

CV

FELICIDAD RONDA

2023 May

Part A. PERSONAL INFORMATION

CV date 15/05/2023

First and Family name	Felicidad Ronda Balbás		
Social Security, Passport, ID number	09252535A		
Researcher numbers	Researcher ID WOS	D-7009-2016	
	ORCID code	0000-0001-7508-5537	
	SCOPUS:	6602530736	
https://scholar.google.com/citations?hl=es&user=VU5NGScAAAAJ			

A.1. Current position

Name of University/Institution	University of Valladolid		
Department	Department of Agriculture and Forestry Engineering, Food Technology, College of Agricultural and Forestry Engineering		
Address and Country	Av. Madrid, 44, 34004, Palencia, Spain		
Phone number	+34979108339	E-mail	fronda@iaf.uva.es
Current position	Full Professor	From	2016
Cód. UNESCO	330900 – Food Technology; 330907 – Cereal Products; 330920 – Food Properties 330904 – Breadmaking		
Keywords	Physical properties of foods, Food rheology, Food phase transitions, Glycaemic index, Gluten-free, Cereals, Pseudo-cereals, Flours, Doughs, Breads, Physical modification of grains and flours		

A.2. Education

PhD	University	Year
PhD in Chemical Engineering	University of Valladolid	1985
BSc in Chemistry	University of Valladolid	1982
Specialist in Environmental Technology	University of Valladolid	1993

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

- Research activity periods positively evaluated: **4** (last period evaluated 2016-2022)
- Teaching activity periods positively evaluated: **5** (last period evaluated 2017-2022)
- Rated Excellent in the evaluation of “Docentia” Programme (2 evaluations)
- PhD thesis supervised (last 10 years): **6** finished (4 with **International mention** and 3 with **PhD Extraordinary Award**), and 4 under way
- Supervision of **53** MSc thesis (last 10 years) and **9** Degree Final Projects (last 10 years)
- **Citations** (from Web of Science)
Total Articles in Publication List: **63**
Sum of the Times Cited: 1954
Average Citations per Article: 29
- **Number publications (2013-2023): 47**
- Chapters in scientific books (volumes): **7**
- Full papers in Conference Proceedings: **28**
- Presentation in Conferences: **135** (**100**, international).
- h index: **26** (WOS)

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

At current I am Full Professor of Food Technology at the University of Valladolid. My CV is strongly marked by my professional activity carried out during 15 years in an industrial R&D Laboratory. I graduated in Chemistry in 1982 at the University of Valladolid. Between 1982 and 1985 I

developed my PhD in the Dpt. of Chemical Engineering with a FPU scholarship. Thanks to my condition of doctor, I was assigned to the R&D Centre of Ebro Agrícolas (the main Spanish sugar company, with 11 factories at that time) where I was responsible for research projects to improve the existing industrial processes and for searching new alternative ones. I was also responsible for setting up analytical methods to be implemented in the factories of the company. I worked as a permanent staff chemist and the last four years as Laboratory Manager. Within the company I participated in national and international committees on behalf of the Company (Interministerial Commission for Food Regulation, European committee of sugar manufacturers for the revision of the Community Regulation 1256/69, and ICUMSA). Since November 1999 I have been working at the University of Valladolid in the Area of Food Technology in the E.T.S. de Ingenierías Agrarias, as Full Professor since 2016. I have been the Director of the Food Technology Area of UVa from 2005 to 2014 and I am the Director of the Master's degree of Food Quality, Development and Innovation, from the design and verification of the degree by ANECA (September 2009) to the present. Since joining the University of Valladolid I have participated in 16 research projects funded in public calls: two international, seven national and seven regional. I have been the Leading Researcher of eight of them, one European, three National and four Regional. I have also worked in numerous projects of knowledge transfer to Industry (27 business contracts). As a result, I have published: 88 scientific articles, of which 56 are indexed in the JCR; 170 communications to congresses, of which 95 are international and 7 books and book chapters. I have directed five doctoral theses already defended and another five in progress; 47 Degree Final Projects and 57 Master Thesis. My research is focused on food ingredients (mainly cereals and derivatives) from a physical, chemical, functional and nutritional point of view to identify their suitability for the development of new food products with higher added value, nutritionally improved, safer, with a longer shelf life and suitable for vulnerable populations or with special needs (in particular gluten-free products). I am expert in the measurements of physical properties, effects on phase transitions, rheological properties of doughs and gels, and their correlation with the physical-chemical and sensory quality of final products. Besides collaborating with other members of the UVa, I maintain an active and close collaboration with researchers from other institutions and countries: Prof Collar (IATA, CSIC, Spain), Prof Biliaderis and Dra. Lazaridou (Aristotle Univ. Thessaloniki, Greece) and with Prof. Roos (Univ. College Cork, Ireland). I have been recognized 3 research periods and 4 teaching periods. I have been qualified as "excellent" in the two evaluations of the *Docentia* programme. I am director of the ProcerealTech (<http://procerealtech.uva.es/>) research group, recognized as a Consolidated Research Unit by the Junta de Castilla y León at June 2017.

