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	Francisco Javier		
Family name	Tapiador Fuentes		
Gender (*)		Birth date (dd/mm/yyyy)	
Social Security, Passport, ID number			
e-mail		URL Web https://www.uclm.es/grupos/earthphysics	
Open Researcher and Contributor ID (ORCID) (*)		0000-0002-6773-5250	

(*) Mandatory

A.1. Current position

Position	Catedrático de Universidad / Full Professor			
Initial date				
Institution	Universidad de Castilla-La Mancha (UCLM)			
Department/Center	Environmental Sciences	Institute of Environmental Sciences (ICAM) / Faculty of Environmental Sciences and Biochemistry		
Country	Spain		Teleph. number	
Key words	Precipitation, Modeling, Remote Sensing, Earth Physics			

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

Period	Position/Institution/Country/Interruption cause
2009-2019	Profesor Titular de Universidad / UCLM / Spain
2005-2009	Investigador Ramón y Cajal / UCLM / Spain
2004	Titulado Superior / Universidad de Barcelona / Spain
2004	Investigador con grado de doctor / Univ. Lleida / Spain
2001-2003	Research Fellow / Univ. Birmingham / UK
1999-2001	Contratado FPI / Univ. Valladolid / Spain

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
PhD	Valladolid / Spain	2001
Licenciado	Valladolid / Spain	1998

(Include all the necessary rows)

Part B. CV SUMMARY *(max. 5000 characters, including spaces)*

Catedrático (Full Professor) of Earth Physics. Head of the consolidated research group "Earth and Space Sciences (ess)" at UCLM (https://www.uclm.es/grupos/earthphysics). Former Dean of the Faculty of Environmental Sciences and Biochemistry (2012-2021). According to Scopus, I have more than 70 publications in JCR journals (more than 40 as first and corresponding author). Two papers as first author in BAMS (impact factor 2015=11.8) and two papers also as first author in Energy and Environmental Sciences, EES (impact factor 20.52). I have published in the main journals of the field, such as BAMS (three times), EES (two times), Journal of Climate (two times), IEEE TGRS (two times), Journal of Geophysical Research, Geophysical Research Letters (three times), Journal of Hydrometeorology (two times), Physics

Today, Tellus, Atmospheric Research (six times), Journal of Meteorology and Climatology, etc. I have been a Ramón y Cajal fellow. Before that, I enjoyed a post-doctoral period at the University of Birmingham (3 years, hired as a research fellow); I did my PhD thanks to a regional grant from the Junta de Castilla y León (FPI); I was an Erasmus student at University College Cork (Ireland). Since joining UCLM, I have been an invited researcher at the University of Cambridge (about 1 year), four times at JPL-Caltech (>1 month each), Colorado State University (>1 month), University of Oklahoma-National Weather Research Center (>1 month), University of Paris 7-CNRS (>3 months) and University of Mannheim (1 month). In 2015, I received the NASA Goddard Space Flight Center Robert H. Goddard Award (Team) in the category of Exceptional Achievement in Science and the GPM Post-Launch Team Agency Group Achievement Award, both from NASA. I have supervised 8 PhD theses and have 3 more in preparation. Associate editor of the journal 'Remote Sensing' since 2019 (Q1). PI (single) for 5 CICYT/AEI national projects + 1 TED +1 Proof of Concept. I have participated in the following panels and committees: 1. NASA. Panelist and reviewer in the PMM science team selection panel (NASA programme announcement NNH12ZDA001N-PMM), 2012; 2. ESA. Since 2015 I am one of the three members of the Geosounder Advisory Group set up by ESA to develop the first geostationary microwave sounder in collaboration with China; 3. MINECO panel for projects, 2015; reviewer for ANEP (several times); 4. IPCC AR5, AR6. Expert reviewer. My research for the last 10 years is now focused on precipitation science. I tend to focus on high-risk projects, which means that sometimes I do not get a result. This is the case with the ESA tender for a geostationary microwave sounder. The driving force of my research is to learn every day and to enjoy physics. I tend not to repeat research topics or revisit previous research. My collaborators (PhD students, postdocs) have a lot of freedom to pursue their own research interests and to focus their own research basically on what they want to do. However, I have fostered a collaborative culture in my lab so that people contribute to different parts of the collaborative research. I have recently devoted some time to popular science; I have written a book on climate for the general public.

Part C. RELEVANT MERITS *(sorted by typology)*

[only those publications as first and correspondent author, and from 2017 to 2021]

C.1. Publications

1. Tapiador, F.J., A. Navarro, R. Martín, S. Hristova-Veleva and Z. S. Haddad, 2021. Predicting Tropical Cyclone Rapid Intensification from Satellite Microwave Data and Neural Networks, *IEEE Transactions on Geoscience and Remote Sensing*, doi: 10.1109/TGRS.2021.3128076.

