the *Trichoderma* genus, phytopathogen and plant, concretely *Phaseolus vulgaris*. Currently, I am a member or a multidisciplinary group of agronomists (plant production) and microbiologists that has been

recognized as the Research Consolidated Unit number 264 by the Regional Government of “Castilla y León (Spain).”

I have done some predoctoral research stays in the “Istituto di Biologia e Biotecnologia Agraria - Consiglio Nazionale di Ricerca (CNR)” in Milan (Italy) under the supervision of the Francesca Sparvoli PhD, in the “Dipartimento di Agraria – University Federico II” in Naples (Italy) under the direction of Matteo Lorito PhD and in the Agrarian school of Bragança (Portugal) with Albino Bento PhD, focusing my research activity on the biological control and defensive response in bean plants.

I am currently a teaching and research staff (assistant professor doctor) on the University of León, since February 2021 and at present I am Contracted Professor Doctor in the same university.

### Part C. RELEVANT MERITS (Between 2012-2023)

- Author of **2** book chapters and 3 books.
- **67** Communications to Scientific Congress (**38** International and **29** National)
- **Co-inventor** of **5** National Patent
- Member of the Consolidated Research Unit (UIC) number 264 (2018-today) of the “Junta de Castilla y León” (Spain)

#### C.1. Publications (Q1= first quartile)

1. Carro-Huerga, G., **Mayo-Prieto, S.**, Rodríguez-González, Á., Cardoza, R.E., Gutiérrez, S., Casquero, P.A. 2023. Vineyard management and physicochemical parameters of soil affect native *Trichoderma* populations, sources of biocontrol agents against *Phaeoacremonium minimum*. *Plants*, 12, artículo 887.
2. Cardoza, R.E., McCormick, S.P., Lindo, L., **Mayo-Prieto, S.**, González-Cazón, D., Martínez-Reyes, N., Carro-Huerga, G., Rodríguez-González, Á., Proctor, R.H., Casquero, P.A., Gutiérrez, S. 2022. Effect of farnesol in *Trichoderma* physiology and in fungal-plant interaction. *Journal of Fungi*, 8, artículo 1266, Impact Factor (IF) 6.499. Q1- Microbiology
3. Rodríguez-González, Á., Carro-Huerga, G., Guerra, M., **Mayo-Prieto, S.**, Porteous-Álvarez, A.J., Lorenzana, A., Campelo, M.P., Fernández-Marcos, A., Casquero, P.A., Gutiérrez, S., 2022. Spores of *Trichoderma* strains over *Phaseolus vulgaris* beans: direct effect on insect attacks and indirect effect on agronomic parameters. *Insects*, 13, artículo 1086,
4. Cardoza, R.E., **Mayo-Prieto, S.**, Martínez-Reyes, N., McCormick, S.P., Carro-Huerga, G., Campelo, M.P., Rodríguez-González, Á., Lorenzana, A., Proctor, R.H., Casquero, P.A., Gutiérrez, S. 2022. Effects of trichothecene production by *Trichoderma arundinaceum* isolates from bean-field soils on the defense response, growth and development of bean plants (*Phaseolus vulgaris*). *Frontiers in plant sciences*, 1, artículo 1005906. IF: 6.627. Q1-D1- Plant Sciences.
5. **Mayo-Prieto, S.**, Squarzoni, A., Carro-Huerga, G., Porteous-Álvarez, A.J., Gutiérrez, S., Casquero, P.A. 2022. Organic and conventional bean pesticides in development of autochthonous *Trichoderma* strains. *Journal of Fungi*, 8(6), artículo 603. Impact Factor (IF) 6.499. Q1- Microbiology
6. Carro-Huerga, G., **Mayo-Prieto, S.**, Rodríguez-González, Á., Álvarez-García, S., Gutiérrez, S., Casquero, P.A. 2021. The influence of temperature on the growth, sporulation, colonization, and survival of *Trichoderma* spp. in grapevine pruning wounds. *Agronomy*, 11(9), artículo 1771; 2021.
7. Porteous-Álvarez, A.J., Maldonado-González, M.M., **Mayo-Prieto, S.**, Lorenzana, A., Paniagua-García, A.I., Casquero, P.A. 2021. Green strategies of Powdery Mildew control in hop: From organic products to nanoscale carriers. *Journal of Fungi* 7(6), artículo 490, 2021
8. Álvarez-García, S.; **Mayo-Prieto, S.**; Carro-Huerga, G.; Rodríguez-González, A.; González-López, O.; Gutiérrez, S.; Casquero, P.A. 2021. Volatile organic compound chamber: a novel technology for microbiological volatile interaction assays. *Journal of Fungi*. 7(4): 248. Impact Factor (IF) 6.499. Q1-Microbiology
9. Carro-Huerga, G.; **Mayo-Prieto, S.**; Rodríguez-González, A.; González-López, O.; Gutiérrez, S.; Casquero, P.A. 2021. Influence of fungicide application and vine age on *Trichoderma* diversity as source of biological control agents. *Agronomy-Basel*. 11(3): 446. IF: 3.640. Q1-Agronomy.
10. **Mayo-Prieto, S.**; Porteous-Álvarez, A.J.; Mezquita-García, S.; Rodríguez-González, A.; Carro-Huerga, G.; del Ser-Herrero, S.; Gutiérrez, S.; Casquero, P.A. 2021. Influence of physicochemical characteristics of bean crop soil in *Trichoderma* spp. development. *Agronomy-Basel*. 11(2): 274. IF: 3.640. Q1-Agronomy.
11. Porteous-Álvarez, A.J.; **Mayo-Prieto, S.**; Álvarez-García, S.; Reinoso, B.; Casquero, P.A. 2020. Genetic