Part C. RELEVANT MERITS

C1. Teaching Activities at University of Valladolid

Since 1999 to present I am responsible for the subjects related to Unit Operations, Physical Properties of Foods, Sugar Industry Technology, Food Quality Management and Food Safety in the Degree of Agricultural and Food Industry Engineering, the Master of Agricultural Engineering and the Master of Food Quality, development and innovation.

C.2. Publications (including books) (10 last years)

1. Vicente, A., Villanueva, M., Caballero, P.A., Muñoz, J.M., **Ronda, F.** 2023. Microwave modification of quinoa grains at constant and varying water content modulates changes in structural and physico-chemical properties of the resulting flour. *Foods*, 12 (7), 1421. <https://doi.org/10.3390/foods12071421> Q1
2. Calix-Rivera, C.S., Villanueva, M., Náthia-Neves, G., **Ronda, F.** 2023. Changes on techno-functional, thermal, rheological, and microstructural properties of tef flours induced by microwave radiation – Development of new improved gluten-free ingredients. *Foods*, 12 (6), 1345. <https://doi.org/10.3390/foods12061345> Q1
3. Abebe, W., Náthia-Neves, G., Calix-Rivera, C.S., Villanueva, M., **Ronda, F.** 2023. Lipase inactivation kinetics of tef flour with microwave radiation and impact on the rheological properties of the gels made from treated flour. *Molecules*, 28, 2298. <https://doi.org/10.3390/molecules28052298> Q2
4. Vela A.J, Villanueva M; Ozturk O.K; Hamaker B; **Ronda F.** (2023) Modification of the microstructure of tef [*Eragrostis tef* (Zucc.) Trotter] flour ultrasonicated at different temperatures.

- Impact on its techno-functional and rheological properties. *Current Research in Food Science* 6 100456. <https://doi.org/10.1016/j.crfs.2023.100456>. Q1
5. Vela A.J, Villanueva M; Názia-Neves G.; **Ronda F.** (2023) Impact of Solubilized Substances on the Techno-Functional, Pasting and Rheological Properties of Ultrasound-Modified Rice, Tef, Corn and Quinoa Flours. *Foods* 2023, 12, 484. <https://doi.org/10.3390/foods12030484>. Q1
 6. Vela A.J, Villanueva M; Li C, Hamaker B; **Ronda F.** (2023) Ultrasound treatments of tef [*Eragrostis tef* (Zucc.) Trotter] flour rupture starch α -(1,4) bonds and fragment amylose with modification of gelatinization properties. *LWT-Food Science and Technology*.174, 114463 <https://doi.org/10.1016/j.lwt.2023.114463>. Q1
 7. Vicente, A.; Villanueva M; Caballero P.A; Muñoz, J.M.; **Ronda F.** (2023) Buckwheat grains treated with microwave radiation: Impact on the techno-functional, thermal, structural, and rheological properties of flour. *Food Hydrocolloids* 137, 108328 <https://doi.org/10.1016/j.foodhyd.2022.108328>
 8. Solaesa, A.G; Villanueva, M.; Vela, A.; **Ronda, F.** Impact of microwave radiation on in vitro starch digestibility, structural and thermal properties of rice flour. From dry to wet treatments. *International Journal of Biological Macromolecules*. 222: 1768-1777, 2022. <https://doi.org/10.1016/j.ijbiomac.2022.09.262>. Fuente de impacto: WOS Journal Impact Factor (JIF) Categoría: Science Citation Index Expanded Edition (SCIE)- Category: CHEMISTRY, APPLIED. Índice de impacto (datos 2021): 8.025, Revista dentro del 25%: Si (Q1). Posición de publicación: 8, Num. revistas en cat.: 72. Autor de correspondencia
 9. Wolde YT, Emire S.A., Abebe W, **Ronda F.** (2022) Physicochemical, Morphological, Thermal, and Rheological Properties of Native Starches Isolated from Four Cultivars of Anchote (*Coccinia abyssinica* (Lam.) Cogn.) Tuber. *Gels* 2022, 8, 591. Special issue: Novel Gels for Food Product Development. <https://doi.org/10.3390/gels8090591>. Fuente de impacto: WOS Journal Impact Factor (JIF) Categoría: Science Citation Index Expanded Edition (SCIE)- Category: POLYMER SCIENCE – SCIE Índice de impacto (datos 2020): 4.432, Revista dentro del 25%: Si (Q1) Posición de publicación: 22, Num. revistas en cat.: 90 Autor de correspondencia
 10. Villanueva M.; Abebe W.; Pérez-Quirce S. **Ronda F.** (2022) Impact of the Variety of Tef [*Eragrostis tef* (Zucc.) Trotter] on Physical, Sensorial and Nutritional Properties of Gluten-Free Breads. *Foods* 2022, 11, 1017. <https://doi.org/10.3390/foods11071017>. Fuente de impacto: WOS Journal Impact Factor (JIF) Categoría: Science Citation Index Expanded Edition (SCIE)- Category: FOOD SCIENCE & TECHNOLOGY Índice de impacto (datos 2020): 4.350, Revista dentro del 25%: Si(Q1). Posición de publicación: 37, Num. revistas en cat.: 143 Autor de correspondencia
 11. Gutiérrez A.L.; Martín-Diana A.B.; **Ronda F.**, Rico D., Caballero P.A. (2022) Development of a gluten-free whole grain flour by combining soaking and high hydrostatic pressure (HHP) treatments for enhancing its functional, nutritional and bioactive properties. *Journal of cereal science* 2022 pp. 103458. <https://doi.org/10.1016/j.jcs.2022.103458>. Fuente de impacto: WOS Journal Impact Factor (JIF) Categoría: Science Citation Index Expanded Edition (SCIE)- Category: FOOD SCIENCE & TECHNOLOGY. Índice de impacto (datos 2020): 3.616, Revista dentro del 25%: No (Q2). Posición de publicación: 48, Num. revistas en cat.: 143
 12. Deriu, A.; Vela, A.; **Ronda F.** (2022) Techno-Functional and Gelling Properties of Acha (*Digitaria exilis* stapf.) Flour: A Study of Its Potential as a New Gluten-Free Starch Source in Industrial Applications. *Foods* 2022, 11, 183. <https://doi.org/10.3390/foods11020183>. Fuente de impacto: WOS Journal Impact Factor (JIF) Categoría: Science Citation Index Expanded Edition (SCIE)- Category: FOOD SCIENCE & TECHNOLOGY. Índice de impacto (datos 2020): 4.350, Revista dentro del 25%: Si (Q1). Posición de publicación: 37, Num. revistas en cat.: 143. Autor de correspondencia
 13. Acevedo, B.A., Villanueva, M., Chaves, M.G., Avanza, M.A., **Ronda, F.** (2022) Modification of structural and physicochemical properties of cowpea (*Vigna unguiculata*) starch by hydrothermal and ultrasound treatments. *Food Hydrocolloids*. 124: 107266. <https://doi.org/10.1016/j.foodhyd.2021.107266>. Q1 Corresponding author.
 14. Vela, A.J.; Villanueva, M.; **Ronda, F.** (2021) Low-frequency ultrasonication modulates the impact of annealing on physicochemical and functional properties of rice flour. *Food Hydrocolloids*. 120: 106933. doi.org/10.1016/j.foodhyd.2021.106933. Q1. Corresponding author.

