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| <b>FECHA:</b>                 | <b>17/01/2024</b>                                      |
| <b>NOMBRE Y APELLIDOS:</b>    | <b>ISABEL LARA AYALA</b>                               |
| <b>CUERPO:</b>                | <b>CATEDRÁTICOS DE UNIVERSIDAD (CU)</b>                |
| <b>UNIVERSIDAD O CENTRO:</b>  | <b>UNIVERSITAT DE LLEIDA (UdL)</b>                     |
| <b>RAMA DE CONOCIMIENTO:</b>  | <b>MADURACIÓN Y POSTCOSECHA DE FRUTOS Y HORTALIZAS</b> |
| <b>ÁREA DE CONOCIMIENTO:</b>  | <b>PRODUCCIÓN VEGETAL</b>                              |
| <b>SEXENIOS (RD 1086/89):</b> | <b>4 (1994-1999; 2000-2005; 2006-2011; 2012-2017)</b>  |

**ACTIVIDAD INVESTIGADORA, DE TRANSFERENCIA E INTERCAMBIO DE CONOCIMIENTO:**

Open Researcher and Contributor ID (ORCID): 0000-0002-5169-7333  
Researcher ID (WoS): C-2753-2009

**A. CV SUMMARY**

Research career started in 1990 under the supervision of Dr. Miquel Vendrell, initially as a trainee at CID-CSIC (Barcelona), and later on as a PhD student within the Postharvest Department at the UdL-IRTA center (Lleida). Holds an academic position at the Universitat de Lleida (UdL) since 1996. A member of the **consolidated research group "Postharvest Unit"** (2017 SGR 1108, Generalitat de Catalunya), and a member of the "Postharvest Biology and Technology" group (AGROTÈCNIO center, UdL).

Long-term (30 years) experience in postharvest research. **Research activities** have focused on different biochemical, physiological and molecular aspects of maturation, ripening, postharvest biology and storage potential of climacteric and non-climacteric fruits. Current research interests include the role of fruit cuticle in modulating postharvest quality, storage potential and response to environmental conditions, as well as the biochemical mechanisms underlying fruit softening and quality during ripening and postharvest life. Awarded 4 six-year research stretches (last: 2012-2017) by CNEAI (Ministerio de Educación, Cultura y Deporte, Spain) as a recognition of sustained research activity over the years.

This work has been funded by competitive national and international research grants, in which I participated first as a PhD candidate, then as an investigator and, over the last 16 years, as the team leader. These activities have resulted in **69 articles published in SCI journals**, for 47 of which I have been first author and/or corresponding author. Additionally, I have authored or coauthored 2 book chapters, 40 papers in other scientific and technical journals and 92 contributions to symposia.

The **quality and international relevance** of my published work can be validated by the consideration of several indicators, namely:

- Ranked within the 2%-top cited scientists in the world (2020, 2021) (“Updated science-wide author databases of standardized citation indicators”, DOI: 10.17632/btchxktzyw)
- Total publications in the first quartile (Q1): 53 (77.9 % of total articles)
- Total citations: 2770 (WoS); 2673 (Scopus)
- Average citation/year during the last 5 years: 260.8 (WoS); 264 (Scopus)
- h Index: 29 (WoS); 29 (Scopus)

Supervisor to 5 PhD theses and around 30 research projects by undergraduate and postgraduate students. Three out of my former PhD students are currently working in research at public institutions, while two hold a position in private companies.

In the course of our last research projects, we have actively sought and established **collaborations with national and international institutions**, some of which have given rise to joint publications. National institutions we have published with over the last 10 years include IRTA and the Universidad de Málaga, while international institutions encompass the University of Nottingham (United Kingdom), Birzeit University (Palestine), Kompetenzzentrum Obstbau-Bodensee (KOB) (Germany), Universität Freiburg (Germany), Universiteit Gent (Belgium), Instituto de Investigação Científica Tropical (IICT) (Portugal), Iğdır University (Turkey), Bihar Agricultural University (India), Würzburg Universität (Germany), Massey University (New Zealand) and Universidad de Talca (Chile).

A regular **reviewer for manuscripts** submitted to SCI journals (129 verified reviews; <https://publons.com/researcher/2862161/isabel-lara/peer-review/>).

An **evaluator of research proposals** for national and international institutions, including:

- National: ANECA, AGAUR
- International: Israel Science Foundation, European Science Foundation, Binational Agricultural Research and Development Fund US-Israel, US-Israel Binational Science Foundation, Fondo para la Investigación Científica y Tecnológica (Argentina), Deutsche Forschungsgemeinschaft (Germany), Plant & Food Research (New Zealand), Comisión Nacional de Investigación Científica y Tecnológica (Chile), National Science Centre (Poland).

