CURRICULUM VITAE (CVA)

IMPORTANT – The Curriculum Vitae cannot exceed 4 pages.

Part A. PERSONAL INFORMATION

CV date	11/11/2022

First name	JOSÉ ANTONIO		
Family name	MARTÍNEZ CASASNOVAS		
Gender (*)	MALE	Birth date	17/03/1963
ID number	18014292W		
e-mail	joseantonio.martinez@udl.cat	URL Web	https://www.macs.udl.cat/es/personal/pdi/jmartinez/
Open Researcher and Contributor ID (ORCID) (*)		0000-0003-1480-3632	

(*) Mandatory

A.1. Position

Position	**Full profesor**		
Initial date	25/11/2010 (Full profesor) 01/03/2016 – 28/02/2022 (Head of department)		
Institution	Universitat de Lleida		
Department/Center	Dep. Environment and Soil Sciences	School of AgriFood and Forestry Science and Engineering	
Country	Spain	Teleph. number	973702615
Key words	Precision Agriculture, Soil Mapping, GIS, Remote Sensing, Soil Apparent Electrical Conductivity		

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

Period	**Position/Institution/Country/Interruption cause**
1989 - 1991	Agronomy Engineer, Cooperativa Los Monegros (Sariñena, Huesca, Spain)
1991 - 1992	Predoctoral research fellow, Dep. Environment and Soil Science, CIRIT-Generalitat de Catalunya
1992 - 1994	Fellow for Research and studies in foreing countries. ITC & Wageningen University (The Netherlands), CIRIT-Generalitat de Catalunya
1994 - 1999	Full-time associate profesor (work contract)
1999 - 2001	Associate Professor (Titular de Escuela Universitaria)
2001 - 2010	Associate Professor (Titular de Universidad)

A.3. Education

PhD, Licensed, Graduate	**University/Country**	**Year**
PhD	University of Lleida / Spain	1998
Master of Sciences on GIS	ITC & Wageningen University / The Netherlands	1994
Agronomy Engineer	Polytechnic University of Catalonia / Spain	1989
Technical Agronomy Engineer	Polytechnic University of Catalonia / Spain	1986

Part B. CV SUMMARY

I'm PhD in Agronomy Engineering (1998, Univ of Lleida, UdL), European Doctorate mention and Extraordinary Award. Since 1994, I'm professor at the School of Agrifood and Forestry Science and Engineering (ETSEA-UdL), teaching GIS, Remote Sensing, Precision Agriculture and Soil Information Systems. Since Nov 2010, I'm Full Professor

in Soil Science and Agricultural Chemistry and, since March 2016, Head of the Department of Environment and Soil Sciences. Previous to my PhD, 1992-94, I carried out a Post-graduate course in Remote Sensing and a MSc on Geographical Information Systems (ITC & Wageningen University, The Netherlands), with honorary distinction and Prize of the Wageningen Univ Foundation. This MSc gave me the opportunity to learn geo-information technologies, which I've later applied in my scientific career. I'm member of the Research Group in AgroICT & Precision Agriculture (GRAP), which is part of AGROTECNIO, research center of excellence.

Scientific contribution and knowledge transfer: In my PhD I studied the effects of erosion in vineyard soils and in landscape (gully erosion), in the Anoia-Penedés region (Catalonia). This gave me the opportunity to apply the (at that moment) emerging geo-information technologies in soil loss mapping & modelling and in land use change analysis. The main contributions were the quantification of soil loss and soil quality degradation, and the mapping & modelling of gully erosion at different scales. As senior researcher, I leaded the project "Environmental, landscape and socioeconomic effects of the restructuring and reconversion of the vineyard in NE Spain", in which we studied the soil and landscape degradation as result of subsidies from the EU CAP. In 2003, thanks to a collaboration with Codorniu S.A. in Raimat (Lleida) (leader company in the viticulture sector), I got involved in a new research line: **Precision Agriculture** (PA). We started a pioneer project on the adoption of PA techniques to improve winegrape production and quality. In 2007, this project was awarded by the consortium Barcelona Municipality and Catalan Gov for its technological innovation applied to viticulture. It was the starting point for other contracts with companies of the viticulture sector (e.g. Miguel Torres S.A.) and of the arable crop sector to develop PA projects.