15. Solaesa, A.G; Villanueva, M.; Muñoz, J.M.; **Ronda, F.** (2021). Dry-Heat Treatment vs. Heat-Moisture Treatment assisted by microwave radiation: Techno-functional and rheological modifications of rice flour. *LWT - Food Science and Technology*. 141-110851 doi.org/10.1016/j.lwt.2021.110851 Q1. Corresponding author
16. Vela, A.J.; Villanueva, M.; Solaesa A.G; **Ronda, F.** (2021) Impact of high-intensity ultrasound waves on structural, functional, thermal and rheological properties of rice flour and its biopolymers structural features. *Food Hydrocolloids*, 113, 106480. Doi.org/10.1016/j.foodhyd.2020.106480. Q1, corresponding author
17. Villanueva, M.; Abebe W.; Collar, C; **Ronda F.** (2021) Tef [*Eragrostis tef* (Zucc.) Trotter] variety determines viscoelastic and thermal properties of gluten-free dough and bread quality. *LWT - Food Science and Technology* 135: 110065. Cuartil Q1. Corresponding author.
18. Rico D., Villaverde A., Martinez-Villaluenga C., Gutierrez A.L., Caballero C., **Ronda F.**, Peñas E., Frias J., Martin-Diana A.B (2020). Application of Autoclave Treatment for Development of a Natural Wheat Bran Antioxidant Ingredient. *Foods* 9, 781. doi:10.3390/foods9060781. Cuartil Q1
19. Solaesa, A.G., Villanueva, M., Vela, A.J. **Ronda, F.** 2020. Protein and lipid enrichment of quinoa (cv.Titicaca) by dry fractionation. Techno-functional, thermal and rheological properties of milling fractions. *Food Hydrocolloids*. 105: 105770. doi.org/10.1016/j.foodhyd.2020.105770. Cuartil Q1. Corresponding author.
20. Collar, C., Villanueva, M., **Ronda, F.** 2020. Structuring diluted wheat matrices: impact of heat moisture treatment on protein aggregation and viscoelasticity of hydrated composite flours. *Food and Bioprocess Technology*. 13: 475-487. https://doi.org/10.1007/s11947-020-02406-z. Cuartil Q2
21. Rico, D., **Ronda, F.**, Villanueva, M., Pérez Montero, C., Martín-Diana, A.B. 2019. Development of healthy gluten-free crackers from White and Brown tef (*Eragrostis tef* Zucc.) flours. *Heliyon*, 5, e02598. Cuartil Q2
22. Solaesa, A.G., Villanueva, M., Beltrán, S., **Ronda, F.** 2019. Characterization of Quinoa Defatted by Supercritical Carbon Dioxide. Starch Enzymatic Susceptibility and Structural, Pasting and Thermal Properties. *Food and Bioprocess Technology*, 12, 1593-1602. Cuartil Q2. Corresponding author.
23. Acevedo, B.A., Villanueva, M., Chaves, M.G., Avanza, M.A., **Ronda, F.** 2019. Starch enzymatic hydrolysis, structural, thermal and rheological properties of pigeon pea (*Cajanus cajan*) and dolichos vean (*Dolichos lab-lab*) legume starches. *International Journal of Food Science and Technology*. 55, 712–719; https://doi.org/10.1111/ijfs.14334. Cuartil Q2. Corresponding author.
24. M. Villanueva, J. Harasym, J.M Muñoz, **F. Ronda** (2019) Rice flour physically modified by microwave radiation improves viscoelastic behavior of doughs and its bread-making performance *Food Hydrocolloids* 90: 472–481 Cuartil Q1. Corresponding author.
25. M. Villanueva, B. De Lamo, J. Harasym, **F. Ronda** (2018) Microwave radiation and protein addition modulate hydration, pasting and gel rheological characteristics of rice and potato starches. *Carbohydrate Polymers*. 201, 374–381 Cuartil Q1. Corresponding author.
26. Assefa, Y., Emire, S., Abebe, W., **Ronda, F.** (2018) Effect of Mill Type and Mechanical Kneading Conditions on Fermentation Kinetics of Tef Dough During Injera making and Phytate to Mineral Molar Ratio of Injera. *Research & Reviews: Journal of Food Science and Technology*, 7 (2), 9-19. 2018. Online ISSN: 2278-2249, Print ISSN: 2321-6468.
27. Y. Assefa, S. Emire, M. Villanueva, W. Abebe, **F. Ronda** (2018) Influence of milling type on tef injera quality. *Food Chemistry*, 266 : 155–160.
28. M. Villanueva, S. Pérez-Quirce, C. Collar, **F. Ronda** (2018) Impact of acidification and protein fortification on rheological and thermal properties of wheat, corn, potato and tapioca starch-based gluten-free bread doughs. *LWT - Food Science and Technology* 96: 446–454. Q1. Corresponding author.
29. S. Pérez-Quirce; P.A. Caballero; A. J. Vela; M. Villanueva, **F. Ronda** (2018) Impact of yeast and fungi (1→3)(1→6)-β-glucan concentrates on viscoelastic behavior and bread making performance of gluten-free rice-based doughs. *Food Hydrocolloids* 79, 382-390. Q1. Corresponding author.
30. M. Villanueva, J., Harasym, J.M Muñoz, **F. Ronda** (2018) Microwave absorption capacity of rice flour. Impact of the radiation on rice flour microstructure, thermal and viscometric properties.

