

Part A. PERSONAL INFORMATION		CV date	October 20 th , 2020
First and Family name	ISABEL LARA AYALA		
Social Security, Passport, ID number	Age		
Researcher codes	Open Researcher and Contributor ID (ORCID)	0000-0002-5169-7333	
	SCOPUS Author ID	6603588949	
	WoS Researcher ID	C-2753-2009	

A.1. Current position

Name of University/Institution	Universitat de Lleida (UdL)		
Department	Chemistry Department, School of Agrifood and Forestry Science and Engineering (ETSEA)		
Address and Country			
Phone number	E-mail		
Current position	Full Professor	From	Dec 14, 2017
Key words	Aroma volatile compounds; Cell wall; Controlled and modified atmospheres; Cuticle; Hormone interactions in fruit ripening; Physicochemical and sensory quality of fruit; Post-harvest physiology and biochemistry; Post-harvest treatments; Storage technology.		

A.2. Education

Degree	University	Year
BSc. Biology	Universitat Autònoma de Barcelona (UAB)	1989
MSc. Plant Physiology	Universitat Autònoma de Barcelona (UAB)	1991
MSc. Biotechnology	Universitat Autònoma de Barcelona (UAB)	1995
PhD. Plant Physiology	Universitat Autònoma de Barcelona (UAB) Title: "Role for abscisic acid in ethylene biosynthesis during maturation, ripening and post-harvest periods of 'Granny Smith' apples"	1999

A.3. JCR articles, h Index, thesis supervised...

- **JCR-indexed articles:** 62
- **Recognised 6-year research stretches:** 4 (last: 2012-2017)
- **PhD theses supervised (2010 to date):** 4
- **Total citations:** 1815 (WoS); 1714 (Scopus)
- **Average citation/year during the last 5 years:** 174.4 (WoS); 173.8 (Scopus)
- **Total publications in first quartile (Q1):** 43 (69.4 % of total articles)
- **h Index:** 23 (WoS); 23 (Scopus)

Part B. CV SUMMARY (max. 3500 characters, including spaces)

- Research career initiated as a trainee at the **CID-CSIC** in Barcelona. PhD thesis developed within the Postharvest Department at the **UdL-IRTA** center in Lleida, supervised by Dr. Miquel Vendrell Melich.
- Academic position at the **Universitat de Lleida (UdL)** since 1996, as a part-time lecturer (1996-99), full-time lecturer (1999-2002), tenured lecturer (2002-2008), associate professor (2008-2017) and full professor (2017-present). Member of the **Postharvest Unit** (2017 SGR 1108), a consolidated research group (Generalitat de Catalunya, Spain). Member of the Postharvest Biology and Technology group at the **AGROTÈCNIO center** (UdL).



- Research activity focused on different biochemical, physiological and molecular aspects of **maturation, ripening, postharvest biology and storage potential** of climacteric and non-climacteric fruits, funded by competitive research projects awarded by national and international institutions. Current research interests include the role of **fruit cuticle** in modulating postharvest quality, storage potential and the response to environmental conditions, as well as the biochemical mechanisms underlying **fruit softening** and nutritional quality during fruit ripening and postharvest shelf life.
- Long-term (over 25 years) experience in postharvest research. Publication of **62 articles in SCI journals**, in addition to numerous papers in other scientific and technical journals and **90 contributions to national and international symposia**.
- Supervised 5 **PhD theses**, as well as several **research projects** by undergraduate and postgraduate students.
- Regular **reviewer** for manuscripts submitted to SCI journals.
- **Evaluator of research proposals** for national and international institutions.
- Institutional responsibilities as **Coordinator of the UdL Doctorate Programme** on “Agricultural, Forest and Food Systems” (Quality Mention ref. MCD 2003-00641) (**2005-2010**), and as the **Deputy Head of Studies** at the **ETSEA (2010-2012)**.

Part C. RELEVANT MERITS

C.1. Publications (2010-2020): 36 articles in JCR journals, 22 articles in peer-reviewed non-SCI journals, 2 book chapters, 4 technical articles, 10 other (symposium proceedings, etc). (CA, corresponding author).

Selected 10 relevant recent contributions:

- 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 CO₂ 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
- **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
- Ortiz A, Graell J, **Lara I (CA)**. **2011**. Preharvest calcium sprays improve volatile emission at commercial harvest of ‘Fuji Kiku-8’ apples. J. Agric. Food Chem. 59:335-341. DOI: 10.1021/jf1035959
- Ortiz A, Seymour G, Tucker G, **Lara I (CA)**. **2010**. Cell wall disassembly during the melting phase of softening in ‘Snow Queen’ nectarines. Postharvest Biol. Technol. 58:88-92. DOI: 10.1016/j.postharvbio.2010.05.013



C.2. Research projects and grants (2010-2020):

- **Ref. A GL2015-64235-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, Årslev, Dinamarca)
Funding: 109,500 € (Work Package 4.2).
Participation: Investigator (UdL contact person in WP 4.2).