Since 1991, when I started to participate in research projects as a fellow, I've participated in 22 competitive projects (11 Spanish National R+D+I Plan, 2 LIFE EU, 1 CENIT-CDTI, 1 TEMPUS EU, 2 regional projects, 2 Thematic Networks and 2 Research grants), being PI in 5 of them. I've also participated in 36 R+D+i contracts with administrations and companies (PI in 24 of them). The total amount of resources raised by all these projects and contracts is **4.170.563 Eur**. This generated knowledge has been disseminated through a total of **180 publications**, of which I'm author or coauthor. Of those, **67** are **articles** in SCI-JCR journals in the fields of Precision Agriculture, Soil Sciences, Earth Sciences, GIS and Remote Sensing (35 in Q1 journals). Until 11/11/2022, they received a total of **2683 citations** and an ***h-index* of 32**. The other publications are articles in other indexed journals (19), congress proceedings (47), technical magazines (21), books (6) and book chapters (21). Also, I've actively participated in 138 congresses, mainly international (107). Regarding international collaborations, I maintain a close relationship with several research groups in PA: Montpellier SupAgro (France), Univ of Padova (Italy), Athens Agricultural Univ (Greece). Since 2013, I'm one of the Spanish representative at the Management Committee of the European Conference on Precision Agriculture.

Contribution to society: In addition to the above-mentioned transfer knowledge, I would like to highlight my contribution to management at the university, more that 11 years (8 years head of department and 3,5 years academic secretary). Also my contribution to evaluation committees of MINECO for selection of research projects and Juan de la Cierva contracts. Since March 2021, I'm **member of ANECA A4 Natural Sciences Commission**, for academic staff evaluation. About other contributions, I have organized two congresses; I've participated in 42 specialized courses and delivered 36 conferences by invitation. In the last 10 years, these conferences have been focused on the emerging field of **precision agriculture**, in which, at present, there is great interest and expectation from the society. I also use the social networks, such as Twitter and Linkedin to transfer results and knowledge of our research to professional contacts and followers.

Contribution to the scientific career of young researchers: I've co-supervised 6 PhD theses. All these doctors have leadership positions in their companies: I. Bonilla at CVNE Celler, A. Maresma at Eurochem Iberia, J. Verdú at PepsiCo, R. Cots at Generalitat de Catalunya, A. Uribeetxebarria at Neiker Tecnalia and M.C. Pineda at Neurovision Medical Products Inc. (USA). In addition, I've contributed to the specific training in GIS & Remote Sensing, soil science and/or precision agriculture of more than 60 students, supervising their final degree projects, MSc or advanced thesis in agricultural and forestry engineering, and soil science. Finally, I frequently contribute to the formation of some high school students, supervising their research initiation projects.