- Journal of Food Engineering. (10.1016/j.jfoodeng.2017.12.030) 224, 156-164. Cuartil Q1. Corresponding author
31. M. Villanueva, **F. Ronda**, T. Moschakis, A. Lazaridou, C.G. Biliaderis (2018) Impact of acidification and protein fortification on thermal properties of rice, potato and tapioca starches and rheological behaviour of their gels. *Food Hydrocolloids* 79: 20-29 Cuartil: Q1
 32. S. Pérez-Quirce; **F. Ronda**; A. Lazaridou & C. Biliaderis (2017) Effect of Microwave Radiation Pretreatment of Rice Flour on Gluten-Free Breadmaking and Molecular Size of β -Glucans in the Fortified Breads. *Food and Bioprocess Technology*, 10(8), 1412-1421. DOI 10.1007/s11947-017-1910-7. Cuartil Q1. Corresponding author.
 33. S. Pérez-Quirce; A. Lazaridou; C. Biliaderis; **F. Ronda** (2017) Effect of β -glucan molecular weight on rice flour dough rheology, quality parameters of breads and in vitro starch digestibility. *LWT - Food Science and Technology* 82: 446-453 Cuartil Q1. Corresponding author.
 34. **Ronda, F.**; Pérez-Quirce, S., Villanueva, M. (2016) Rheological Properties of Gluten-Free Bread Doughs. Relationship with Bread Quality. In Ahmed, J. Ptaszek, P. and Basu, S. (Eds), *Advances in Food Rheology and Applications*. Elsevier. **Chapter 12**. Corresponding author.
 35. Pérez-Quirce, S. **Ronda, F.**; Melendre, C.; Lazaridou, A.; Biliaderis, C. (2016) Inactivation of endogenous rice flour β -glucanase by microwave radiation and impact on physico-chemical properties of the treated flour. *Food and Bioprocess Technology*. 9 (9): 1562-1573. DOI: 10.1007/s11947-016-1741-y. Cuartil Q1. Corresponding author.
 36. **Ronda, F.**, Abebe, W., Pérez-Quire, S., Collar, C. 2015. Suitability of tef varieties in mixed wheat flour bread matrices: A physico-chemical and nutritional approach. *Journal of Cereal Science*, 64, 139-146. Cuartil: Q1
 37. Abebe, W., **Ronda, F.**, Villanueva, M., Collar, C. 2015. Effect of tef [*Eragrostis tef* (Zucc.) Trotter] grain flour addition on viscoelastic properties and stickiness of wheat dough matrices and bread loaf volume. *European Food Research and Technology*, 241: 469-478 (DOI 10.1007/s00217-015-2476-0). Cuartil Q3. Corresponding author.
 38. **Ronda, F.**, Pérez-Quirce, S., Lazaridou, A., Biliaderis, C. 2015. Effect of barley and oat β -glucan concentrates on gluten-free rice-based doughs and bread quality: a physico-chemical and nutritional perspective. *Food Hydrocolloids*, 48, 198-207. Cuartil: Q1 Corresponding author.
 39. Abebe, W.; Collar, C., **Ronda, F.** 2015. Impact of variety type and particle size distribution on starchenzymatic hydrolysis and functional properties of tef flours. *Carbohydrates Polymers*, 115, 260-268. Cuartil: Q1 Corresponding author.
 40. Abebe, W.; **Ronda, F.** 2015. Flowability, moisture sorption and thermal properties of tef flours. *Journal of Cereal Science*, 63: 14-20. Cuartil: Q1 Corresponding author.
 41. Abebe, W.; **Ronda, F.** 2014. Rheological and textural properties of tef [*Eragrostis tef* (Zucc.)Trotter] grain flour gels. *Journal of Cereal Science* 60: 122-130. Cuartil: Q2 Corresponding author.
 42. Villanueva, M., Mauro, R.R., Collar, C., **Ronda, F.** 2015. Acidification of protein-enriched rice starch doughs: effects on breadmaking. *European Food Research and Technology*, 240, 783-794. Cuartil: Q3 Corresponding author.
 43. **Ronda, F.**, Villanueva, M., Collar, C. 2014. Influence of acidification on dough viscoelasticity of gluten-free rice starch-based dough matrices enriched with exogenous protein. *LWT -Food Science and Technology*, 59, 12-20. Cuartil: Q1 Corresponding author.
 44. Pérez-Quirce, S., Collar, C., **Ronda, F.** 2014. Significance of healthy viscous dietary fibres on the performance of gluten-free rice-based formulated breads. *International Journal of Food Science and Technology*, 49, 1375-1382. Cuartil Q2 Corresponding author.
 45. **Ronda, F.**, Quilez, J., Pando, V., Roos, Y. 2014. Fermentation time and fiber effects on recrystallization of starch components and staling of bread from frozen part-baked bread. *Journal of Food Engineering*, 131, 116-123. Cuartil: Q1 Corresponding author.
 46. **Ronda, F.**, Pérez-Quirce, S., Angioloni, A., Collar, C. 2013. Impact of viscous dietary fibres on the viscoelastic behaviour of gluten-free formulated rice doughs: A fundamental and empirical rheological approach. *Food Hydrocolloids*, 32, 252-262. Cuartil: Q1

