

CURRICULUM VITAE (CVA)**Part A. PERSONAL INFORMATION**

Part A. PERSONAL INFORMATION		CV date		18/10/2025
First name	RAUL			
Family name	SÁNCHEZ SALGUERO			
Gender	MALE	Birth date	14/12/1983	
ID number	31736414W			
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Open Researcher and Contributor ID (ORCID)		0000-0002-6545-5810		

A.1. Current position

Position	Professor (Profesor Titular de Universidad)		
Initial date	23/12/2022		
Institution	Universidad Pablo de Olavide (UPO)		
Department/Center	Dpto. Sistemas Físicos, Químicos y Naturales		
Country	Spain	Teleph. number	+34661075574
Key words	Climatic change, Dendroecology, Wood Sciences, Forest biometry, Forest dieback, Forest Ecology, Biogeography, Silviculture, Forest modeling GIS, SDMs		

A.2. Previous positions (research activity interruptions, art. 14.2.b))

Period	Position/Institution/Country/Interruption cause
10/2021-12/2022	Associate Professor/Profesor Contratado Doctor/UPO/Spain
12/2018-10/2021	Assistant Professor / Profesor Ayudante Doctor /UPO/Spain
09/2017-12/2018	Postdoctoral Researcher /Juan de la Cierva In. /UPO/Spain
09/2016-09/2017	Postdoctoral Researcher (Contrated) / IPE-CSIC / Spain
01/2015-08/2016	Postdoctoral Researcher (Plan propio) / UPO / Spain
11/2013-12/2014	Postdoctoral Researcher (CEIA3 UCO) / WSL / Switzerland
11/2008-11/2012	FPU Ph.D. Student / INIA-CIFOR / Spain
08/2007-10/2008	Forest Engineer / Universidad de Córdoba / Spain

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
Doctor in Agroforestry Sciences	CIFOR-INIA-Universidad de Córdoba/ Spain	2012
Advances Doctorate Diploma	Universidad de Córdoba/ Spain	2010
Forest Engineer	Universidad de Córdoba / Spain	2007

Part B. CV SUMMARY

My research interests focus on the effects of climate and other abiotic and biotic factors on **woody plants and forest ecosystems** by using dendrochronology, growth modeling, and biogeography approaches. Currently, my research lines try to understand the past environmental, human and ecological changes in forests along climatic gradients with **forest dieback** problems. By applying novel retrospective approaches, we are inferring how forests are responding to past and current global changes and calibrating **models to forecast forest dieback and mortality risks under climate change scenarios**. I am particularly interested in investigating the response and **adaptations** of forests to climate change and extreme events. My activities are mostly focused on dendroecology (growth, isotopes, ecophysiology, chemistry), tree growth modeling, forest ecology and SDMs, combining both empirical and process-based approaches, from a multiple approach of modeling and data collection at different scales (both top-down and bottom-up approaches). One of my overall goals is to develop novel **spatio-temporal models to forecast** the tree growth, vigour and dieback against climate change and environmental changes, thereby creating **vulnerability, resilience and risk maps** for forest mortality. I did the **PhD at Forestry Research Center (CIFOR-INIA)** in Madrid (Spain) and in Forestry Engineering at Univ. of Córdoba in Córdoba (Spain). I got my degree in Forestry Engineering by the Univ. of Córdoba in 2007, with excellent grades (first position of my faculty). Later, I worked as

researcher at UCO (12 months) and I held a FPU grant (Ministry of Science, Spain) at CIFOR-INIA (2008-2012). During my dissertation I studied forest dieback and the biotic (pests, pathogens) and abiotic (droughts) associated factors in Mediterranean pin species. The thesis title was: “Forest decline in pine plantations of the southern Iberian Peninsula under climatic change. Dendroecology and modeling”. The skills acquired during the Ph.D. were complemented with short- and long-term research stays that he have conducted at different research centers (IPE-CSIC, Zaragoza, Spain; Laboratory of Tree Ring Research, Univ. Arizona, Tucson, USA; Swiss Federal Research Institute WSL-Birmensdorf, Switzerland).