C.3. Contracts (2010-2020):

- Consolidated research group “**Unitat de Post-Collita**” (“**Postharvest Unit**”) (**DURSI, Generalitat de Catalunya**). **Awarded 1997**, renewed in 2000, 2001, 2005, 2009, 2014 and 2017 (**Ref. # 2000SGR00218, 2001SGR00303, 2005SGR00630, 2009SGR1088, 2014SGR757 and 2017SGR1108**, respectively). **2017-2019** (current period).
PI: Dr. Inmaculada Viñas Almenar (UdL, Lleida).
Funding: 167,600 € (total funding during period 2010-2019).
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.

C.4. Organization of R+D activities (2010-2020):

- **9th INTERNATIONAL POSTHARVEST SYMPOSIUM.**
Participation: Editorial Committee member
Place, date: Rotorua (New Zealand), November 9-13, 2020. POSTPONED
- **1st INTERNATIONAL APPLE SYMPOSIUM.**
Participation: Scientific Committee member
Place, date: Yangling, Shaanxi (China), October 10-16, 2016
- **POSTCOSECHA LLEIDA 2012. X Simposio Nacional y VII Ibérico sobre Maduración y Post-cosecha.**
Participation: Organising Committee member
Place, date: Lleida (Spain), October 1-4, 2012



C.5. Institutional responsibilities (2010-2020):

- **Deputy Head of Studies** at the Higher and Technical School of Agricultural Engineering (ETSEA), UdL. **2010-2012**.
- **Coordinator of the UdL Doctorate Programme on "Agricultural, Forest and Food Systems"** (UdL). Quality Mention awarded by MEC (Spain), Ref. # MCD 2003-00641. **2005-2010**.

C.6. Evaluating and editor activities:

- **Reviewer for SCI journals** (J. Sci. Food Agric., HortScience, Food Sci. Technol. Int., J. Food Comp. Anal., J. Agric. Food Chem., J Plant Gr. Reg., J. Plant Physiol., Postharvest Biol. Technol., Planta, Plant Cell Rep., J. Food Biochem., Food Res. Int., J. Food Sci., Eur. Food Res. Technol., Flavour Frag. J., Interciencia, Afr. J. Biotechnol., Mol. Breed., Fruits, Food Chem., Eur. J. Hort. Sci., Phytochemistry, J. Am. Soc. Hort. Sci., Tree Physiol., J. Exp. Bot.).
- **Reviewer for non-SCI, peer-reviewed journals** (Acta Horticulturae, Folia Horticulturae, Walailak Journal of Science and Technology, Journal of Genetic Engineering and Biotechnology).
- **Evaluator of research proposals** for national (ANECA, AGAUR) and 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 de Argentina, Deutsche Forschungsgemeinschaft, Plant & Food Research, Comisión Nacional de Investigación Científica y Tecnológica de Chile) agencies.
- **Editorial Board member: JOURNAL OF CHEMISTRY** (J. Chem.), section "Agricultural Chemistry" (ISSN: 2090-9071; DOI: 10.1155/2962).
- **Section Editor-in-Chief: AGRICULTURE** (Agriculture), section "Agricultural Product Quality and Safety" (ISSN 2077-0472; DOI: 10.3390/agriculture).
- Guest Editor for Special Issue: "**Postharvest Physiology and Technology of Fruits and Vegetables**" (Lara I, ed.). **AGRICULTURE** (ISSN: 2077-0472).
https://www.mdpi.com/journal/agriculture/special_issues/Postharvest_Fruits_Vegetables
- Guest Associate Editor for Research Topic: "**Physiological, Molecular and Genetic Perspectives of Chilling Tolerance in Horticultural Crops**" (Cao S, Drincovich MF, Lara I, Beckles DM, eds.). **FRONTIERS IN PLANT SCIENCE** (Front. Plant Sci.) (ISSN: 1664-462X; DOI: 10.3389/fpls).
<https://www.frontiersin.org/research-topics/10685/physiological-molecular-and-genetic-perspectives-of-chilling-tolerance-in-horticultural-crops>
- Guest Associate Editor for Research Topic: "**Fruit Responses to Biotic and Abiotic Stressors during Postharvest**" (Bustamante CA, Lara I, Villarreal NM, eds.). **FRONTIERS IN PLANT SCIENCE** (Front. Plant Sci.) (ISSN: 1664-462X; DOI: 10.3389/fpls).
<https://www.frontiersin.org/research-topics/16096/fruit-responses-to-biotic-and-abiotic-stressors-during-postharvest>
- Guest Editor for Special Issue: "**Effects of Water Stress on the Biosynthesis and Accumulation of Secondary Metabolites in Fruit**" (Zarrouk O, Pinheiro C, Lara I, Brunetti C, eds.). **PLANTS** (ISSN: 2223-7747).
https://www.mdpi.com/journal/plants/special_issues/Water_Fruit

C.7. Membership of scientific societies:

- International Society for Horticultural Science (**ISHS**) (member # 39836).
- Spanish Society for Plant Physiology (**SEFV**) (member # 799).