Part C. RELEVANT MERITS

C.1. Publications

1. Martínez-Casasnovas, J.A., Sandonís-Pozo, L., Escolà, A., Arnó, J., Llorens, J., **2022**. Delineation of Management Zones in Hedgerow Almond Orchards Based on Vegetation Indices from UAV Images Validated by LiDAR-Derived Canopy Parameters. *Agronomy* 12(1), 102.
2. Jensen, R.R., Hardin, P.J., Galilea, E., Martínez-Casasnovas, J.A., Hopkins, A., **2021**. Sensing from Unmanned Aerial Vehicles. In R. Kerry and A. Escolà (Ed.), *Sensing Approaches for Precision Agriculture*, Springer Nature, Cham (Switzerland), pp 253 – 274. ISBN 978-3-030-78430-0.
3. Uribeetxebarria, A., Martínez-Casasnovas, J.A., Tisseyre, B., Guillaume, S., Escolà, A., Rosell-Polo, J.R., Arnó, J., **2019**. Assessing ranked set sampling and ancillary data to improve fruit load estimates in peach orchards. *Computers and Electronics in Agriculture* 164,104931.
4. Uribeetxebarria, A., Martínez-Casasnovas, J.A., Escolà, A., Rosell-Polo, J.R., Arnó, J., **2019**. Stratified sampling in fruit orchards using cluster-based ancillary information maps: a comparative analysis to improve yield and quality estimates. *Precision Agriculture* 20 (2), 179-192.
5. Uribeetxebarria, A., Daniele, E., Escolà, A., Arnó, J., Martínez-Casasnovas, J.A. **2018**. Spatial variability in orchards after land transformation: Consequences for precision agriculture practices. *Science of the Total Environment* 635, 343-352.
6. Uribeetxebarria, A., Arnó, J., Escolà, A., Martínez-Casasnovas, J.A. **2018**. Apparent electrical conductivity and multivariate analysis of soil properties to assess soil constraints in orchards affected by previous parcelling. *Geoderma* 319, 185-193.
7. Maresma, A., Lloveras, J., Martínez-Casasnovas, J.A. **2018**. Use of multispectral airborne images to improve in-season nitrogen management, predict grain yield and estimate economic return of maize in irrigated high yielding environments. *Remote Sensing* 10(4), 543.
8. Escolà, A., Martínez-Casasnovas, J.A., Rufat, J., Arnó, J., Arbonés, A., Sebé, F., Pascual, M., Gregorio, E., Rosell-Polo, J.R. **2017**. Mobile terrestrial laser scanner applications in precision fruticulture/horticulture and tools to extract information from canopy point clouds. *Precision Agriculture* 18(1), 111-132.
9. Martínez-Casasnovas, J.A., Ramos, M.C., Benites, G. **2016**. Soil and Water Assessment Tool Soil Loss Simulation at the Sub-Basin Scale in the Alt Penedès-Anoia Vineyard Region (NE Spain) in the 2000s. *Land Degradation and Development* 27(2), 160-170.
10. Ramos, M.C., Martínez-Casasnovas, J.A. **2014**. Soil water variability and its influence on transpirable soil water fraction with two grape varieties under different rainfall regimes. *Agriculture, Ecosystems and Environment* 185, 253-262.

C.2. Congresses

1. Martínez-Casasnovas et al., 2021. NDVI from satellite images to estimate LiDAR-derived geometric and structural parameters in super-intensive almond orchards. 13th European

Conference on Precision Agriculture - ECPA 21. Precision Agriculture'21, 567-572. Wageningen Academic Publishers, Amsterdam (The Netherlands). ISBN 9789086863631.
2. Martínez-Casasnovas et al., 2019. Sentinel-2 vegetation indices and apparent electrical conductivity to predict barley (*Hordeum vulgare* L.) yield. 12th European Conference on Precision Agriculture - ECPA 2019. Precision Agriculture '19, 307-313. Wageningen Academic Publishers, Amsterdam (The Netherlands). ISBN 9789086863372.
3. Martínez-Casasnovas, 2017. Precision Agriculture: what's behind the name? 15th New Ag International Conference & Exhibition. Key speaker, New AG International, Berlín (Germany).