I **expanded my research network** during my c. 7 years of **postdoctoral experience** with highly competitive contracts and fellowships in WSL (2013-2014), UPO (2015), IPE-CSIC (2016-2017) and UPO (2017-2018). During this time, I have study plant and forest ecology, forest dynamic, forest decline process, wood products, silviculture and climate change effects on forest ecosystems in the Mediterranean Basin and worldwide (e.g., Spain, USA, Morocco, Lebanon, Angola, Chile, Bolivia). I had the opportunity to learn about advanced statistical applications in Forest Ecology, modeling, and Spatial Ecology, Biogeography, Ecophysiology, Biometry. I have worked with some of the best experts in each area (e.g., Dr. JJ. Camarero, Dr. TW. Swetnam, Dr. C. Allen, Dr. A. Jump, Dr. A. Rigling, and Dr. M. Dobberty) and currently I lead the new dendro-sciences laboratory (DendroOlavide) at UPO.

My investigations have been funded by **national and international projects (36, PI in 7 with >2.500.000€ in funding)**, and by research agreements and contracts (19) with public and private entities (H2020, FP7 European Program, Ministry of Science and Innovation, Junta de Andalucía) with outcomes of more than **110 SCI articles** (7500 citations (H(SG) = 42, H10= 94, with 70% in Open Access. since 2020, I have been recognized as a *highly cited author* in several rankings) (*Science, Nat. Comm. PNAS, Glob.Ch.Biol., Clim.Ch., J.Ecol., Agr.For.Met., For.Ecol.Manag.*), **31 book chapters**, 19 from other publications in non-SCI journals, and various technical reports and communications. In addition to being cited one of my works in a **special edition of "Science for Environment Policy" of the European Commission**, for the outstanding contribution to the prediction of forest dieback in Mediterranean forests. I have edited special issues in STOTEN, Dendrochronologia and Forests. I have been invited as a speaker to seminars and conferences (45), he has participated in 86 conferences and seminars (**67 international**) **with oral presentations and posters**. I am a regular reviewer for numerous prestigious international journals (>40). I am also **evaluator** of research projects in national and international calls, national journals (FECYT), EU policies and expert in several international initiatives. I have participated in several European Action COST and organized national and international courses (20) and I was the **chairman of the international congress TRACE2015**. My contributions to society range from **dissemination to society** and particular projects with the public administrations and other interested parties. During several years I have coordinated activities at the **European Night of Researchers** and the **Week of Sciences**. I have participated in several projects and activities with the public administration and other stakeholders. I have teach >1600h in Forestry Engineering (Forest Management, Restauration), Environmental Sciences (Ecology, Global Change, Sampling Methods, Climate Change, etc.) and four Official Masters. Supervisor of 30 MsC, BsC projects, and 3 ongoing doctoral theses. I am in the Quality Commission in the PhD in Ecology, “Biodiversity and Convservation Biology” at UPO and EBD-CSIC. I have published more than 15 book chapters for university students and forestry technicians and 2 articles on teaching innovation; participating in 6 teaching innovation projects. I dedicate substantial efforts to mentor the next generation of students and scientists. With a highly multi- and inter-disciplinary training, I carried out research stays in national and international research groups specialized in forestry, dendrochronology, ecology, ecophysiology, forest dieback, GIS, and forest modeling, developing an **internationally recognised research trajectory** as a forest ecologist and dendrochronologist with a multi-disciplinary background. Now I am a proud father of two girls (dec 2020, oct 2023) with higher dedication to family conciliation and coordinating DendrOlavide.

