

**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	Mercè		
Family name	Balcells		
e-mail		URL Web	
Open Researcher and Contributor ID (ORCID) (*)	0000-0001-7795-7423		

(\*) Mandatory

**A.1. Current position**

Position	Full professor - CU		
Initial date	14/09/2023		
Institution	University of Lleida		
Department/Center	Chemistry, Physics and Environmental and Soil Sciences		
Country	SPAIN	Teleph. number	
Key words	Food chemistry, Organic chemistry, Biomass valorization , Circular Bioeconomy		

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

Period	Position/Institution/Country/Interruption cause
23/10/2002-13/09/2023	CEU – University of Lleida - Spain
10/01/1996 - 22/10/2002	TEU – University of Lleida - Spain
01/01/1993 - 09/01/1996	TEU interino – University of Lleida - Spain
01/10/1992 - 31/12/1992	Associate profesor –TC – University of Lleida - Spain
01/10/1991 - 30/09/1992	Associate profesor- TC – UPC - Spain
01/10/1988 - 30/09/1991	Associate profesor- TP – UPC - Spain
08/10/1986 - 24/10/1988	Professor secondary - I.N.B. 'Terres de Ponent', Mollerussa

**A.3. Education**

PhD, Licensed, Graduate	University/Country	Year
Chemistry, PhD	Autònoma de Barcelona	1993
Chemistry, Degree	Autònoma de Barcelona	1984

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

I am a member of the board of the TECNIO Association in representation of the TECNIO groups from UdL and I have been the director of the DBA Centre from the University of Lleida since its creation in 2005.

I hold a Full Professor position at the University of Lleida in Organic Chemistry. I am ascribed to the Chemistry, Physics and Environmental and Soil Sciences Department where I teach different subjects, mainly related to Food Chemistry and Food Additives.

I started my university education in the field of theoretical chemistry (undergraduate thesis) and later I moved to applied organic chemistry (PhD). During this early period, I worked with several groups at ETSEA - UdL (Escuela Técnica Superior de Ingenieros Agrónomos – University of Lleida) in projects related to the analysis of mycotoxins in food and, later, with a multidisciplinary group dedicated to the control of agricultural pests. With this group I maintained the relationship for more than 15 years overseeing the synthesis of new molecules for their posterior evaluation as fruit pest control agents. As a result, different works and a doctoral thesis were tutored, and several articles were published.

Another field in which I have worked, and which currently constitutes my main area of expertise, is the use of chemical and enzymatic methods for the transformation of biomass into value-added products. Over several years our group has worked on the valorisation of fatty by-products (residues from oil production and from animal origin), protein by-products, food fibres and other by-products from the manufacture of fruit juices or forest biomass. Depending on the nature of each type of source, different recovery solutions have been studied which have materialized in several projects, publications, patents and the direction of works and doctoral theses. Lately I have also been working in LCA and circularity indexes through a coordinated project with two other universities (U Cantabria and UPF). Results from this project include some international papers and a PhD student soon to finish his work.

I am currently part of the consolidated group of Agricultural Biotechnology and Bioeconomics (2021 SGR 01501) of the University of Lleida that received funding in the last call (2021-2024).

In 2005, the DBA-UdL centre, which was admitted to ACCIO's Technological Innovation (IT) network (at that time CIDEM), began its journey, and has since maintained the corresponding accreditation that currently is as Public Technology Developer (DTP) within the TECNIO network. Since 2005 I have been the director of this centre and have been working intensely in technology transfer activities. Fruit of this are numerous contracts with companies in which various projects related to the areas of specialization of the centre have been developed, including the valorisation of agro-food by-products and forest biomass. Most of these contracts with companies correspond to projects for which the company has received funding from CDTI. In them, the participation of the DBA centre, and mine particularly as director, promoter and one of the project directors, has included the collaboration with the company in the scientific approach of the proposal, the preparation of corresponding scientific documents for the presentation of the application to the corresponding entity, the direction and / coordination and / economic justification of the project agreed with the company and its subsequent scientific-technical justification. Also, we have applied and developed some competitive projects along with different enterprises, mainly related to the valorisation of wastes but also others related to other aspects of sustainability.

