MINISTERIO DE CIENCIA E INNOVACIÓN

Cofinanciado por la Unión Europea

AGENCIA ESTATAL DE INVESTIGACIÓN

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	Pilar		
Family name	Llorens Garcia		
Gender (*)	female	Birth date	12/09/1963
Social Security, Passport, ID number	35069457T		
e-mail	pilar.llorens@idaea.csic.es	URL Web https://www.idaea.csic.es	
Open Researcher and Contributor ID (ORCID) (*)		0000-0003-4591-5303	

(*) Mandatory

A.1. Current position

Position	Científica Titular OPIS		
Initial date	2002		
Institution	Consejo Superior de Investigaciones Científicas		
Department/Center	Instituto de Diagnóstico Ambiental y Estudios del Agua (IDAEA-CSIC)		
Country	Spain	Teleph. number	934006100
Key words	Ecohydrology, rainfall partitioning, evapotranspiration, soil water content, water isotopes		

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

Period	Position/Institution/Country/Interruption cause
1994-2002	Postdoctoral researcher. ICTJA-CSIC. Barcelona, Spain
1991-1993	Postdoctoral researcher. CEREG-CNRS. Strasbourg, France
1988-1991	PhD fellow. ICTJA-CSIC. Barcelona, Spain

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
PhD in Geography	Universitat de Barcelona (Spain)	1991

Part B. CV SUMMARY

The main aim of my research seeks to better understand the **ecohydrology of mountainous Mediterranean catchments** by examining rainfall partitioning, vegetation transpiration and soil water fluxes. I combine different methodological approaches such as hydrometric monitoring, environmental tracers and hydrological modelling. Along with other colleagues in the research team we have amassed a long-term (>30 years) ecohydrologic dataset of the Vallcebre research catchments (NE Spain) that is critical to gauging the nature of global change in Mediterranean environments.

The most important **milestones of my career** have been to highlight the importance of interception losses in Mediterranean climates, describing for the first time the factors that determine rainfall partition in these conditions, as well as producing thorough reviews of both experimental and modelling studies on this process. Likewise, I have addressed the development of some relevant methodological aspects related to rainfall partitioning. On the other hand, all the knowledge about the role that vegetation plays on hydrological processes, which I have acquired at detailed scale in the Vallcebre research catchments, has allowed a better understanding of catchment scale hydrology. In turn, this better understanding has been extremely relevant for demonstrating the effect of land use changes on water resources in Spain, which is another of my milestones. In the last years, I have been

working on the assessment of the dynamics of water fluxes in the soil-plant-atmosphere continuum by combining hydrometric and isotopic data (see selected publications).

During my career I have participated in more than **30 research national and international projects**, being the PI in several of them. In addition, I have been involved in multiple **research networking initiatives** which has allowed me to be internationally recognized in my field of research, and build a strong network of national and international collaborators. Currently, I am member of the management committee of the COST Action WATSON. In the recent years I have been **awarded** twice for staying as a senior researcher in international institutions: in 2016 with the Spanish 'Salvador de Madariaga' grant to stay 3 months at the University of Delaware (US), and in 2019 with a 'Japan Society for promotion of Science' grant to stay 3 months at the Forest and Forestry Products Research Institute (Japan).

I have been actively publishing in peer reviewed **publications** and with a number of international collaborators, this results in 90 papers in international journals (SCI) that have received to the date more than 4500 citations (H-index: 34, WoS), and more than 100 in non-indexed journals, books and collective volumes. My research has been also presented in numerous scientific forums (workshops, congresses, etc), and I have been actively **involved in the organization** of scientific sessions, as for example in the European Geophysical Union General Assemblies. I participate to the science system being associate editor in Hydrology and Earth System Sciences and reviewing papers and projects for different agencies.

In this scientific framework, I **have supervised 8 PhD students, 2 more are ongoing**. All the PhD students I have supervised are currently working in universities, public institutions or companies on hydrology related topics. In addition, I host multiple undergraduate and master's students from Spain and abroad. I have taught in different masters, as the CSIC-UIMP Master on Global Change, and I was the director of the graduated UIMP course 'Green water and blue water. Vegetation, water and Global Change'. Finally, I am part of the **follow-up commission of the PhD program** on Terrestrial Ecology from the Universitat Autònoma de Barcelona.