47. Acevedo, B.A., Avanza, M.V., Cháves, M.G., **Ronda, F.** 2013. Gelation, thermal and pasting properties of pigeon pea (*Cajanus cajan* L.), dolichos bean (*Dolichos lablab* L.) and jack bean (*Canavalia ensiformis*) flours. *Journal of Food Engineering*, 119, 65-71. Cuartil: Q1 Corresponding author.

C.3. Patents (10 last years)

Rice flour modified by hydrothermal microwave treatment, method of production and uses. Inventors/authors/objectors: Felicidad Ronda Balbás; Marina Villanueva Barrero; Joanna Harasym; Jose M^a Muñoz Muñoz; Pedro A. Caballero Calvo; Sandra Pérez Quirce. Entity: University of Valladolid. Application number: P201830851. Country of registration: Spain. Date of registration: 29/08/2018.

Ready-to-eat adapted food product for patients with dysphagia. Inventors/authors/objectors: Pedro A. Caballero Calvo; Felicidad Ronda Balbás; Marina Villanueva Barrero; Joanna Harasym; Ane Arratibel García; Fabiola Juarez Muriel; Elena Roura Carvajal. Entity: University of Valladolid. Application number: 201831386. Country of registration: Spain. Date of registration: 14/09/2018. Companies: Fundación Alicia, Alimentación y Ciencia.

C.4. Research projects and grants (last 10 years)

