



CURRICULUM VITAE (CVA)

IMPORTANT – The Curriculum Vitae cannot exceed 4 pages. Instructions to fill this document are available in the website.

Part A. PERSONAL INFORMATION

		CV date	25/01/2023
First name	Ana		
Family name	Salvador Alcaraz		
Gender (*)	Female	Birth date (dd/mm/yyyy)	05/05/1969
Social Security, Passport, ID number	24342748-P		
e-mail	asalvador@iata.csic.es	URL Web	
Open Researcher and Contributor ID (ORCID) (*)		0000-0001-7634-027X	

(*) Mandatory

A.1. Current position

Position	Research scientist		
Initial date	07/06/2007		
Institution	IATA-CSIC		
Department/Center	Food Science		
Country	Spain	Teleph. number	+34963900022 Ext. 2227
Key words	Texture, rheology, calorimetry, hydrocolloids, functional ingredients, food reformulation, fat replacer, emulsions, oleogels, in vitro digestion, shelf-life, sensory analysis		

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

Period	Position/Institution/Country/Interruption cause
01/02/2004-06/06/2007	Postdoctoral Ramón y Cajal Contract. IATA-CSIC
01/10/1998-31/07/1999 01/12/1999-31/12/2001 01/02/2002-30/04/2003 01/06/2003-31/01/2004	R&D Senior Technician. IATA-CSIC
01/10/1994-30/09/1998	PhD Researcher FPI grant. Company Degussa Texturant Systems (now Cargill S.A.) and IATA-CSIC

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
First degree- Bachelor in Chemistry Science	University of Valencia	1992
Master in Food Technology	Education and Science Ministry	1993
PhD in Chemistry Science	University of Valencia	1999

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

My research activity is developed within the investigation that studies the physical and sensory properties of food. The theme of my work follows an eminently horizontal line based mainly on the development of methodological studies for the determination of the texture and rheology of foods, and very oriented to the study of the behavior of various hydrocolloids as thickeners, gelling agents and modifiers or creators of texture in formulated foods and their relationships



with the microstructure, the mechanical properties (rheology and texture), in vitro digestion process and sensory perception by the consumer.

During the development of my Doctoral Thesis I studied the viscoelastic properties of yogurts using dynamic rheology in oscillatory shear that they were pioneers. In this sense, and during my postdoctoral period, I had the opportunity to carry out a Petri research project, collaborating with the company in which I did my thesis, based on the use of a drying technique to obtain mixtures of hydrocolloids with improved texture properties. The results of this investigation gave rise to another Petri Project, in which I also collaborated. Part of my doctoral thesis consisted in developing a methodology for the study of the texture of gelled products and their relationship with the structure. This led to collaboration with the Microstructure Group of the Department of Food Technology which is still ongoing through different research projects.

Throughout my scientific career I have collaborated in many research projects and in R & D contracts with several companies where I have participated in the development of new methodologies to determine the texture and sensory properties of various foods. The results of one of these contracts resulted in an International patent (WO 03/101.228) exploited by the company Alimentaria ADIN.

The lines of my recent research are based on studied fat replacers for developed healthy foods as evidenced by the participation in several research projects as main research. In the Project "*Hydrocolloids functionality in the reduction of in vitro fat digestion in food emulsions: rheology, structure and sensory perception*" (AGL2015-68923-C2-1-R) the development of oil / water emulsions with low lipid digestibility through the use of hydrocolloids to reformulate different dietary matrices with the aim of improving the nutritional properties and reducing the fat content of foods was studied. The objective of these studies is to determine the functionality of food ingredients and their interactions in complex matrices, the mechanisms of perception of texture and taste, the structural changes of food systems after in vitro digestion processes and the most important instrumental methods to predict these changes and their relationship with the sensory properties of food. The Doctoral Thesis of Dr María Espert Tortajada, awarded with "The best thesis" by University of Valencia was based on the results of this project.

From these low digestibility emulsions, oleogels composed of healthy vegetable oils, which are suitable as substitutes for shortening type plastic fats were developed in the Project "*Structuring oils through the use of hydrocolloids as a strategy to replace high plasticity saturated fats. Rheological, structural and sensorial research*" (RTI2018-099738-B-C21) with the aim to obtain foods of high nutritional, physicochemical and sensory quality.

In summary, my research activity can be summarized in 143 papers in SCI journals, 16 papers in technological journals, 12 book chapters and 2 patents. I have presented 134 communications to international and national congresses. I have participated in 3 research projects as Principal Investigator and in 8 projects as participant, 1 FEDER project, 3 PETRI projects, 4 Bilateral Bilateral Actions projects, 1 Interdisciplinary Research project (UPV), 2 CYTED project and 2 European project.

In terms of training activities, I have supervised 9 doctoral theses with the highest qualification (6 in the last 10 years), 17 Master Thesis (14 in the last 10 years), 20 Final Degree projects (8 in the last 10 years) and 25 curricular practicum of students of University of Valencia in the last 10 years. Also, from 2002 to 2012 I was Associate Professor at the University of Valencia-Degree in Human Nutrition and Dietetics and since 2009 I am Master Professor in the Master in Food Science and Safety-University of Valencia. Finally, I was part of the Scientific and Organizer committee of the Ibero 2017 Congress, as a reviewer of different international journals and in divulgation activities I participate each year in Expociencia (IATA-UV) and in lectures in different schools on nutrition and health.