Another aspect in which I have been intensely involved within the activities of the centre has been internationalization and promotional activities. On the one hand the active participation in platforms (SusChem both at European level and with SusChem Spain where I participate in the Advisory Council and I am co-coordinator of the chemical waste valorisation working group) or in associations such as the JTI of Bioindustries (BBI) or the Biomass platform (Bioplat) or attending conferences to present European projects or to search for partners (eg InfoDays, Brokerages, ..). On the other hand, and because of this activity, we have taken part in different European Interreg projects.

Currently I take part in a European Erasmus+ KA2 project related to the implementation and dissemination of rural labs to enhance the involvement of rural population in Circular Bioeconomy.

Since April 2021 I have been the director of the Fundació Universitat de Lleida. Some months later, and representing FUDL, I became a member of the Junta de Coordinadora Catalana de Fundacions.

## **Part C.- TEN RECENT CONTRIBUTIONS**

### **A.- Competitive projects**

1.- “Valorización de la lignocelulosa de madera mediante la preparación de probables compuestos comerciales. **Project ID:** TED2021-129487B-C32 **Financed by:** MCIN **Budget:** 202.860,00 **Period:** 2022- 2024 **IP:** Gemma Villorbina Noguera

2.- TANGO-Circular. Training a new generation of farmers and agricultural enterperneurs to implement the concept of Circular Economy in agriculture **Project ID:** ERASMUS LS - ERASMUS-EDU-2021-PI-ALL-INNO **Financed by:** EU **Budget:** 115.442,00 **Period:** 2022- 2025 **IP:** Lluís Martín Closas

3.- Estrategias relacionadas con la circularidad y la eficiencia de los recursos de sistemas alimentarios (KAIROS – BIOCIR) **Project ID:** PID2019-104925RB-C32 **Financed by:** MCIU **Budget:** 54.450,00 **Period:** 2020- 2023 **IP:** Mercè Balcells Fluvià

### **B.- Competitive Projects with enterprises**

4.- Síntesi d'adhesius mèdics a partir de residus de biomassa BIOMADH **Project ID:** ACE099/23/000034 **Financed by:** ACCIO **Budget:** 100.000,00 **Period:** 2024- 2025 **IP:** Mercè Balcells Fluvià

5.- Reducción del consumo energético y la emisión de CO2 en la elaboración de vino modificando las condiciones de fermentación OPTIFERMENT **Project ID:** ACE054/22/000005 **Financed by:** ACCIO **Budget:** 100.000,00 **Period:** 2022- 2025 **IP:** Mercè Balcells Fluvià

### **C.- Contracts with enterprises**

6.- Estudi d'alternatives de substitució de dissolvents tipus hidrocarbur per altres amb menor inflamabilitat

**Contract ID:** S23042 **Contractor:** Farmaban S.A. **Budget:** 7.850,00 **Period:** 2023- 2023 **IP:** Ramon Canela Garayoa

7.- Aplicació d'enzims comercials de tipus hidrolasa a l'aprofitament de residus de macroalgues **Contract ID:** S23041 **Contractor:** Biovert S.L. **Budget:** 7.850,00 **Period:** 2023- 2023 **IP:** Ramon Canela Garayoa

8.- Validation of the analytical method to determine the residual pesticide concentration in the body of agrochemical “containers” made of high-density polyethylene (HDPE). **Contract ID:** C23056 **Contractor:** Crop Life Europe. **Budget:** 155.246,52 **Period:** 2023- 2025 **IP:** Alexis Marsol Vall

## **D.- Publications**

**9.-** Tetteh H, Balcells M, Sazdovski I, Fullana-I-Palmer P, Margallo M, Aldaco R, Puig R. (2024)  
“Environmental comparison of food-packaging systems: The significance of shelf-life extension”  
*Cleaner Env Syst* <https://doi.org/10.1016/j.cesys.2024.100197>

**10.-** Bouhzam I., Cantero R, Balcells M, Margallo M, Aldaco R, Bala A, Fullana-I-Palmer P, Puig R. (2023)  
“Environmental and yield comparison of quick extraction methods for caffeine and chlorogenic acid from spent coffee grounds” *Foods* <https://doi.org/10.3390/foods12040779>