From the point of view of institutional responsibilities, I am **Head of the Geosciences department** at IDAEA-CSIC since 2018, and I have been **member of the division on projects evaluation and monitoring of the Agencia Estatal de Investigación**, in the area of Environmental Science and Technology, sub-area of Earth Sciences and Hydrology from 2017 to 2021.

Part C. RELEVANT MERITS

C.1. Publications

***** Indicated publications leaded by PhD students under my supervision

Sprenger, M., **Llorens, P**., Gallart, F., Benettin, P., Allen, S. T., Latron, J. (2022). Precipitation fate and transport in a Mediterranean catchment through models calibrated on plant and stream water isotope data. *Hydrology and Earth System Sciences*, 26, 4093-4107.

Levia, D. F., Creed, I. F., Hannah, D.M. et al. (2020). Homogenization of the terrestrial water cycle. *Nature geoscience*, *13*(10), 656-658. [**16/24**]

*****Cayuela, C., Latron, J., Geris, J., **Llorens, P.** (2019). Spatio-temporal variability of the isotopic input signal in a partly forested catchment: Implications for hydrograph separation. *Hydrological processes*, *33*(1), 36-46.

Carlyle-Moses, D. E., Iida, S. I., Germer, S., **Llorens, P.**, Michalzik, B., Nanko, K., Tisher, A., Levia, D. F. (2018). Expressing stemflow commensurate with its ecohydrological importance. *Advances in Water Resources*, *121*, 472-479.

Llorens, P., Gallart, F., Cayuela, C., Planasdemunt, M. R., Casellas, E., Molina, A. J., ... & Latron, J. (2018). What have we learnt about Mediterranean catchment hydrology? 30 years observing hydrological processes in the Vallcebre research catchments. *Geographical Research Letters*, (44), 475-502.

Llorens, P., Latron, J., Alvarez-Cobelas, M., Martínez-Vilalta, J., & Moreno, G. (2011). Hydrology and biogeochemistry of Mediterranean forests. In *Forest hydrology and biogeochemistry* (pp. 301-319). Springer, Dordrecht.

*Muzylo, A., **Llorens, P.**, Valente, F., Keizer, J. J., Domingo, F., Gash, J. H. C. (2009). A review of rainfall interception modelling. *Journal of hydrology*, *370*(1-4), 191-206.

Llorens, P., Domingo, F. (2007). Rainfall partitioning by vegetation under Mediterranean conditions. A review of studies in Europe. *Journal of hydrology*, *335*(1-2), 37-54.

Gallart, F., **Llorens, P.** (2004). Observations on land cover changes and water resources in the headwaters of the Ebro catchment, Iberian Peninsula. *Physics and Chemistry of the Earth, parts A/B/C*, *29*(11-12), 769-773.

*Poyatos, R., Latron, J., **Llorens, P.** (2003). Land use and land cover change after agricultural abandonment. Mountain research and development, 23(4), 362-368.

C.2. Congresses

Apart from the active participation as a convener to the annual European Geophysical Union Assemblies, and the presentation of oral or/and posters at EGU, AGU, IAHS assemblies and other specific workshops as for example, recently, at the second Workshop on water partitioning and plant-soil interactions in forested and agricultural catchments. Italy. July 2022, or the Workshop on New perspectives on hydrological and ecohydrological processes in small natural and human-impacted catchments. Italy. June 2022.

I have been invited to give talks at universities and research centers, for example in the last years:

- Llorens and the Surface Hydrology and Erosion Group. What have we learnt about Mediterranean catchment ecohydrology?. Hydrological Chair. Albert-Ludwigs-Universität Freiburg. September 2022.

- Llorens and the Surface Hydrology and Erosion Group. 30 years of ecohydrological investigations in a Mediterranean mountain environment, the Vallcebre research catchments. Bio-Geo-Colloquium. Institute of Geosciences-Institute of Microbiology-Institute of Biodiversity. Friedrich-Schiller-Universität-Jena (Germany). April 2022

- Llorens and the Surface Hydrology and Erosion Group. Ecohydrological processes in Mediterranean mountain areas. Forestry and Forest Products Research Institute. Tsukuba (Japan). October 2019

C.3. Research projects

Selected projects related to the proposal in the last 5 years

- WATSON: WATer isotopeS in the critical zONe: from groundwater recharge to plant transpiration. (CA19120).
COST Actions European Commission. [09/2020-09-2024]
Project coordinator: Daniele Penna, University of Firence (Italy)
Pilar Llorens: Management committee member
Participants: 175 members of 43 countries