An **Editor or Guest Editor** for SCI journals:

- Section Editor-in-Chief: AGRICULTURE, section “Agricultural Product Quality and Safety”.
- Editorial Board member: JOURNAL OF CHEMISTRY, section “Agricultural Chemistry”.
- Editorial Board member: HORTICULTURAE, section “Postharvest Biology, Quality, Safety, and Technology”.
- Associate Editor: FRONTIERS IN PLANT SCIENCE, section “Crop and Product Physiology”.
- Guest Editor in MDPI journals (AGRICULTURE, PLANTS, HORTICULTURAE, INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES) (6 Special Issues).
- Guest Associate Editor in FRONTIERS IN PLANT SCIENCE (4 Research Topics).

An **evaluator of academic staff** for national institutions (CNEAI, Unibasq, ACADEMIA).

**Institutional responsibilities:**

- Coordinator of the UdL Doctorate Programme on “Agricultural, Forest and Food Systems” (Quality Mention ref. MCD 2003-00641) (2005-2010).
- Deputy Head of Studies at the ETSEA (2010-2012).

**B. PUBLICATIONS (2012-2023): 29 articles in JCR journals, 12 articles in Acta Horticulturae, 2 articles in peer-reviewed non-SCI journals, 2 book chapters, 4 technical articles, 10 other (symposium proceedings, etc).****Selected 10 relevant recent contributions (CA, corresponding author):**

- Moggia C, **Lara I**, Graell J, Schmeda-Hirschmann G, Thomas-Valdés S, Lobos GA (CA). **2022**. Are fruit surface differences in two blueberry cultivars major drivers of contrasting postharvest dynamics? Horticulturae 8:607. DOI: 10.3390/horticulturae8070607
- Diarte C, Iglesias A, Romero A, Casero T, Ninot A, Gatus F, Graell J, **Lara I** (CA). **2021**. Ripening-related cell wall modifications in olive (*Olea europaea* L.) fruit: A survey of nine genotypes. Food Chem. 338:127754. DOI: 10.1016/j.foodchem.2020.127754
- Diarte C, Lai PH, Huang H, Romero A, Casero T, Gatus F, Graell J, Medina V, East A, Riederer M, **Lara I** (CA). **2019**. Insights into olive fruit surface functions: A comparison of cuticular composition, water permeability, and surface topography in nine cultivars during maturation. Front. Plant Sci. 10:1484. DOI: 10.3389/fpls.2019.01484
- **Lara I**, Heredia A (CA), Domínguez E. **2019**. Shelf life potential and the fruit cuticle: The unexpected player. Front. Plant Sci. 10:770 DOI: 10.3389/fpls.2019.00770
- Belge B, Goulao LF, Comabella E, Graell J, **Lara I** (CA). **2019**. Postharvest heat and CO<sub>2</sub> shocks induce changes in cuticle composition and cuticle-related gene expression in ‘October Sun’ peach fruit. Postharvest Biol. Technol. 148:200-207. DOI: 10.1016/j.postharvbio.2018.11.005
- Belge B, Goulao LF, Comabella E, Graell J, **Lara I** (CA). **2017**. Refrigerated storage and calcium dips in ripe ‘Celeste’ sweet cherry fruit: Combined effects on cell wall metabolism. Sci. Hortic. 219:182-190. DOI: 10.1016/j.scienta.2017.02.039
- **Lara I** (CA), Belge B, Goulao LF. **2015**. A focus on the biosynthesis and composition of cuticle in fruits. J. Agric. Food Chem. 63:4005-4019. DOI: 10.1021/acs.jafc.5b00013
- Belge B, Llovera M, Comabella E, Graell J, **Lara I** (CA). **2014**. Fruit cuticle composition of a melting- and a non-melting peach cultivar. J. Agric. Food Chem. 62:3488-3495. DOI: 10.1021/jf5003528
- **Lara I** (CA), Belge B, Goulao LF. **2014**. The fruit cuticle as a modulator of postharvest quality. Postharvest Biol. Technol. 87:103-112. DOI: 10.1016/j.postharvbio.2013.08.012
- Ortiz A, Graell J, **Lara I** (CA). **2011**. Preharvest calcium applications inhibit some cell wall-modifying enzyme activities and delay cell wall disassembly at commercial harvest of ‘Fuji Kiku-8’ apples. Postharvest Biol. Technol. 62:161-167. DOI: 10.1016/j.postharvbio.2011.04.014

**C. RECENT RESEARCH PROJECTS:**

- **Ref. PID2022-137034OB-I00 (MICINN)**. “Nuevas observaciones sobre una plaga persistente de la vid: Influencia de la química de la planta huésped en el comportamiento y la fisiología de *Lobesia botrana*” (“New insights into a lifelong

grapevine pest: influence of host-plant chemistry on Lobesia botrana behaviour and physiology"). **2023-2026.**

PI: Dr. César Gemenó Marín (UdL, Lleida) / Dr. **Isabel Lara Ayala** (UdL, Lleida).

