



Part A. PERSONAL INFORMATION

CV date

6/26/2025

First name	M Rosario		
Family name	Linacero		
Gender (*)		Birth date	
ID number			
e-mail		URL Web www.ucm.es	
Open Researcher and Contributor ID (ORCID) (*)		0000-0002-9773-8444	

(*) Mandatory

A.1. Current position

Position	Full Professor		
Initial date	13/11/2019		
Institution	Universidad Complutense de Madrid		
Department/Center	Genetics, Phisiology and Microbiology	Fac Biological Sciences	
Country	Spain	Teleph.	+343944842
Key words			

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

Period	Position/Institution/Country/Interruption cause
2018-2022	Head of Genetics, Phisiology and Microbiology Department
2013-2018	Head of Genetics Department
2005-2013	Academic Secretary Genetics Department
2002-2019	Titular professor
1992-2002	Associate profesor
1990-1991	Postdoctoral Fellow MEC/ Belgium
1988-1992	Assistant lecturer
1984-1987	Predoctoral

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
PhD	Complutense University, Madrid/Spain	1989
Master	Complutense University, Madrid/Spain	1983
Licenced	Complutense University, Madrid/Spain	1982

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

PhD in Biological Sciences from the Complutense University of Madrid since June 1989.

Her research activity began at the Department of Genetics of the Complutense University of Madrid in the Area of Plant Biotechnology, under the direction of Dr. Ana M^a Vázquez. During this training period she received a grant from the Plan de Formación de Personal Investigador (FPI) of the Ministry of Education and Science, for the completion of her doctoral thesis (1984-1987). The Doctoral Thesis was focused on the in vitro culture of plant tissues and the genetic analysis of rye regenerated plants, obtaining the extraordinary prize of Doctorate.

After finishing the Doctoral Thesis, she obtained a Research Staff Training Grant abroad for a postdoctoral stay at the Instituut Voor Biologie Moleculaire of the Université Libre de Bruxelles, project: Analysis of transcriptional and translational gene fusions in Arabidopsis thaliana. The objective of this stay was to learn Molecular Biology techniques. He joined again the Department of Genetics of the UCM as Assistant Professor of Faculty. In 2002 she obtained a position as Associate Professor (professor titular de universidad) in the Department of Genetics, where she is still working as Full Professor (Catedrático de Universidad) since 2019.

The main lines of research in which she has developed her research work have been in the area of Plant Biotechnology and have focused on:

- The study of the genetic basis of in vitro response and analysis of genetic and epigenetic changes produced during in vitro culture.
- Detection and characterization of hypervariable sequences in regenerated plants. The characterization of these sequences has allowed us to establish the involvement of mobile elements in the origin of somaclonal variation.
- Determination of food allergens and hidden ingredients in nuts. Development of systems based either on real-time PCR (RT-PCR) or the development of genosensors for the detection and quantification of nuts in processed foods. In collaboration with Dr. Cuadrado's group at INIA and Dr. Pingarrón's group at UCM.
- Forest resources and climate change. Study of the effect caused by climate change on threatened forest populations in order to understand the possible long-term effects on biodiversity, in collaboration with the group of Prof. Juan Carlos Linares (UPO).

Her research activities have resulted in more than 50 published 42 in indexed journals; 65% in Q1; index h 18 (Scopus); citations: 1785 (Scopus), occupying a privileged position of authorship in most of them (1st, corresponding, last author, 71%). She has presented 90 communications in scientific congresses and has participated in 23 research projects (national and international) and in 4 acting as coordinator (IP). She has recognized five periods of research activity (sexenios) until 2020.

She has scientific collaborations with national and international groups as: Drs JM Pingarrón and S. Campuzano (Analytical Chemistry Dept, UCM, Madrid), Dr K Allaf (U La Rochelle, France), Allergies Service from: Drs JF Crespo and B Cabanillas (HU 12 Octubre, Madrid), HU La Princesa, Madrid; HU de Cruces, Barakaldo; Fundación J Díaz, Madrid; HU La Paz, Madrid; HU Guadalajara.

Teaching activity carried out: Subjects in different undergraduate and graduate degrees in Biological Sciences, 1976 plan and 1992/2000 plan, degree in Biochemistry, and postgraduate courses. PhD in Genetics and Cell Biology (interuniversity programme with the Autonomous University of Madrid and the University of Alcalá de Henares) with INNODOC mention and MEC Quality Mention, Master in Genetics and Cell Biology, M Conservation Biology, M Evolutionary Biology, M Industrial and Environmental Biotechnology, M Health Biology and M Virology. She is an active member of various educational innovation projects.

She has held different academic positions, first as Director and Academic Secretary in the Department of Genetics at UCM and, since 2017, as Secretary and Director of the Department of Genetics, Physiology and Microbiology at UCM.