Part C. RELEVANT MERITS

C.1. Publications (for details see SG: <https://shorturl.at/NUu7u>)

1. Zuidema et al.,...**Sánchez-Salguero, R.** Pantropical tree rings show small effects of drought on stem growth. *Science* 389 (6759) 532-538. (IF: 45.8)
2. Akhmetzyanov, L., **Sánchez-Salguero, R.**, Garcías-González et al., (2023). Blue is the fashion in Mediterranean pines: New drought signals from tree-ring density in southern Europe. *Science of the Total Environment*. 856. (IF: 8, 20/274 Env. Sci.)

3. **Sánchez-Salguero, R.**, Camarero, J.J. 2020. Greater sensitivity to hotter droughts underlies juniper dieback and mortality in Mediterranean shrublands. *Science of the Total Environment* 721. (IF: 7.963, 25/274 Env. Sci.)
4. Dorado-Liñán, I., Ayarzagüena, B., Babst, F.**Sanchez-Salguero, R.**.....et al. 2022. Jet stream position explains regional anomalies in European beech forest productivity and tree growth. *Nature Commun* 13, 2015.
5. Hevia, A., **Sánchez-Salguero, R.**, Camarero, J.J., Querejeta, J.I., Sangüesa-Barreda, G. and Gazol, A. 2019. Long-term nutrient imbalances linked to drought-triggered forest dieback. *Science of the Total Environment* 690, 1254-1267. (IF: 7.963, 25/274 Env. Sci.)
6. Camarero, J.J., **Sánchez-Salguero, R.**, Sangüesa-Barreda, G., Linares, J. C. 2021. Drought, axe and goats. More variable and synchronized growth forecasts worsening dieback in Moroccan Atlas cedar forests. *Science of the Total Environment* 765 (IF: 7.963, 25/274 Env. Sci.)
7. **Sánchez-Salguero, R.**, Camarero, J.J., et al. (1/11) 2018. Resist, recover or both? Growth plasticity in response to drought is geographically structured and linked to intra-specific variability in *Pinus pinaster*. *Journal of Biogeography* 45. (IF: 4.327, 35/166 Ecology)
8. Gazol, A., Camarero, J.J., Vicente-Serrano, S.M., **Sánchez-Salguero, R.**, (4/24) 2018. Forest resilience to drought varies across biomes. *Global Change Biology* 24. (IF: 10.863, 5/166 Ecology)
9. **Sánchez-Salguero, R.**, Camarero, J.J., Carrer, M et al. 2017. Climate extremes and predicted warming threaten Mediterranean Holocene firs forests refugia. *Proceedings of the National Academy of Sciences of the United States of America (PNAS)* 114 (47) E10142-E10150. (IF: 11.205, 4/110 Multidisciplinary)
10. **Sánchez-Salguero, R.**, Camarero, J.J. et al. 2016. Assessing forest vulnerability to climate warming using a process-based model of tree growth: bad prospects for rear-edges. *Global Change Biology* 23 (7) 2705-2719. (IF: 10.863, 5/166 Ecology)
11. Shestakova, T., Gutiérrez, E., Kirdyanov, A.V., Camarero, J.J. Génova, M., Knorre, A.A., Linares, J.C., Resco de Dios, V., **Sánchez-Salguero, R.**, Voltas, J. 2016. Forests synchronize their growth in contrasting Eurasian regions in response to climate warming. *PNAS* 113 (3) 662-667 (IF: 11.205, 4/110 Multidisciplinary)
12. **Sánchez-Salguero, R.**, Camarero, J.J., et al. 2015. What drives growth of Scots pine in continental Mediterranean climates: Drought, low temperatures or both?. *Agricultural and Forest Meteorology* 206, 151-162. (IF: 5.734, 2/67 Forestry)