- Separación de macromoléculas y nanopartículas mediante FFF/SEC conmutadas y caracterización de su masa molar absoluta, tamaño y conformación molecular mediante detección combinada MALS-UV-VISCO-dRI (Ref: EQC2021-006985-P). Nombre Investigadores principales: Felicidad Ronda Balbás. Entidad de realización: Universidad de Valladolid. Entidad financiadora: Ministerio de Ciencia e Innovación. Cuantía total: 411116 €
- Treatment of new grains of high nutritional value with microwave radiation. Molecular basis of the techno-functional changes induced for the improvement of gluten-free products (Tratamiento de nuevos granos de alto valor nutricional con radiación de microondas. Bases moleculares de los cambios tecno-funcionales inducidos para la mejora de los productos sin gluten) (TechGFree). VA195P20. IP: Felicidad Ronda. Funded: Consejería de Educación, Junta de Castilla y León/FEDER. Period: 2020-2023 (3 years). Project cost: €264 000.
- Molecular and structural changes induced by emerging hydrothermal treatments for functional, sensory and nutritional improvement of gluten-free products [Cambios moleculares y estructurales inducidos por los tratamientos hidrotérmicos emergentes para la mejora funcional, sensorial y nutricional del producto sin gluten] (PID2019-110809RB-I00). IP: Felicidad Ronda. Funded: Ministerio de Ciencia e Innovación. Period: 2020-2024 (4 years). Project cost: €133000 (+Pre-doctoral grant)
- Application of electromagnetic waves to gluten-free flours to adapt its structure and functionality to the needs of the food industry. Development of better quality products [Aplicación de ondas electromagnéticas a las harinas sin gluten para adaptar su estructura y funcionalidad a las necesidades de la industria alimentaria. Desarrollo de productos de mejor calidad] (VA-072P17). IP: Felicidad Ronda. Funded: Regional Ministry of Education (CYL)/FEDER. Period: 2017-2019 (3 years). Project cost: €120000.
- Innovative treatment of cereal grains and pseudocereals with high hydrostatic pressures as a strategy to improve the quality and nutritional value of gluten-free products [Tratamiento innovador de granos de cereales y pseudocereales con altas presiones hidrostáticas como estrategia para la mejora de la calidad y el valor nutritivo de los productos sin gluten] (VA165G18). IP: Pedro A. Caballero Calvo. Funded: Regional Ministry of Education (CYL)/FEDER. Period: 2018-2020 (3 years). Project cost: €12000.
- Improving gluten-free flours functionality by Microwave treatments; A tool for high quality of gluten-free bakery (physical, sensorial and nutritional) (BREADforALL). European Commission H2020-MSCA-IF-2015 Action: MSCA-IF-EF-ST (Code: 706102); Joanna Harasym (University of Wroclaw, Poland) Supervisor: Felicidad Ronda. Period: 2016-2018; Project Cost: 170.121,60 €

- Impact of microwave and ultrasound on gluten-free flours functionality: structuring ability in gluten-free breadmaking matrices [Impacto de los tratamientos por microondas y ultrasonidos sobre las propiedades estructurales, físico-químicas y funcionales de harinas sin gluten. Aplicación a la creación de estructuras en matrices panarias sin gluten]. Project Director: Felicidad Ronda. Ministry of Economy and Competitiveness (MINECO/FEDER) (AGL2015-63849-C2-2-R). Period: 2016-2020 (4 years); Project Cost: 84000 €
- Nutritional and functional improvement of gluten-free breads: addition of beta-glucans of different origins and molecular weights according to the health claims approved by the EFSA. Project Director: Felicidad Ronda. Ministry of Economy and Competitiveness (MINECO/FEDER) (Ref: AGL2012-35088). Period: 2013-2015 (3 years); Project Cost: 76.050 €
- Gluten-free bread making by incorporating structured protein networks (exogenous) and its impact on starch digestibility. Project Director: Felicidad Ronda. Regional Ministry of Education (Ref: VA 252A12-2). Period: 2012-2013 (3 years). Project Cost: 30.000 €

C.5. Contrats, Technology Transfer (last 10 years)

- Industrial implementation of technology for microwave treatment of soft wheat flours to improve their baking properties [Implementación industrial de la tecnología de tratamiento de microondas de harinas de trigo de baja fuerza para la mejora de sus propiedades de panificación]. Principal researchers: F. Ronda; P.A. Caballero; M. Villanueva Company: Corporativo Bimbo (Mexico). Period 10/5/2023-9/05/2024 (12 months): 248434€
- Optimisation of the treatment process and pre-industrial testing of microwave-treated biscuit flour [Optimización del proceso de tratamiento y realización de prueba pre-industrial con harina galletera tratada con microondas]. Principal Researchers: F. Ronda; P.A. Caballero; Company: Corporativo Bimbo (Mexico). Period 2022-2023 (6 months): 11647€
- Parameterization and technological development of the freeze-drying process of leaves, buds and edible flowers [Parametrización y Desarrollo Tecnológico del Proceso de Liofilización de Hojas, Brotes y Flores Comestibles (FlowerLyoTech)]. Principal Researchers: P.A. Caballero; F. Ronda. Premio Lanzadera Universitaria-Company: Innoflower S.L. Period: 2021-2022. Cost: 1500€+1500€ (LANZADERA UNIVERSITARIA+ ARTICULO 83)
- Characterisation of hemp seed varieties and by-products approved for production in castilla y león (superhealthy) [Caracterización de variedades de semillas de cáñamo y sub-productos aprobadas para su producción en castilla y león (superhealthy)] Principal Researchers: F. Ronda; P.A. Caballero; Premio Lanzadera Universitaria-Company: José Manuel Miguel Castrillo (Farmer). Period: 2021-2022. Cost: 1000€+1000€(LANZADERA UNIVERSITARIA+ ARTICULO 83).
- Optimisation of the physical modification process of wheat flour of low low protein content through microwave-assisted treatment to improve its baking performance Optimización del proceso de modificación física de harina de trigo floja mediante tratamientos asistidos con microondas para mejorar su desempeño panadero]. Principal Researchers: F. Ronda; P.A. Caballero; Company: Grupo Bimbo Mexico. Period 2020-2021 (6 months): 34222€
- Agreement for the promotion of the innovation and knowledge transfer on food products and optimise production processes in strategic sectors in Castilla y León: The flour sector. [Convenio para el fomento de la innovación y la transferencia de conocimientos sobre productos alimenticios y la optimización de los procesos de producción en sectores estratégicos de Castilla y León: El sector de la harina]. Leading researchers: P.A. Caballero, F. Ronda.. Instituto Tecnológico Agrario de Castilla y León (ITACYL) and the Fundación Parque Científico of the Universidad de Valladolid. Period: 1/2/2021-31/1/2023 (2 years). 96914.6 €
- Transformation and exploitation of hemp seeds produced in the province of Palencia for the production of superfoods (Acronym: CANNPOS) (Trasformación y aprovechamiento de semillas de cáñamo producidas en la provincia de Palencia para la producción de superalimentos (Acrónimo: CANNPOS)). Principal Researchers: F. Ronda; P.A. Caballero; Company: José Manuel Castrillo (Diputacion Prize 2020) Period 27 octubre 2020 a 30 june 2021. 3825€