Funding: 165,000 €

Participation: Team leader

- **Ref. AGL2015-64235-R (MINECO-FEDER).** "Estudios sobre la cutícula y paredes celulares del fruto de oliva: Composición, cambios durante la maduración, e influencia de factores agronómicos" ("Studies on the cuticle and cell walls of olive fruits: Composition, ripening-related changes, and the influence of agronomic factors"). **2016-2019.**

PI: **Dr. Isabel Lara Ayala** (UdL, Lleida).

Funding: 96,800 €

Participation: Team leader

- **Ref. AGL2010-14801/ALI (MICINN).** "Estudio de factores relacionados con el ablandamiento de frutos de hueso (cereza y melocotón). Relevancia para el potencial de conservación y la calidad nutricional" ("Study of factors related to stone fruit softening (sweet cherry and peach). Relevance for storage potential and nutritional quality"). **2011-2014.**

PI: **Dr. Isabel Lara Ayala** (UdL, Lleida).

Funding: 106,480 €

Participation: Team leader

- **Ref. Food CT-2006 016279 (EU; QLMR Program).** "Increasing fruit consumption through a trans-disciplinary approach delivering high quality produce from environmentally friendly, sustainable production methods (ISAFRUIT). Work Package 4.2: Chain management in consumer driven fruit chains". **2006-2010.**

PI: Dr. Ole Callesen (Danish Institute of Agricultural Sciences, Årsløv, Dinamarca)

Funding: 109,500 € (UdL; Work Package 4.2).

Participation: Investigator (UdL contact person in WP 4.2).

#### **D. CONTRACTS, TECHNOLOGICAL OR TRANSFER MERITS:**

- **Consolidated research group "Post-Collita" ("Postharvest")** (AGAUR, Generalitat de Catalunya). First awarded in **1997**, renewed in 2000, 2001, 2005, 2009, 2014, 2017 and 2023 (Ref. # 2000SGR00218, 2001SGR00303, 2005SGR00630, 2009SGR1088, 2014SGR757, 2017SGR1108 and 2021SGR01477, respectively).

PI: Dr. Neus Teixidó Espasa (Fruitcentre-IRTA, Lleida).

Funding: 247,600 € (period **2010-2024**).

Participation: Investigator

- **Research contract "Evaluación de la actividad de diferentes principios activos como liberadores de etileno y su repercusión fisiológica en frutos"** ("Evaluation of a range of chemicals: ethylene-releaser activity and physiological impact in fruits"). (UdL code # C13053). **2013-2015.**

Company: Just Global Communication & International Marketing, S.L.

PI: **Dr. Isabel Lara Ayala** (UdL, Lleida).

Budget: 15,000 €.

Participation: Team leader

- **Research contract “Ensayo de aplicación en campo de recubrimiento comestible en manzanas”** (“Assay for the on-tree application of an edible coating on apples”). (UdL code # C23030). **2023-2024**.  
Company: CULTIVA LLC.  
PI: Dr. **Isabel Lara Ayala** (UdL, Lleida).  
Budget: 25,553 €.  
Participation: Team leader

#### ACTIVIDAD DOCENTE:

Asignaturas impartidas (teoría):

- “QUÍMICA ORGÀNICA I BIOQUÍMICA” (1º curso; Grau en Enginyeria Agrària i Alimentària)
- “BIOQUÍMICA” (1º curso; Grau en Veterinària i Grau en Ciència i Producció Animal)
- “PROTEÒMICA I ENGINYERIA DE PROTEÏNES” (3º curso; Grau en Biotecnologia)
- “BIOTECNOLOGIA AGROALIMENTÀRIA” (4º curso; Grau en Ciència i Tecnologia d'Aliments)

Tramos de actividad docente reconocidos (5)

Períodos: **1992-1998; 1998-2004; 2004-2009; 2009-2014; 2014-2019**

#### ACTIVIDADES DE LIDERAZGO (PARA CU):

Investigador principal en proyectos de investigación y convenios a lo largo de los últimos 18 años.

#### OTROS MÉRITOS:

Programa de Promoción de la Investigación – Modalidad Sénior

Organismo: Universitat de Lleida (UdL)

Período: **2018-2020**