C.2. Congress

1. **Sánchez-Salguero, R.**, Gazol, A., Vicente-Serrano, S., Hevia, A., Camarero J.J. 2023. Global change effects on Mediterranean pine forests: hotspots of dieback. In Tree-Rings in Archaeology, Climatology and Ecology (TRACE 2023) 8-13/05/2023, Coimbra, Portugal. **Oral Com.**
2. **Sánchez-Salguero, R.**, Camarero, J.J. Sangüesa-Barreda, G., Lechuga, V., Viñegla, B., Taiqui, L., Akhmetzyanov, L., Seco, J.I. Carreira, J.A., Linares, J.C.. 2021. Long-lasting drought legacies in Atlas cedar forests and declining growth resilience in the last half millenium. In XV Congreso Nacional de la AEET, 18-22/10/2021. Plasencia, Spain. **Oral Com. Organizer of two sessions.**
3. **Sánchez-Salguero, R.**, Camarero, J.J. Acosta-Hernández, A. Pompa-García, M. 2019. Intra-specific vulnerability of Douglas fir to drought legacies across North-Western America. **Oral Com.** In Tree-Rings in Archaeology, Climatology and Ecology (TRACE 2019) 7-10/05/2021, Caserta, Italy. **Co-organizer and chair** of the Session “Forest growth response to environmental stress”.
4. **Sánchez-Salguero, R.** Hevia, A., Querejeta, J.I. Sangüesa-Barreda, G., Gazol, A., Camarero, J.J. 2019. Do long-term nutrient imbalances contribute to drought-triggered forest dieback? Insights from tree-ring chemistry. 1st Meeting of the Iberian Ecological Society & XIV AEET Meeting. 04/02/2019. Barcelona, Spain. **Oral Com. Organizer of two sessions.**
5. **Sánchez-Salguero, et al., 2018.** Application of vulnerability thresholds to the conservation of Mediterranean firs and cedars forests. Conference of Past Plant Diversity Changes. 1-5/10/2018. Rabat, Morocco. **Invited oral presentation.**
6. **Sánchez-Salguero et al., 2018.** Resist, recover of both? Plasticity of Western Mediterranean *Pinus pinaster* forest growth to drought is linked to the species intra-specific variability. Wood formation and tree adaptation to climate. Le studium conferences. 23-25/05/2018. Orléans, France. **Invited oral presentation.**
7. **Sánchez-Salguero et al., 2017.** Forest vulnerability to a warmer 21st-century climate: Assessing extremes using process-based models of tree growth. COST Action FP1304 PROFOUND – Final Event

Robust projections of forests under climate change - data, methods and models. 9-10/10/2017, Postdam, Germany. **Invited oral presentation.**

8. Head of the Organizing Committee of Internatinal Conference, TRACE 2015 –Tree-Rings in Archaeology, Climatology and Ecology. 20-23/05/2015. Univ. Pablo de Olavide, Seville, Spain.

C.3. Research projects

1. (BF223) Bioeconomía forestal y manejos del agua como revulsivo para la reactivación de las comarcas del noreste de Granada) MITECO-Fundación Biodiversidad 2023. Coordinado (1.7mill). 373.022,46 € UPO-**PI: Raúl Sánchez-Salguero**

2. (TED2021-129770B-C22) Exploring and forecasting the adaptation of forests to dieback: vulnerability thresholds, growth resilience and genetic mechanics (FORGEN). Proyectos TED 2021. MCI. Coordinado. 244.139 € **PI: Raúl Sánchez-Salguero**

3. (PID2021-123675OB-C44) Hostposts adaptative capacity to climate change: growth resilience, genetic and epigenetic mechanisms. Generación de Conocimiento 2021. MCI. Coordinado. 229.900€ **PI: Raúl Sánchez-Salguero**

4. (P20_00813) Vulnerabilidad y Resiliencia a la sequía en bosques Mediterráneos: Un Análisis Multiescalar de los Legados del Cambio Climático (VURECLIM). *PAIDI 2020 Ayudas a proyectos I+D+i* 2021-2023. UPO, 99.500€, **PI: Raúl Sánchez-Salguero**