- Tracing water fluxes in the soil-vegetation-atmosphere continuum using stable isotopes. (LINKB20081).
CSIC. [01/2022-12/2023]
Pilar Llorens: PI
Participants: IDAEA-CSIC, University of Nevada (USA), University of Aberdden (UK), University of Firenze (Italy), Lawrence Berkeley National Laboratory (USA), University of Natural Resources and Life Sciences (Austria), Leibniz Institute of Freshwater Ecology and Inland Fisheries (Germany), University of Zurich (Switzerland).

- Rhysotto: Utilizando los isotopos estables del agua para desenredar el funcionamiento eco hidrologico de las cuencas de cabecera mediterráneas (PID2019-106583RB-I00)
Ministerio de Ciencia e Innovación. [06/2020-05/2023]
PI: Jérôme Latron (IDAEA-CSIC).

Pilar Llorens: Researcher
Participants: IDAEA-CSIC, University of Florence (Italy), CONICET (Argentina), Lawrence Berkeley National Laboratory (USA), University of Zurich (Switzerland).

- Red Española de silvicultura adaptativa al cambio climático" (Silvadapt) (RED2018-102719-T)

MICIU. Acciones de dinamización "Redes de Investigación". [01/2020-12/2021]
Project coordinator: Antonio del Campo (Univ. Politècnica de València)
Pilar Llorens: Participant
Participants: Univ. Politècnica de València, Univ. Castilla La Mancha, Univ. de Córdoba, Univ. de Alicante, Univ. de Huelva, Univ. Pública de Navarra, Univ. Extremadura, IDAEA-CSIC, IPE-CSIC, CEBAS-CSIC, CEAM, CPFC, Gobierno de Aragón.

- TransHyMed: Patrones espacio-temporales de transferencia de agua en cuencas mediterráneas de cabecera. Conexiones entre vegetación y respuesta hidrológica (CGL2016-75957-R AEI/FEDER, UE)

MINECO.Programa estatal de investigación, desarrollo e innovación orientada a los retos de la sociedad. [01/2017-12/2020]
Pilar Llorens: PI
Participants: IDAEA-CSIC, University of Delaware (USA), CRP G. Lippmann (Luxemburg), GNS Science (New Zealand).

- The impacts of forest management and climate change on rainfall partitioning: their effects on soil moisture and groundwater recharge" (LINKA20045).

CSIC. [01/2019-12/2020]
Pilar Llorens: PI
Participants: IDAEA-CSIC, University of Delaware (USA), Thompson Rivers University (Canada), Forestry and Forest Products Research Institute (Japan), Friedrich Schiller University Jena (Germany), Leibniz Institute Agricultural Engineering and Bioeconomy (Germany), University of Zurich (Switzerland).

- Mediterranean Agricultural Soils Conservation under Global Change (MASCC).

Arimnet2 Call (2014)-ERA-NET European Commission's 7th Framework Programme. [05/2016-04/2019]
Project coordinator: Damien Raclot UMR LISAH (INRA-IRD-SupAgro), (France)
Pilar Llorens: Researcher
Participants: UMR LISAH (INRA-IRD-SupAgro), (France), IDAEA-CSIC (Spain), University of Catania (Italy), IAV-INRA-ENFI (Morocco), CESAM-University of Aveiro (Portugal), INRGREF (Tunisia).

C.4. Contracts, technological or transfer merits

- Convenio. Associació Forestal Vall del Lord. 2022. Assessorament Científic en la redaccció del projecte d'optimització del consum d'aigua pel bosc per a la recuperación de l'aigua blava.

- Convenio. Agència Catalana de l'Aigua. 2020. Tractament de la informació hidrológica post-actuació. Gestió forestal i gestió de l'aigua en el marc del LIFE CLIMARK.

- Convenio. Oficina Catalana del Canvi Climàtic. 2019. Tractament de la informació hidrológica post-actuació. Gestió forestal i gestió de l'aigua en el marc del LIFE CLIMARK.

- Convenio. Centre de la Propietat Forestal. 2018. Tractament de la informació hidrológica pre-actuació. Gestió forestal i gestió de l'aigua en el marc del LIFE CLIMARK.