C.3. Research projects

1. RTI2018-094222-B-I00. Precision agriculture technologies to optimize canopy management and sustainable crop protection in fruit orchards (PAgFRUIT). Spanish National R+D+I Plan, Ministerio de Ciencia e Innovación. 01/01/2019 – 31/12/2021 (extended to 30/09/2022). 217.000 €. PI1 José A. Martínez Casasnovas, PI2 Jaime Arnó Satorra.
2. COMRDI-16-1-0031-06. LISA - Low Input Sustainable Agriculture. RIS3CAT (Strategy for Smart Specialization of Catalonia), Community of Technologies for Agrofood Production (COTPA), GenCAT and UE (Feder Catalonia 2014-2020). Project leader: FEMAC-Cluster of Agricultural Production Means in Catalonia. PI UdL Jaime Arnó Satorra. 01/02/2018-31/01/2021. Total Budget 2,17 M€ (UdL 251.812 €, Grant UdL 87.177 €). Participation type: Researcher.
3. AGL2013-48297-C2-2-R. Photonic-based tools for a sustainable agronomic management and use of pesticides in tree crops in the framework of precision farming (AgVANCE). Spanish National R+D+I Plan, Ministerio de Economía y Competitividad. PI Joan R. Rosell Polo (UdL). 01/01/2014-31/12/2017. 121.000 €. Participation type: Researcher.
4. AGL2013-49062-C4-1-R. Sustainable agricultural practices aimed to reduce greenhouse gas emissions in Mediterranean regions. Spanish National R+D+I Plan, Ministerio de Economía y Competitividad. PI Carlos Cantero Martínez (UdL). 01/01/2014-31/12/2017. 193.600 €. Participation type: Researcher.
5. AGL2009-08353. Land-climate interaction impact on soil eroion and water quality at catchment scale in a NE Spain DO vineyard region. Spanish National Plan of Natural Resources and Agrofood Technologies, Ministerio de Ciencia e Innovación. PI M. Concepción Ramos Martín. 01/01/2010-30/09/2013. 90.750 €. Participation type: Researcher.
6. CENIT DEMÉTER. Wine and winemaking strategies and methods to face climate change. Application of new technologies to improve the efficiency of the resulting processes. National Strategic Consortiums in Technical Research (CENIT), Ministerio de Ciencia e Innovación. PI Mireia Torres (Miguel Torres SA). PI UdL José A. Martínez Casasnovas. 2008-2011. UdL Budget: 110.100,00.

C.4. Contracts, technological or transfer merits

1. Preparation and interpretation of prescriptive maps and interpretation of images related to precision agriculture. PI José A. Martínez-Casasnovas. Funding entity: Univ Zaragoza, 2020-2021, 3.000 €.
2. Joint study to enhance the digitalization of agriculture and agriculture in Catalonia. PI Alexandre Escolà (UdL). Funding entity: IRTA-Catalan Gov, 2020-2021. 6.000 €.
3. Characterization and analysis of the spatial variability of soil and crops in the Ventafarinas farm. PI José A. Martínez Casasnovas (UdL). 2016-2017. Funding entity: Ventafarinas SL. 12.500 €.

4. Parntnership agreement between Universitat de Lleida an New AG International for Precision Agriculture Editorial. PI Alexandre Escolà Agustí (UdL). Funding entity: New AG International. Budget: 2016-2017: 16.175 €, 2018: 12.900 €.

5. C.5. Other merits

1. 2021. Last invited conferences: *Agricultura de Precisión: nuevas aportaciones al sector Agroalimentario* (Agricultura 4.0: Sensórica, Robotización e Inteligencia Artificial. AINIA, Valencia). *¿Qué es la Agricultura de Precisión?* (La Sembradora de Ideas. Ayuntamiento de Monzón-Huesca). *Agricultura Digital y de Precisión en la próxima década* (Máster de Agricultura Digital e Innovación Agroalimentaria. Universidad de Sevilla). *Conductividad Eléctrica Aparente del Suelo en Agricultura de Precisión* (Biblioteca de Horticultura, Valencia). *Teledetección y Agricultura de Precisión* (Agricultura de Precisión y las imágenes. Cajamar - ADN Agro, Valencia).
2. 2018-2021. Member of the editorial board of the journal "Agriculture – MDPI" (http://www.mdpi.com/journal/agriculture/editors)
3. 2010 and 2011. Member of the Evaluation Committee of the R+D+i projects of the Agrifood Resources and Technologies Program, Agricultural and Forestry Area. Ministerio de Ciencia e Innovación.