5. (IE19_074 UPO) Ampliación y mejora de la Estación para Aplicaciones Dendrocronológicas en Investigaciones Medioambientales (DendrOlavide). *Convocatoria 2019 Ayudas a Infraestructuras y Equipamientos de I+D+i (Junta de Andalucía)* 2020-2022. UPO. 197.148,93 € **PI: Raúl Sánchez-Salguero,**

6. (VULBOS) Análisis multiescalar de la VULnerabilidad en BOSques inducida por el cambio climático y la sequía. *Programa Operativo FEDER Andalucía 2014-2020.* 2019-2021. UPO. 42.500€ **PI: Raúl Sánchez Salguero.**

7. (101029581) The Wood as Time Machine: interdisciplinary approach to study post-medieval human-environment interactions where Atlantic meets the Mediterranean (WoodTime). *European Union. H2020-Marie Curie Program* 2021-2023. UPO.172.932,48 €. **PIs: Raúl Sánchez-Salguero & Linar Akhmetzyanov.**

8. (EQC2018-005303-P) Estación para Aplicaciones Dendrocronológica en Investigaciones Medioambientales. *Convocatoria de Infraestructura de Investigación y Equipamiento Científico Técnico 2017-2020.* 2018-2021. UPO. 393.577,97 €. **Co-PIs. Raúl Sánchez-Salguero** y Juan C. Linares

9. (RTI2018-096884-B-C33) Legados ambientales y de manejo en la sensibilidad a la sequía de abetales y pinsapares: un enfoque dendrogenómico del potencial adaptativo al cambio climático. *Ministerio Cien. Inn. Univ.* 2018-2020. UPO. (208.000€) **PI: Dr. JC. Linares.** UPO. Researcher

10.(EFA028/15-CANOPEE) Cambio climático y Adaptación de los Bosques Pirenaicos. **PI: Dr. J.J. Camarero.** *Interreg V-POCTEFA FEDER* 2014-2020. 2016-2020. UPO. 82.389 €. Researcher.

11. (CGL2015-69186-C2-1-R) Explorando si la diversidad funcional y estructural de los bosques confiere resistencia y resiliencia a la sequía: Implicaciones para la adaptación al cambio climático. *MINECO.* 2016-2018, 122.210€ **PI: Dr. JJ. Camarero (IPE-CSIC).** Contrated Researcher.

12.(FP7-ENV-2008-1-226701). CARBO-Extreme: The terrestrial Carbon cycle unfer Climate Variability and Extremes, a Pan European synthesis. **PI: M. Reichstein (Max Planck), M.A. Zavala (UAHenares).** *7PM-Internacional* (4,393,731.96€), UAH. 2010-2014. (100,000 €). Researcher.

13.(NSF Award 1103450). NSF P2C2 Collaborative Research: Past and Future Drought Variability in the Mediterranean. **IP: K. Anchukaitis; B. Cook; R. Touchan (Univ. Columbia).** *US National Science Foundation project. NSF-Internacional.* 2010-2013. (\$ 70,388). Researcher.

C.4. Contracts, technological or transfer merits

-Análisis dendrocronológico de muestras de madera para la estimación de la edad de las masas forestales de la Comunidad Autónoma de Galicia. Proyecto de diseño y puesta en marcha del Inventario Forestal Continuo de Galicia. Xunta de Galicia-Univ. Santiago de Compostela. 2021-2023 (11.000 €). **PI: Raúl Sánchez-Salguero.**

-Contrato de prestación de servicio a la Univ. Sevilla para el análisis dendrocronológico de muestras de madera para la estimación de la composición elemental. 2022-2024 (8.846,58 €) **PI: Raúl Sánchez-Salguero.**

-Análisis de muestras de madera en ensayos de procedencia genética de pino carrasco (*Pinus halepensis* Mill.) en la cuenca Mediterránea Univ. Lleida. Fase I. 2023-2024 (3600 €) **PI: Raúl Sánchez-Salguero.**