- response of common bean to the inoculation with indigenous *Fusarium* isolates. *Journal of fungi*. Mdpi. 6 (4):228. IF 6.499. Q1- Microbiology
12. **Mayo-Prieto, S.**; Campelo, M.P.; Lorenzana, A.; Rodríguez-González, Á.; Reinoso, B.; Gutiérrez, S.; Casquero, P.A. 2020. Antifungal activity and bean growth promotion of *Trichoderma* strains isolated from seed vs soil. *European Journal of Plant Pathology*. 159(3), pp. 711, IF: 1,582 Q2- Agronomy
  13. **Mayo-Prieto, S.**; Porteous-Álvarez, A.J.; Rodríguez-González, Á.; Gutiérrez, S.; Casquero, P.A. 2020. Evaluation of substrates and additives to *Trichoderma harzianum* development by qPCR quantification. *Agronomy Journal*. Wiley Online Library. pp.1-7. IF: 1,805, Q2-Agronomy
  14. **Mayo-Prieto, S.**; Rodríguez-González, Á.; Lorenzana, A.; Gutiérrez, S.; Casquero, P.A. 2020. Influence of substrates in the development of bean and in pathogenicity of *Rhizoctonia solani* JG Kühn *Agronomy*. 10, pp.707. IF: 2,603. Q1-Agronomy
  15. **Mayo-Prieto, S.**; Marra, R.; Vinale, F.; Rodríguez-González, Á.; Woo, S.L.; Lorito, M.; Gutiérrez, S.; Casquero, P.A. 2019. Effect of *Trichoderma velutinum* and *Rhizoctonia solani* on the metabolome of bean plants (*Phaseolus vulgaris* L.) *International Journal of Molecular Sciences*. MPDI. 20, pp.549. IF: 4,183, Q2 - Biochemistry & Molecular Biology
  16. **Mayo-Prieto, S.**; Cominelli, E.; Sparvoli, F.; González-López, Ó.; Rodríguez-González, Á.; Gutiérrez, S.; Casquero, P.A. 2016. Development of a qPCR strategy to select bean genes involved in plant defense response and regulated by the *Trichoderma velutinum* – *Rhizoctonia solani* interaction. *Frontiers in Plant Sciences*. 7, pp.1109. IF: 4.291. Q1-D1- Plant Sciences.
  17. **Mayo, S.**, Gutiérrez, S., Malmierca, M.G., Lorenzana, A., Campelo, M.P., Hermosa, R., Casquero, P.A. 2015. Influence of *Rhizoctonia solani* and *Trichoderma* spp. in growth of bean (*Phaseolus vulgaris*, L.) and in the induction of plant defence-related genes. *Frontiers in Plant Science*. 6: 685. IF: 4.495. Q1-D1- Plant Sciences.