2. Tapiador, F.J., A Navarro, E García-Ortega, A Merino, JL Sanchez, C Marcos and C Kummerow. 2020. The Contribution of Rain Gauges in the Calibration of the GPM-IMERG Product: Results from the First Validation over Spain. *Journal of Hydrometeorology,* 21, 161–182, doi: 10.1175/JHM-D-19-0116.1

3. Tapiador, F.J., R Roca, A Del Genio, B Dewitte, W Petersen, and F Zhang, 2019. Is Precipitation a Good Metric for Model Performance? *Bulletin of the American Meteorological Society,* 100, 223–233, doi: 10.1175/BAMS-D-17-0218.1

4. Tapiador, F.J., R Moreno, and ZS Haddad. 2019. Estimates of the Precipitation Top Heights in Convective Systems Using Microwave Radiances. *IEEE Transactions on Geoscience and Remote Sensing*, 57, 6, 3166-3178, doi: 10.1109/TGRS.2018.2882002

5. Tapiador, F.J., R Moreno, A Navarro, JL Sánchez, and E García-Ortega, 2019. Climate Classifications from Regional and Global Climate Models: Performances for Present Climate Estimates and Expected Changes in the Future at High Spatial Resolution. *Atmospheric Research*. Volume 228, 107-121, doi: 10.1016/j.atmosres.2019.05.022

6. Tapiador, F.J., JL Sánchez and E García-Ortega. 2019. Empirical values and assumptions in the microphysics of numerical models. *Atmospheric Research* 215, 214-238

7. Tapiador, F.J., A Berne, T Raupach, A Navarro, G Lee, and ZS Haddad. 2018. Objective Characterization of Rain Microphysics: Validating a Scheme Suitable for Weather and Climate Models. *Journal of Hydrometeorology* 19 (6), 929-946

8. Tapiador, F.J., A Navarro, A Jiménez, R Moreno, E García-Ortega, 2018. Discrepancies with Satellite Observations in the Spatial Structure of Global Precipitation as Derived from Global Climate Models, *Quarterly Journal of the Royal Meteorological Society,* vol 144, S1, 419-435. doi: 10.1002/qj.3289
9. Tapiador, F.J., Navarro, A., Levizzani, V., García-Ortega, E., Huffman, G.J., Kidd, C., Kucera, P.A., Kummerow, C.D., Masunaga, H., Petersen, W.A., Roca, R., Sánchez, J.-L., Tao, W.-K., Turk, F.J. 2017. Global precipitation measurements for validating climate models. *Atmospheric Research*. Vol. 197, 1-20, doi: 10.1016/j.atmosres.2017.06.021
10. Tapiador, F.J., Navarro, A., Moreno, R., Jiménez-Alcázar, A., Marcos, C., Tokay, A., Durán, L., Bodoque, J.M., Martín, R., Petersen, W., de Castro, M. 2017. On the optimal measuring area for pointwise rainfall estimation: A dedicated experiment with 14 laser disdrometers. *Journal of Hydrometeorology*. Vol. 18(3), 753-760, doi: 10.1175/JHM-D-16-0127.1

In these 10 selected articles from the last 4 years, I was first author and also corresponding author. Such authorship implies that it is my own research idea, approach and style. It also means, in my particular case, that I did the research, wrote most of the text, did most of the calculations and made most of the figures. The papers in the selection have been published in reputable journals in the field. In the old days, before DORA, they were said to be in the Q1 of their categories and to have high impact. Now that this can no longer be said, I would say that there is no doubt that they are top thematic (not generalist) journals. There is no need to explain much about quality: everyone in atmosphere and climate knows about the intrinsic quality of a paper that is finally accepted in BAMS, Atmospheric Research, QJRMS, IEEE TRGS or the AMS journals, and the difference between their standards and thresholds and those of other available journals. With respect to each of my articles, they are on different topics within the field of precipitation science, without repeating any topic or approach, and using different methods in each paper. In fact, each of the 10 can be considered as an individual research area. I have contributed new methods and algorithms and new measurements to the field. All the papers involve international collaborations with a wide range of researchers, mainly from NASA. All of them reflect new research, new (not copied) science, and the vast majority present methods that I have developed myself to answer the various research questions that I have asked myself. Most of my papers, such as those on neural networks in 2003, tend to be cited long after publication, once the field I have advanced has consolidated.

C.2. Congress, indicating the modality of their participation (invited conference, oral presentation, poster)

[invited talks only]

1. Conferencia Inaugural Campus Agua 2021. Orense, Spain. 2021.
2. Foro Cambio Global y desarrollo sostenible. Fundación Universitaria del Area Andina. 20/3/2021. Valledupar, Colombia. 2021.
3. NASA PMM Science Team meeting. Phoenix, Arizona, USA. 2018.
4. École Polytechnique Fédérale de Laussane (EPFL), Laussane, Switzerland. 2016.
5. NASA PMM Science Team meeting. Annapolis, USA, 2013.
6. NASA PMM Science Team meeting. Indianapolis, USA, 2013.
7. NASA PMM Science Team meeting. Toronto, Canada, 2012.
8. AGU Chapman Conf. on Remote Sensing of the Terrestrial Water Cycle. Kona, USA. 2012.
9. International Conference on Weather Forecast and Hydrological Applications of Radar 2019. Seoul, Korea. 2019.
10. Saudi International Environmental Technology Conference. Ryad. Saudi Arabia. 2012.

