

Part A. PERSONAL INFORMATION

CV date 1/08/2025

First and Family name	SILVIA MATESANZ		
Researcher codes	Open Researcher and Contributor ID (ORCID**)	0000-0003-0060-6136	
	SCOPUS Author ID (*)	13609806400	
	Researcher ID (WoS)	L-5153-2014	

A.1. Current position

Name of University/Institution	UNIVERSIDAD REY JUAN CARLOS		
Department	Biología y Geología, Física y Química Inorgánica		
Address and Country	Calle Tulipán s/n Móstoles Spain		
Phone number			
Current position	Associate Professor (Profesor Titular)	From	06/2021
Key words	global change, phenotypic plasticity, adaptation, genetics, plants, natural selection, populations, drought, semiarid plants		

A.2. Education

PhD, Licensed, Graduate	University	Year
Bachelor in Environmental Sciences	Universidad Autónoma de Madrid	2002
PhD in Biology	Universidad Rey Juan Carlos	2008

A.3. General indicators of quality of scientific production (see instructions)

Number of thesis: 3 (defended in 2014, 2022, 2023) + 2 ongoing.

Number of publications in SCI journals: **76 accepted**; ≈40% as first author, 80% as first, second or senior author.

% of Q1 publications (WoS): 75%, **19 of them in top 10% journals** (first decile, D1).

Citations: 4046 (Web of Science); 6075 (Google Citations).

h-index: 28 (Web of Science); 34 (Google Scholar citations).

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

I performed my PhD at the Museum of Natural Sciences--CSIC, and obtained my doctorate degree at Rey Juan Carlos University (URJC) in 2008, with *cum laude* qualification, European Doctorate mention and Extraordinary Doctorate Award. Then, I was awarded a 3-year Marie Curie International Outgoing Fellowship (European Commission), to carry out a 2-year postdoctoral research stay at Wesleyan University (CT, USA) and a 1-year stay at the MNCN (CSIC). In May 2012, I joined the URJC Área de Biodiversidad y Conservación with a Juan de la Cierva postdoctoral fellowship; in 2016 I obtained a Ramón y Cajal fellowship. All the fellowships that I have enjoyed in my scientific career have been obtained in highly competitive research programs. In 2021, I became Associate Professor of Ecology at URJC.

My lines of research mainly focus on the evolutionary ecology of plants. In particular, my research deals with the ecological and evolutionary effects of global change (mainly habitat fragmentation, climate change, invasive species) in Mediterranean plants, with an interest in the evolutionary potential of plant populations. I use an interdisciplinary approach, combining field studies, ecophysiology, quantitative genetics, population genetics and molecular tools.

I have published 76 articles in SCI journals in top journals including Ecology Letters (2), New Phytologist (3), Ecology (2), Journal of Ecology (5) and Global Ecology and Biogeography (2). I am the first author in ≈40 of them, and three of them are invited review articles. Up to date, they have received 3899 citations in the Web of Science (5302 in Google Scholar), h-index 27 (31 in GS). I have 33 months of experience in international stays in diverse institutions (USA, Scotland, Estonia), where I have established long-term collaborations with international researchers, as reflected in the diversity of the co-authors of my publications. I have also published several articles in scientific and popular journals such as Investigación y Ciencia, and several book chapters. I have been invited to present my research at two international conferences. I have also given 10 oral presentations, 7 of them at international congresses and one at a national congress. I am the co-author of another 7 presentations at national and international conferences, and I have presented a total of 14 posters. I have also been part of the scientific committee of several international conferences. In addition, I have been invited to present seminars in conferences, workshops and seminar cycles held in different international research institutions.

I have participated in 14 research projects of national and international funding, being the principal investigator of five of them, funded by MINECO, the British Ecological Society, the AEET and the URJC,

and I have been member of the External Advisory Board of a H2020 consortium. To date, I have reviewed more than 139 papers for 28 SCI journals. I am a regular reviewer of research grants and scholarships, for both national and international research agencies and I'm member of the Editorial Board of a Q1 journal. Since 2012, I teach several classes at URJC at the Bachelor and Master levels, accumulating more than 1400h of teaching experience. I'm also director of an Erasmus Mundus Joint Master. I have supervised four doctoral thesis (plus one currently ongoing), 6 master's theses (TFM) and 10 bachelor's theses (TFG). I have also been a member of 11 PhD defense panels, at both national and international institutions. I regularly participate in outreach and dissemination activities.

I am the Academic Secretary of the Global Change Research Institute (URJC) and treasurer of the Asociación Española de Ecología Terrestre (AEET).