## C.2. Research projects and grants

1. “Analysis of the effectiveness of traps and semiochemicals for the mass capture of disparate *Anisandrus* (= *Xyleborus*) as a method of sustainable control of their populations in fruit plantations”. **Financiación:** Cooperativa Frutibierzo SAT. Principal Researcher (PR): Fernando Castedo, Universidad de León. 2021 (March) - 2021 (December). **Role:** Team Member.
2. LOWPH-WINE 2020. “Application of *Trichoderma* strains in sustainable vine production: effects on pH regulation and improvement of wine quality "as part of the CDTI-CIEN project". Study of new factors related to the soil, the plant and the oenological microbiota that influence the acidity balance of wines and their guarantee of quality and stability in hot climates”. **Financiación:** Center for the Industrial-technological development (CDTI-Spain). PR: Pedro A. Casquero, Universidad de León. 2020 - 2024. **Role:** Team Member.
3. LE251P18. “Application of *Trichoderma* strains in the sustainable production of high quality beans”. **Financiación:** “Junta de Castilla y León” (Spain). PR: Pedro A. Casquero. Universidad de León. 2019 - 2021., 120.000 €. **Role:** Team Member
4. IDI-20160750 “Global approach to improve wine production against the climate change based on robotics, IR technology and on biotechnological and wine-yard handling strategies. Effect of *Xylotrechus arvicola* in the transmission of vine-wood diseases: use of *Trichoderma* in biological control of the insect and the disease”. **Financiación:** Center for the Industrial-technological development (CDTI-Spain). PR: Pedro A. Casquero, Universidad de León. 2016 - 2020. **Role:** Team member.
5. “Application of bacteriophages in the control of the fat (*Pseudomonas syringae* pv *phaseolicola*) of the bean (*Phaseolus vulgaris*)”. **Financiación:** MINECO (Spain). PR: Pedro A. Casquero, Universidad de León. 2020 (January) - 2020 (March). **Role:** Team member.
6. “Quality Hops Operational Group”. **Financiación:** MAPA (Spain). PR: Pedro A. Casquero. Universidad de León. 2019 - 2021, 5.313,50 €. **Role:** Team member.
7. Phytosanitary problems: diagnosis and control recommendations according to "GIP" principles in León province”. **Financiación:** “Diputación de León”. PI: Pedro. A. Casquero, Universidad de León. 2019 - 2020, 20.700 €. **Role:** Team member.
8. “Analysis of the evolution of the state of maturity perithecas of mottled in pear, year 2019”. **Financiación:** Junta de Castilla y León. PI: Pedro. A. Casquero, Universidad de León, 2019 (April) - 2019 (December), 2.178 €. **Role:** Team member.
9. “Analysis of the evolution of the state of maturity perithecas of mottled in apple tree, year 2019”.

**Financiación:** Junta de Castilla y León. PI: Pedro. A. Casquero, Universidad de León, 2019 (April) - 2019 (December), 1.815 €. **Role:** Team member.

10. GLOBALVITI. “Global solution to improve wine production against climate change based on robotics, IT technology and biotechnological and vineyard management strategies”. Center for the Industrial-technological development (CDTI-Spain). PR: Pedro A. Casquero, Universidad de León. 2016 - 2020, 197.593 €. **Role:** Team member.