- Parameterisation of the freeze-drying process and study of the biological activity of freeze-dried edible flowers (Parametrización del proceso de liofilización y estudio de la actividad biológica de las flores comestibles liofilizadas). Principal Researchers: F. Ronda; P.A. Caballero; Company: Innoflower S.L. Period: 28 September 2020 - 28 June 2020. Cost: 3000 €
- Shelf life study of gluten-free bread (Estudio de vida útil de pan sin gluten). Researchers: F. Ronda; P.A. Caballero; Company: Amaritta Food S.L. Period: 2020 (2 months) Cost: 475,21 €
- Applicability of physical treatments to biscuit wheat flour [Aplicabilidad de tratamientos físicos a harina de trigo galletera (segunda prueba de concepto)]. Researchers: F. Ronda; P.A. Caballero; Company: Grupo Bimbo Mexico. Period 2020 (3 months): 6205€
- Applicability of physical treatments to improve the baking properties of non-baking wheat [Aplicabilidad de tratamientos físicos para mejorar las propiedades panaderas del trigo no panificable]. Leading Researchers: F. Ronda, P.A. Caballero; Company: ADDIMENT (Mexico) representing to Grupo Bimbo (Mexico). Period: 2019 (3 months). 5252 €
- Agreement for the promotion of the innovation and knowledge transfer on food products and optimise production processes in strategic sectors in Castilla y León: The flour sector. [Convenio para el fomento de la innovación y la transferencia de conocimientos sobre productos alimenticios y la optimización de los procesos de producción en sectores estratégicos de Castilla y León: El sector de la harina]. Leading researchers: P.A. Caballero, F. Ronda.. Instituto Tecnológico Agrario de Castilla y León (ITACYL) and the Fundación Parque Científico of the Universidad de Valladolid. Period: 2018-2020 (2 years). 96914.6 €
- Study of the transformation of the canaryseed (*phalaris canariensis* L.) as a tool for rural development in the province of Palencia" (Winner of the second prize of the Diputación de Palencia "Generando Valor Rural Provincia de Palencia" 2017). Leading researcher: P.A. Caballero. Company; Fitopal S.L. 2017-2018 (6 meses) 9680€
- Enrichment of Breads with cereal β -Glucans. Project Director: Felicidad Ronda; Company: Biofactoría Naturae Salus S.A. Period: 2016 (1 month). Project Cost: 2100 €
- Preliminary study of life extension of wheat bread. Project Director: Felicidad Ronda; Company: Biofactoría Naturae Salus S.A. Period: 2016. Project Cost: 424 €
- Analysis and study of flours. Project Director: Felicidad Ronda; Company: Grupo Ordesa, S.A. Period: 2014. Project Cost: 2300 €
- Effect of the formulation of infant flours in starch digestibility. Project Director: Felicidad Ronda; Company: Grupo Ordesa, S.A. Period: 2014. Project Cost: 1260 €
- Study of starch digestibility of flour samples. Project Director: Felicidad Ronda; Company: Grupo Ordesa, S.A. Period: 2014. Project Cost: 420 €

C.6 Direction of research activities (last 10 years)