Part C. RELEVANT MERITS

C.1. Publications (see instructions)

Selected publications last 5 years

- Ramírez-Valiente, J. A., González-Martínez, S. C., Robledo-Arnuncio, J. J., **Matesanz, S.**, Anadon-Rosell, A., Martínez-Vilalta, J., ... & Cano-Martín, F. J. (2025). Genetically based trait coordination and phenotypic plasticity of growth, gas exchange, allometry, and hydraulics across the distribution range of *Pinus pinaster*. *New Phytologist*.
- Ramos-Muñoz, M., Castellanos, M. C., Blanco-Sánchez, M., Pías, B., Ramírez-Valiente, J. A., Benavides, R., ... & **Matesanz, S.** (2024). Drivers of phenotypic variation and plasticity to drought in populations of a Mediterranean shrub along an environmental gradient. *Environmental and Experimental Botany*, 228, 106011.
- Ramos-Muñoz, M., Blanco-Sánchez, M., Pías, B., Escudero, A., & **Matesanz, S.** (2024). Transgenerational plasticity to drought: contrasting patterns of non-genetic inheritance in two semi-arid Mediterranean shrubs. *Annals of Botany*, 134(1), 101-116.
- Castro Sánchez-Bermejo, P., Davrinche, A., **Matesanz, S.**, Harpole, W. S., & Haider, S. (2023). Within-individual leaf trait variation increases with phenotypic integration in a subtropical tree diversity experiment. *New Phytologist* <https://doi.org/10.1111/nph.19250>.
- Blanco-Sánchez, M., Franks, S.J., Ramos-Muñoz, M., Pías, B., Ramírez-Valiente, J.A., Escudero, A. & **Matesanz, S.** (2023) Contrasting adaptive trait variation in response to drought in two Mediterranean shrubs. *Environmental and Experimental Botany*, 208, 105253.
- Illuminati, A., Ignacio Querejeta, J., Pías, B., Escudero, A. & **Matesanz, S.** (2022) Coordination between water uptake depth and the leaf economic spectrum in a Mediterranean shrubland. *Journal of Ecology*, 110, 1844-1856.
- Matesanz, S.**, Ramos-Munoz, M., Teso, M.L.R. & Iriondo, J.M. (2022) Effects of parental drought on offspring fitness vary among populations of a crop wild relative. *Proceedings of the Royal Society B-Biological Sciences*, 289.
- Blanco-Sanchez, M., Ramos-Munoz, M., Pias, B., Alberto Ramirez-Valiente, J., Diaz-Guerra, L., Escudero, A. & **Matesanz, S.** (2022) Natural selection favours drought escape and an acquisitive resource-use strategy in semi-arid Mediterranean shrubs. *Functional Ecology*, 36, 2289-2302.
- Matesanz S.**, Blanco-Sánchez M., Ramos-Muñoz M., de la Cruz M., Benavides R., Escudero A. 2021 Phenotypic integration does not constrain phenotypic plasticity: differential plasticity of traits is associated to their integration across environments. *New Phytologist* 231, 2359-2370.
- Benavides R, Carvalho B, **Matesanz S**, Bastias CC, Cavers S, Escudero A, Fonti P, Martínez-Sancho E, Valladares F. 2021. Phenotypes of *Pinus sylvestris* are more coordinated under harsher conditions across Europe. *Journal of Ecology* 109: 2580-2596.
- Matesanz S**, Ramos-Muñoz M, Blanco-Sánchez M, Escudero A. 2020. High differentiation in functional traits but similar phenotypic plasticity in populations of a soil specialist along a climatic gradient. *Annals of Botany*, 125: 969-980.
- Matesanz S**, Ramírez-Valiente JA. 2019. A review and meta-analysis of intraspecific differences in phenotypic plasticity: Implications to forecast plant responses to climate change. *Global Ecology and Biogeography* 28: 1682-1694.
- Matesanz S**, Pescador DS, Pias B, et al. (11 authors). 2019. Estimating belowground plant abundance with DNA metabarcoding. *Molecular Ecology Resources* 19: 1265-1277.
- Chacon-Labela J*, Palacios PG, **Matesanz S**, Schob C, Milla R. 2019. Plant domestication disrupts biodiversity effects across major crop types. *Ecology Letters* 22: 1472-1482.

C.2. Research projects

- Projects as Principal Investigator:

Reference: PID2021-126103NB-I00. Title: Respuesta adaptativa a la sequía: efecto de estreses simultáneos en la plasticidad fenotípica, la selección y el Potencial evolutivo. Principal Investigator: Silvia Matesanz. Funding body: Ministerio de Ciencia e Innovación. Duration: 01/09/2022-31/08/2026. Funding: 143000 Euros. Type of participation: Principal Investigator.