### C.3. Patents

1. **Registered industrial property title:** “Device for capture, retention and control of insects pest on woody species”. **Inventors/authors/breeders:** Rodríguez-González, A.; Casquero, P.A.; Del Val Martínez, M.; González-López, O.; Carro-Huerga, G.; Del Ser-Herrero, S.; Mayo-Prieto, S.; Porteous-Álvarez, A.J.; Álvarez-García, S. **Rights-holding entity:** Universidad de León. **Application number:** P202030883. **Country of registration:** Spain, Castilla y León. **Registration date:** 08/21/2020. **Patent number:** ES2895411
2. **Registered industrial property title:** “Volatile compounds for use in the control of pests of *Oxythyrea funesta*, *Tropinota hirta* And *Tropinota squalida*”. **Inventors/authors/breeders:** Rodríguez-González, A.; Casquero, P.A.; Carro-Huerga, G.; Del Val Martínez, M.; Mayo-Prieto, S.; Porteous-Álvarez, A.J.; Álvarez-García, S.; González-López, O.; Ortiz-Hernández, A. **Rights-holding entity:** Universidad de León. **Application number:** P202030394. **Country of registration:** Spain, Castilla y León. **Registration date:** 05/05/2020. **Patent number:** ES2875230
3. **Registered industrial property title:** “Seed coating containing an agent from biocontrol *Sargassum muticum*”. **Inventors/authors/breeders:** Casquero, P.A.; Mayo-Prieto, S.; Rodríguez-González, A.; Carro-Huerga, G.; Álvarez-García, S.; Porteous Álvarez, A.J.; Del Ser-Herrero, S.; Flórez-Fernández, N.; Domínguez-Fernández, H.; Torres-Pérez, M.D. **Rights-holding entity:** Universidad de León. **Application number:** P202030365. **Country of registration:** Spain, Castilla y León. **Registration date:** 29/04/2020. **Patent number:** ES2872648
4. **Registered industrial property title:** “Seed coating that includes a biocontrol agent and hops cones”. **Inventors/authors/breeders:** Casquero, P.A.; Mayo-Prieto, S.; Rodríguez-González, A.; Carro-Huerga, G.; Álvarez-García, S.; Porteous Álvarez, A.J.; Del Ser-Herrero, S. **Rights-holding entity:** Universidad de León. **Application number:** P202030362. **Country of registration:** Spain, Castilla y León. **Registration date:** 28/04/2020. **Patent number:** ES2872599
5. **Registered industrial property title:** “Culture chamber for competition microbiological tests by volatile compounds”. **Type of industrial property:** Invention patent. **Copyright:** Yes. **Inventors/authors/breeders:** Casquero, P.A.; Gutiérrez, S.; Mayo-Prieto, S.; González-López, O.; Carro-Huerga, G.; Suárez-Villanueva, V.; Rodríguez-González, A. **Rights-holding entity:** Universidad de León. **Code reference/registration:** 2018/129115. **Application number:** P201830817. **Country of registration:** Spain, Castilla y León. **Registration date:** 08/10/2018. **Grant Date:** 04/11/2019. **Patent number:** ES2708899. **Spanish patent:** Yes. **EU patent:** Yes. **Non-EU international patent:** Yes. **PCT patent:** Yes.

### C.4. Participation in Evaluation of scientific articles and grants proposals

2017 - today Reviewer of 20 articles for 13 different SCI International Journals

### C.5. Organization of scientific meetings

- 2012 Member of the organizing of the Organizing Committee of the IX Conference on Teaching and Research in Agroforestry Engineering organized by the School of Agricultural and Forestry Engineering (EIAF) of University of León (ULE), which was held in León (Spain) in September 2012.

### C.6. Awards

- 2016 First “Accesit” to the Research award of the Economic and Social Council of “Castilla y León” and the Public Universities of Burgos, León and Valladolid, which integrate the “Triangular E<sup>3</sup>” Campus of International Excellence, 2016 edition, with the project entitled “Biological control of diseases of vine wood: a challenge for the sustainability of the wine sector in Castilla y León”.
- 2011 Extraordinary award of Research Master in Biosystems Engineering in the area of engineering and architecture from the University of León.