- Supervisor of Ph.D. Thesis: Tef as an industrial crop for food processing. Exploring its latent potential and handling characteristics. University of Valladolid. College of Agricultural and Forestry Engineering. Workineh Abebe; March, 2015 – Sobresaliente Cum Laude with Extraordinary award; International Mention.
- Supervisor of Ph.D. Thesis: Nutritional and functional improvement of gluten-free breads: addition of beta-glucans of different origins and molecular weights according to the health claims approved by the EFSA. University of Valladolid. College of Agricultural and Forestry Engineering. Sandra Pérez Quirce. 13 July, 2017 – Sobresaliente Cum Laude; with Extraordinary award; International Mention.
- Supervisor of Ph.D. Thesis: Structuring gluten-free systems: effect of formulation and physical modification of ingredients. University of Valladolid. College of Agricultural and Forestry Engineering. Marina Villanueva Barrero. 22 November, 2019 – Sobresaliente Cum Laude; International Mention with Extraordinary award.
- Supervision of PhD. Thesis: Process optimization and quality characterization of tef flour for the industrial manufacturing of injera. School of Chemical and Bio Engineering. Addis Ababa (Ethiopia)

PhD: Yoseph Legesse, November 2019. Very Good (3 peer-reviewed papers). Nowadays he works as Process Manager in Pepsico (Ethiopia).

- Supervision of PhD. Thesis: Physical modification of gluten-free flours by ultrasound treatments. Application to the development of new products suitable for the celiac population. University of Valladolid. College of Agricultural and Forestry Engineering. Antonio José Vela Corona. 13 April, 2023 – Sobresaliente Cum Laude; International Mention. Extraordinary award in application period.

Doctoral theses that are in progress under my supervision:

- “Characterization and Application of Fonio in gluten-free baking products”. Co-tutored thesis: Univ. Sassari-UVa. Aloisa Deriu
- “New grains of high nutritional value: Hemp and Canary Seed. Characterization and food applications” UVa. Rito José Mendoza Pérez
- “Physical modification of cereal gluten-free grains and flours by hydrothermal treatment assisted by microwaves”. UVa. Caleb Samir Calix Rivera.
- “Physical modification of buckwheat and quinoa grains and their flours by hydrothermal treatment assisted by microwaves”. UVa. Ainhoa Vicente Fernandez.
- “Molecular basis of techno-functional modifications of gluten-free starches and flours by microwave and ultrasound physical treatments”. UVa. Raúl Ricardo Mauro.
- Supervisor of Degree Thesis (Agricultural Engineering): **12**
- Supervisor of Master Thesis (Ms. in Food Quality, Development and Innovation): **56**
- Supervisor of Research Works granted for collaboration with departments: **7**
- Supervisor of post-graduate and visitant professor stays (Erasmus Mundus): **4**

C.7 Research Stays Abroad:

- VNU University of Science, Vietnam National University, Hanoi (Vietnam) with Dr. Vu Van Manh, and Nguyen Manh Khai 2019 (1 week)
- R&D Department of Genius Foods Ltd. (Edinburgh, UK) with Dr. Susie Turan, 2018 (1 week)
- University of Thesaloniki (Greece) with Prof. C. Biliaderis. 2015 (1 week)
- University of Lund (Sweden) with Prof. A. Eliasson. 2013(1 week)
- University of Thesaloniki (Greece) with Dra. A. Lazaridou. 2011(1 week)
- University College Cork (Ireland) with Prof. Y. Roos. 2007 (3 months)
- University of Vasile Alexandri of Bacau (Rumunia). 2011 (1 week)
- University of Life Sciences-SGGW, Warsaw (Poland). 2010 (1 week)
- University of Lisbon - Higher Institute of Agronomy (Portugal). 2006 (1 week)

C.8 Institutional responsibilities (10 last years):

- Director of the Food Technology Area of University of Valladolid (2005-2014)
- Director of the “Consolidated Research Unit” ProcerealTech, (UIC N°: 239) recognised by the Regional Government of Castilla y León in June 2017.
- Director of the University Master's Degree in "Food Quality, Development and Innovation" of the E.T.S. of Agricultural Engineering of Palencia (UVa) since 2008 to 2020
- Responsible for Bilateral Interchanges within the frame of Erasmus mobility (scope: food industries and food science and technology) (2002-to the present)
- Evaluator of the Research Activity of the teaching and research staff of the UVA in the field of Mechanical and Production Technologies (2011-to present).
- Responsible for Internships in Companies of master students (master in food quality, development and innovation, ETSIIAA, UVa) (2009-2016)

C.9 Evaluation Activities:

- Reviewer of Scientific Journals (SCI): Carbohydrate Polymers; Food Chemistry; Food Hydrocolloids; J. Food Engineering; Int. J. Food Science and Technol.; Int. J. Food Sci and Nutrition; J. Cereal

Science; J. Agricultural and Food Chemistry; J. Agricultural Sci.; J. Food Processing and preservation; J. Food Sci., LWT; Int. J. of Biological Macromolecules; European Food Research and Technology.

- Reviewer for National Research Projects (ANEP) since 2009
- Reviewer for Austrian National Research Projects (FWF) since 2019
- Reviewer of research projects funded by the “Fondo para la Investigación Científica y Tecnológica (FONCYT), Argentina since 2021
- Reviewer for the National Science Center (Poland) since 2019
- Reviewer of Projects of the Science and Technology for Development Ibero-American Program (CYTED) since 2006
- Member of the Technical Commission of the State Research Agency. PGC-RTI 2020 R+D+i Projects. Area-Subarea CAA-ALI.