Training capacity: One of her objectives as a university lecturer is the training of undergraduate and postgraduate staff, which includes collaboration fellows, TFGs and TFMs, and pre- and post-doctoral fellows. She has directed four doctoral theses and 20 master or final degree projects, as well as numerous technicians. So as tutor of numerous technicians in their internships in workplaces.

The generation of results allows their transfer not only to other research groups but also to society in general through the dissemination of scientific knowledge. She has actively participated in 5 editions of the science week by proposing and teaching different practical workshops for secondary school *students*. *She has also been director and professor of course "Biotechnology in the Agrifood Company"* in two editions of the Complutense Summer School (2014 and 2017).

Editor and Reviewer of scientific journals (Trends, Foods Chemistry, Plants, Foods, Allergie, Biosensors, etc).

Part C. RELEVANT MERITS *selected publications in the last 10 years*

C.1. Publications

1. R. Hernández Maqueda, I. Ballesteros, A.J. Aguirre, D. Meca, R. **Linacero**, F. del Moral. (2025) Influence of green manuring on soil properties, abundance and expression of key denitrification genes in a greenhouse Anthrosol, *Applied Soil Ecology*, Vol 212 <https://doi.org/10.1016/j.apsoil.2025.106216>.
2. Maria Gamella, María Isabel Ballesteros, Víctor Ruiz-Valdepeñas Montiel, Africa Sanchiz, Carmen Cuadrado, José M. Pingarrón, **Rosario Linacero**, Susana Campuzano (2024) Disposable amperometric biotool for peanut detection in processed foods by targeting a chloroplast DNA marker, *Talanta*, Vol 277, <https://doi.org/10.1016/j.talanta.2024.126350>
3. R. Hernández Maqueda, I. Ballesteros, D. Meca, **R. Linacero**, F. del Moral (2024) Ecological intensification strategies increase abundance of denitrifying functional genes in a greenhouse agricultural soil, *Applied Soil Ecology*, Vol 199, <https://doi.org/10.1016/j.apsoil.2024.105415>.
4. Carmen Cuadrado, Claudia Arribas, Africa Sanchiz, Mercedes M. Pedrosa, Pedro Gamboa, Diana Betancor, Carlos Blanco, Beatriz Cabanillas, **Rosario Linacero**. (2024) Effects of enzymatic hydrolysis combined with pressured heating on tree nut allergenicity, *Food Chemistry*, <https://doi.org/10.1016/j.foodchem.2024.139433>.R.
5. Hernández Maqueda, I. Ballesteros, D. Meca, **R. Linacero**, F. del Moral. (2024) Ecological intensification strategies increase abundance of denitrifying functional genes in a greenhouse agricultural soil, *Applied Soil Ecology*, Volume 199, <https://doi.org/10.1016/j.apsoil.2024.105415>.
6. Hernández Maqueda, R., Ballesteros, I., Meca, D, **Linacero R.**, del Moral F. (2024). Insights into the abundance, expression and diversity of key denitrification genes in an ecologically managed greenhouse agricultural soil. *Appl Biol Chem* **67**, 43 (2024). <https://doi.org/10.1186/s13765-024-00901-x>
7. Carmen Cuadrado, Africa Sanchiz, Claudia Arribas, Mercedes M. Pedrosa, Pedro Gamboa, Diana Betancor, Carlos Blanco, Beatriz Cabanillas, **Rosario Linacero** (2023) Mitigation of peanut allergenic reactivity by combined processing: Pressured heating and enzymatic hydrolysis. **Innovative Food Science & Emerging Technologies**, 86, 103383, <https://doi.org/10.1016/j.ifset.2023.103383>.
8. **Linacero, R.**, Cuadrado, C. (2022). New research in food allergen detection. *Foods*, 11(10), 1520. doi:<https://doi.org/10.3390/foods11101520>.
9. Sanchiz Á, Sánchez-Enciso M P, Cuadrado C, **Linacero R** . 2021. Detection of peanut allergen by real-time PCR: looking for the suitable detection marker as affected by processing. **Foods** 10, 1421, DOI: 10.3390/foods10061421
10. Sanchiz, Africa; Cuadrado, Carmen; Haddad, Joseph; **Linacero, Rosario**. Effect of Instant Controlled Pressure Drop (DIC) Treatment on the Detection of Nut Allergens by Real Time PCR (2020) **Foods** 9 DOI:10.3390/foods9060729.
11. **Linacero R** (AC), Sanchiz A, Ballesteros I, Cuadrado C. 2020. Application of Real Time PCR for tree nut allergen detection in processed foods. **Critical Reviews in Food Science and Nutrition** 60, 1077-1093. DOI: 10.1080/10408398.2018.1557103
12. Sanchiz A, Ballesteros I, Lopez-Garcia A, Ramírez A, Rueda J, Cuadrado C, **Linacero R**. 2020. Chestnut allergen detection in complex food products: development and validation of a real-time PCR method. **LWT-Food Science and Technology**. 123, DOI:10.1016/j.lwt.2020.109067
13. Sanchiz A, Pedrosa MM, Guillaumon E, Arribas C, Cabellos B, **Linacero R**, Cuadrado C. 2019. Influence of boiling and autoclave processing on the phenolic content, antioxidant activity and functional properties of pistachio, cashew and chestnut flours. **LWT-Food Science and Technology** 105, 250-256.
14. Sanchiz A, Ballesteros I, Marqués E, Dieguez MC, Rueda J, Cuadrado C, **Linacero R**. 2018. Evaluation of locked nucleic acid and TaqMan probes for specific detection of cashew nut in