Reference: 101081870. Title: Designing an International Master in Ecology, Biodiversity Conservation and Climate Change. Principal Investigator: Silvia Matesanz. Funding body: European Commission. Duration: 01/10/2022-31/03/2024. Funding: 55000 Euros. Type of participation: Principal Investigator.

Reference: CGL2016-75566-P. Title: Plasticidad fenotípica y selección natural en plantas especialistas de yesos: del genotipo al fenotipo en un contexto de cambio global. Principal Investigator: Silvia Matesanz. Funding body: Ministerio de Economía y Competitividad. Duration: 29/12/2016-30/12/2020. Funding: 116000 Euros. Type of participation: Principal Investigator.

Reference: PRIN13_CC04. Title: Efectos de la fragmentación sobre especies de plantas Mediterráneas y sus consecuencias para la adaptación al cambio climático. Principal Investigator: Silvia Matesanz. Funding body: Universidad Rey Juan Carlos. Duration: 01/11/2013-31/10/2014. Funding: 4000 Euros. Type of participation: Principal Investigator.

Reference: AEET Jóvenes Investigadores. Title: Efectos del tamaño y la conectividad del hábitat en la variabilidad genética de gipsófitos mediterráneos. Principal Investigator: Silvia Matesanz. Funding body: Asociación Española de Ecología Terrestre. Duration: 01/01/2013-31/12/2014. Funding: 2000 Euros. Type of participation: Principal Investigator

Reference: Grant 4326-5298. Title: Neutral and quantitative genetic variation of gypsophiles in a fragmented landscape. Principal investigator: Silvia Matesanz. Funding body: British Ecological Society. Duration: 01/07/2013-30/06/2014. Funding: 6000 Euros. Type of participation: Principal Investigator.

- As part of the research team *in the last 5 years*:

Reference: MSCA-RISE-2017 777803 — GYPWORLD. H2020. MSCA Research and Innovation Staff Exchange (RISE). Title: A global initiative to understand gypsum ecosystem ecology. Principal Investigator: Sara Palacio. Funding body: European Commission. Duration: 01/01/2018-31/12/2021. Funding: 724500 Euros. Type of participation: Research team.

Reference: TE-CM S2018/EMT-4338. Title: Conocimiento científico para avanzar hacia la consecución de los Objetivos de Desarrollo Sostenible: una ecología translacional es necesaria, REMEDINAL. Principal Investigator: Adrián Escudero. Funding body: Comunidad de Madrid. Duration: 01/01/2019-31/12/2022. Funding: 300000. Type of participation: Research team.

Reference: BiodivERsA-FACCE2014-39. Title: Sustainable provisioning of multiple ecosystem services in agricultural landscapes (ECO-SERVE). Principal Investigator: Lijbert Brussard. Funding body: BiodivERsA/FACCE-JPI, European Commission. Duration: 01/01/2015-31/12/2017. Funding: 1.176.344,0 Euros. Type of participation: Research team.

C.5. Participation in evaluation activities

- Reviewer for ANEP and Agencia Española de Investigación since 2014 (14 projects).
- Member of the MINECO Committee as a reviewer of projects R + D 2017 in the panel Biodiversity, Earth Sciences and Global Change (BOS) and 2025.
- Member of the Evaluating Committee of the Juan de la Cierva-Incorporación Programme, 2019.
- Project evaluator for the AEET, Junta de Andalucía, Parques Nacionales, FONDECYT Chile, DFG Germany, Klein NWO, The Netherlands, NSF USA etc.
- Member of PhD defense panel at Universidad Complutense, Universidad de Valladolid, Universidad de Santiago, Universidad de Oviedo and INRA Burdeos (France).
- External PhD reviewer at Western Sidney University.
- Reviewer of 105 articles (Publons) for New Phytologist, J. of Ecology, Molecular Ecology, Functional Ecology, etc.

C.6. Invited conferences and scientific committees

Invited speaker:

- III SIBECOL and XVII AEET meeting. Pontevedra, Spain, 2025. Plenary talk.
- ForChange Synthesis Action. Barcelona, Spain, 2023. A focus on the phenotype: the role of phenotypic plasticity on the assessment of (mal)adaptation in plant populations.
- III Jornadas Científicas del MNCN, CSIC. Madrid, Spain, 2019.
- V International Plant Science Conference (IPSC). 113° Congresso della Società Botanica Italiana. Salerno, Italy, 2018.
- Seminarios Ecología, Genética. CIFOR INIA, Madrid, 2018.
- A Coruña DNA metabarcoding workshop. Coruña, 2018.
- II Annual Meeting GenTree H2020 project. Madrid, 2018.

- XIV International Conference & XIII AEET Meeting. 2017. Seville, Spain.
- Monthly seminars of the Ecology and Evolution Department. University of Nevada at Reno. Reno, USA, 2010.