In the 10 cases selected, these are invitations where I have given an oral lecture, not venues or events where one pay a fee and then you are entitled to deliver a presentation.

C.3. Research projects, indicating your personal contribution. In the case of young researchers, indicate lines of research for which they have been responsible.
[only those as the PI]

1. Validación de estimaciones de precipitación sobre España con los satélites de la misión GPM de la NASA. Fase líquida. PID2019-108470RB-C21. 113.100 €; 1/6/2020-31/5/2023. PI (único): **Francisco J. Tapiador**
2. Medidas multifuente de precipitacion en 4D para mejorar la cuantificacion precisa de los cambios en el ciclo hidrologico en el marco de la mision GPM de la NASA. CGL2016-80609-R . 84.700 €; 30/12/2016-29/12/2019. PI (único): **Francisco J. Tapiador**
3. Algoritmos de precipitación para la misión GPM de la NASA. CGL2013-48367-P. 111.320 €; 01/01/2014-31/12/2016. PI (único): **Francisco J. Tapiador**
4. Satellite simulator for the GPM mission. CGL2010-20787-C02-01; 01/01/2011 - 31/12/2013; 117.370 €. PI (único): **Francisco J. Tapiador**
5. Asimilación 4D de estimaciones de precipitación de alta resolución en un modelo numérico de predicción meteorológica por conjuntos para la predicción de extremos hidrometeorológicos en España. CGL2006-03611; 01/10/2006; 65.340 €. PI (único): **Francisco J. Tapiador**
6. Instrumentación para campañas de medida proyecto GPM de la NASA. UNCM13-1E-2022. 01/01/2013-31/12/2015; 704.169,24 €. Ministerio de Economía y Competitividad. PI (único): **Francisco J. Tapiador**
7. La precipitación en Castilla-La Mancha. procesos físicos y químicos. PPII10-0162, 01/04/2010 - 31/03/2013; 125.510 €. PI (único): **Francisco J. Tapiador**
8. Medidores de precipitación para la validación de los satélites GPM de la NASA. UNCM08-1E-086 01/01/2008 - 30/06/2012; 97.350 €. PI (único): **Francisco J. Tapiador**
9. Programa Ramón y Cajal. RYC-2004-000281 Tapiador 01/02/2005 - 08/10/2009. 276.147 eur. PI (único): **Francisco J. Tapiador**
10. Red de medida de la precipitación con disdrómetros láser de Castilla-La Mancha; 05/06/2008; 180.000 €. PI: **Francisco J. Tapiador**

These are National Plan projects and infrastructure calls. I have included the Ramón y Cajal, despite the date, because it is particularly relevant. I would like to note that I received the RyC in two different fields: Earth Sciences and Computer Science. I was the sole PI of all the projects listed. The research line of all of them is precipitation science.

C.4. Contracts, technological or transfer merits, Include patents and other industrial or intellectual property activities (contracts, licenses, agreements, etc.) in which you have collaborated. Indicate: a) the order of signature of authors; b) reference; c) title; d) priority countries; e) date; f) Entity and companies that exploit the patent or similar information, if any

[only those as the PI]

CENIT project PROMETEO. UCTR110069. Technologies for integral fight against forest fires. Funding body: (CDTI). 2010-2012. 118,000 €. PI: **Francisco J. Tapiador.** 2012
2. Korean Meteorological Agency/EWHU. KMA2018-00721. Development of Numerical Weather Prediction and Data Application Technique. 1365002970/KMA2018-00721: 98,000 €. PI: **Francisco J. Tapiador**. 2018
3. Ayuntamiento Talavera de la Reina. Contract for Analysing the Vegetation of the City. 2020.
4. GEACAM. Agreement for environmental studies. 17,998 €. PI: **Francisco J. Tapiador**. 20
5. Organization of the International GEWEX Meeting (WMO, World Meteorological Organization). 3000 €. PI: **Francisco J. Tapiador**. 2020.
6. EQA Certs. I+D. Contract as Technical Expert. 750 €. PI: **Francisco J. Tapiador**. 2021.
7. EQA Certs. I+D. Contract as Technical Expert. 200 €. PI: **Francisco J. Tapiador**. 2020.
8. EQA Certs. I+D. Contract as Technical Expert. 242 €. PI: **Francisco J. Tapiador**. 2020.
9. Popular science book: *El clima de tus hijos*, Next Door Publishing. 2021.
10. Technical Evaluator for Xunta de Galicia and AGAUR (Cataluña).

These include contracts, technical assistances, and transfer and dissemination activities.