- processed food by real time PCR. **Food Control** 89, 227-234. IF: 4.248; Nº 11/135 D1 FST (JCR/2018). Cites: 11.
15. Ruiz-Valdepeñas Montiel Víctor; Gutiérrez, M. Luisa; Torrente-Rodríguez, Rebeca M.; Povedano, Eloy; Reviejo, A. Julio; **Linacero**, Rosario; Gallego, Francisco J.; Campuzano, Susana; Pingarron, Jose. (2017) Disposable amperometric PCR-free biosensor for rapid detection of adulteration with horsemeat in raw lysates targeting mitochondrial DNA. DOI: 10.1021/acs.analchem.7b02412. **Analytical Chemistry** 89, 9474–9482. IF: 6.320 Nº 4/76 CA (JCR/2018). D1. Cites: 42
 16. Montiel, VR V., RM. Torrente-Rodríguez, GGD. Rivera, AJ. Reviejo, C. Cuadrado, **R. Linacero**, FJ. Gallego, S. Campuzano and JM. Pingarrón (2017). Amperometric determination of hazelnut traces by means of Express PCR coupled to magnetic beads assembled on disposable DNA sensing scaffolds. **Sensors and Actuators, B: Chemical** 245: 895-902. (D1 Chemistry, Analytical - 7/87 - IF 5.667). Cites: 18.
 17. Sanchiz A, Ballesteros I, Martín A, ..., Cuadrado C, **Linacero R**. 2017. Detection of pistachio allergen coding sequences in food products: a comparison of two real time approaches. **Food Control** 75, 262-70. IF: 3.667 12/133 Q1 FST (JCR/2017) Cites: 12.
 18. **Linacero R**, Ballesteros I, Sanchiz A, ..., Cuadrado C. 2016. Detection by real time PCR of walnut allergen coding sequences in processed food. **Food Chemistry** 202, 334-40.

C.2. Research projects

1. Title: Desarrollo de biomarcadores para el control del riesgo alergénico de cacahuete, avellana y altramuza y obtención de alimentos hipoalergénicos. PID2021-122942OB-I00. Entidad financiadora MINECO. Investigador responsable **R Linacero**, INIA y UCM. Fecha de inicio-fin: 2022-2024. 135.520€.
2. Title: Biosensor development for allergen detection in processed foods (BIODETECTAL). Funding entity : PN I+D+I, Programa Estatal de Investigación, Desarrollo e Innovación Orientada a los Retos de la Sociedad. Ref: AGL2017-83082-R. **IP: C Cuadrado /R Linacero**. Institutions: INIA, UCM. (2018-21). 145.000€.
3. Title: Selective pressures of climate change on the ecophysiology and genetic structure of trees and soil microbial communities in forest ecotones. MINECO. National Plan. Ref. CGL2013-48843-C2-2-R. **IP: Juan Carlos Linares Calderón**. (2013- 2017) Institutions: UPO, UCM. 134.000€.
4. Title: Effect of technological processing combining temperature, pressure and enzymatic treatments on allergenic reactivity of nuts (cashew, pistachio and chesnut). Funding entity: PN I+D+I, Programa Proyectos de Investigación Fundamental No Orientada Ref: AGL2012-39863-C02-02/ALI. **IP: C Cuadrado**. Institutions: HUDO, INIA, UCM. (2013-17). 176.000 €.

C.3. Contracts, technological or transfer merits

Registered industrial property title: Method and kit for detecting and/or quantifying the presence of horse DNA in isolated samples. Inventors: F Javier Gallego; **Rosario Linacero**; Victor Ruiz-Valdepeñas; Susana Campuzano; José M Pingarrón. Entity holding the rights: Complutense University of Madrid. Application No.: p201700642