Member of conferences' scientific committee:

- XVI Congreso Nacional de la AEET. 2023. Almería, Spain
- XV congreso Nacional de la AEET. 2021, Plasencia, Spain
- 4º Congreso Ibérico De Ecología. 2015, Coimbra, Portugal.
- 12º Congreso Europeo de Ecología. 2011, Ávila, Spain.

C.7. Teaching experience

- Teaching experience at master's and bachelor's degree level since course 2012/2013, at Universidad Rey Juan Carlos.
- +1200 teaching hours all imparted after obtaining my PhD.
- Positive evaluation of my teaching activity (program DOCENTIA) for years 2014-15, 16-17 and 17-18, and 18-19, 19-20 and 20-21. Two accredited quinquenios (5-year teaching period)
- Average teaching evaluations by students 4.5 (over 5).

C.8. Student's supervision

Doctoral thesis (PhD)

Ana Lázaro-Nogal. 2014. Respuestas ecológicas y evolutivas de arbustos semiáridos de distribución limitada a un clima cambiante. Supervisors: Fernando Valladares, Anna Traveset and Silvia Matesanz. *Cum laude*.

Angella Illuminati. 2022. La importancia de las raíces en el ensamblaje de las comunidades de plantas. Supervisors: Silvia Matesanz and Adrián Escudero. *Cum laude*.

Mario Blanco. 2023. Ecología evolutiva de plantas de yesos. Supervisors: Silvia Matesanz and Adrián Escudero. *Cum laude*.

Marina Ramos. Multistress adaptation in a Mediterranean shrub. Supervisors: Silvia Matesanz, Beatriz Pías and Adrián Escudero. Defense: 2025.

David Díaz Mulero. Effects of domestication using experimental evolution. Supervisors: Silvia Matesanz and Rubén Milla.

Master's thesis (TFM)

Victoria Calvo Donate. 2021. Evaluando los patrones de plasticidad fenotípica y diferenciación poblacional del gipsófito *Lepidium subulatum* en respuesta a la sequía. Qualification: 9.6.

Ignacio Isabel Asiaín. 2019. Diversidad y estructura genética del gipsófito estricto *Lepidium subulatum* L. Qualification: 9.0.

Alicia Limón Yelmo. 2017. Líquenes de micronichos líticos del desierto del Namib (Namibia). Qualification: 9.5.

Alicia Gómez Fernández. 2014. Diversidad genética y estructura poblacional del gipsófito estricto *Lepidium subulatum*: importancia de la conectividad en las islas edáficas. Qualification: 9.6.

Bachelor's thesis

María José García López. 2023. ¿Qué efectos tiene el calentamiento y la competencia en la respuesta adaptativa al estrés hídrico del arbusto gipsícola *Helianthemum squamatum*? Qualification: 9.15.

Diego Martínez Calvo. 2023. Evaluando cambio evolutivo rápido en una planta especialista en yeso mediante un experimento de resurrección. Qualification: 8.8.

Andrea Sánchez de la Torre. 2023. Evaluación de la diferenciación poblacional y los patrones de plasticidad fenotípica en todo el rango de distribución de la especie endémica de yeso *Helianthemum squamatum*.

Arón Carpintero Moreno. 2020. Rasgos adaptativos en condiciones contrastadas de disponibilidad hídrica en el caméfito gipsófito *Centaurea hyssopifolia*. Qualification: 9.0.

Sandra López García de Dionisio. 2019. Identificación de rasgos adaptativos en poblaciones de *Lupinus angustifolius* bajo condiciones hídricas contrastadas. Grado de Biología. Universidad Rey Juan Carlos. Qualification: 9.1.

Alicia Limón Yelmo. 2016. Efectos de la fragmentación del hábitat en la diversidad genética y estructura poblacional del gipsófito estricto *Centaurea hyssopifolia*. Universidad Rey Juan Carlos. Qualification: 9.9 (Honor's award).

Joaquín Redondo Castrejón. 2014. Efectos de la fragmentación del hábitat sobre componentes tempranos de *fitness* y potencial evolutivo en la especie mediterránea gipsófita *Centaurea hyssopifolia*. Universidad Rey Juan Carlos. Qualification: 9.5.

Irene Alcocer Bernal. 2013. Efectos de la fragmentación del hábitat en el éxito reproductivo de *Centaurea hyssopifolia*. Universidad Rey Juan Carlos. Qualification: 9.5

Alicia Gómez Fernández. 2013. Efectos del tamaño y la conectividad de los fragmentos en el *fitness* de gipsófitos que coexisten. Universidad Autónoma de Madrid. Qualification: 9.6.