Part C. RELEVANT MERITS (sorted by typology)



C.1. Publications (see instructions)

1. M. Espert, M.J. Hernández, T. Sanz, **A. Salvador**. Reduction of saturated fat in chocolate by using HPMC sunflower oil-based oleogels". Food Hydrocolloids 120, 106917 (2021).
2. M.D. Alvarez, S. Cofrades, M. Espert, **A. Salvador**, T. Sanz. Thermorheological characterization of healthier reduced-fat cocoa butter formulated by substitution with a hydroxypropyl 3 methylcellulose (HPMC)-based oleogel. Foods Volume 10, Issue 4, 10.3390/foods10040793 (2021)
3. S. Bascuas, M. Espert, E. Llorca, A. Quiles, **A. Salvador**; I. Hernando. Structural and sensory studies on chocolate spreads with hydrocolloid-based oleogels as a fat alternative. LWT- Food Science and Technology 135, 110228 (2021).
4. M. Espert, M.J. Hernández, T. Sanz, **A. Salvador**. Reduction of saturated fat in chocolate by using sunflower oil-hydroxypropyl methylcellulose based oleogels. Food Hydrocolloids 120, 106917 (2021).
5. M. Espert, L. Wiking, **A. Salvador**, T. Sanz. Reduced-fat spreads based on anhydrous milk fat and cellulose ethers. Food Hydrocolloids 99, 105330 (2020).
6. M. Espert, **A. Salvador**, T. Sanz, M.J. Hernández. Cellulose ether emulsions as fat source in cocoa creams: Thermorheological properties (flow and viscoelasticity). LWT 117, 108640 (2020).
7. M. Espert, T. Sanz, **A. Salvador**. Cellulose ether oleogels obtained by emulsion-templated approach without additional thickeners. Food Hydrocolloids 109, 106085 (2020).
8. M. Espert, L. Constantinescu, T. Sanz, **A. Salvador**. Effect of xanthan gum on palm oil in vitro digestion. Application in starch-based filling creams. Food Hydrocolloids 86, 87-94 (2019).
9. M. Espert, A. Bresciani, T. Sanz, **A. Salvador**. Low digestibility hydrocolloid emulsions as fat replacers in cocoa creams: textural changes after in vitro digestion. Journal of Functional Foods 54, 146-153 (2019).
10. M. Espert, **A. Salvador**, T. Sanz. Rheological and microstructural behaviour of xanthan gum and xanthan gum-Tween80 emulsions during in vitro digestion. Food Hydrocolloids 95, 454-461 (2019).
11. M. Espert, J. Borreani, I. Hernando, A. Quiles, T. Sanz, **A. Salvador**. Structural changes of filling creams after in vitro digestion. Application of hydrocolloid-based emulsions as fat source. LWT 112, 108223 (2019).
12. M. Espert, J. Borreani, I. Hernando, A. Quiles, **A. Salvador**, T. Sanz. Relationship Between Cellulose Chemical Substitution, Structure and Fat Digestion in o/w Emulsions. Food Hydrocolloids 69, 76-85 (2017).
13. M. Espert,, **A. Salvador** y T. Sanz. In vitro digestibility of highly concentrated methylcellulose O/W emulsions. Rheological and structural changes. Food and Function 7, 3933-3942 (2016).

C.2. Congress

1. Poster presentation: Effect of fat concentration on structure and digestibility of o/w cellulose ether emulsions. S. Martínez, M. Espert, **A. Salvador**, T. Sanz. Congress: The 20th Gums & Stabilisers for the Food Industry Conference. San Sebastián (España) (11-14 juny 2019).
2. Poster presentation: Functionality of xanthan gum-palm oil emulsions in filling creams after in vitro digestion. M. Espert, **A. Salvador**, T. Sanz. Congress: 3rd Food Structure and Functionality Forum Symposium and 3rd IDF Symposium on Microstructure of Dairy Products. Montreal (Canadá) (3-6 juny-2018).
3. Poster presentation: Reduced-fat spreads based on milk fat and cellulose ethers: rheology and microstructure. M. Espert, L. Wiking, **A. Salvador**, T. Sanz. Congress: "Food Colloids 2018 Conference. Leeds (UK) (8-11 april 2018).
4. Poster presentation: Fat digestibility in hydrocolloid-based emulsions. M. Espert, **A. Salvador**, T. Sanz. Congress: 5th International Conference on Food Digestion Rennes (Francia) (4-6 april-2017).

C.3. Research projects

- 1. PDC2022-133549-C21:** Desarrollo a escala piloto de oleogel saludables para sustituir grasas saturadas en la industria de Alimentos. Funding Organization: Ministry of Economy and Competitiveness (2022). Time scale: 2 years (01/01/2023 to 31/12/2024). Funding obtained: 58.500€. Main researchers: **Ana Salvador Alcaraz** and Teresa Sanz Taberner.
- 2. CPP2021-008595:** Obtención de panes saludables de alta calidad nutricional con matrices vegetales, inóculos microbianos y procesos tecnológicos innovadores. Funding Organization: Ministry of Economy and Competitiveness (2021). Time scale: 3 years (01/01/2023 to 31/12/2025). Funding obtained: 210.012€ (for IATA). Main researchers: **Ana Salvador Alcaraz**.
- 3. PRIMA Project:** “Flat bread of Mediterranean area; Innovation and Emerging process and technology-FLAT BREAD MINE. IATA: Partner 1. Funding Organization: Horizon 2020. The Framework European Union’s Programme for Research and Innovation. Time scale: 4 years (2021 to 2024). Funding obtained: 2.072041,75€ (220.000€ IATA). Main Researcher IATA: Cristina Molina. Rosell. Other researchers IATA: **Ana Salvador Alcaraz** and Teresa Sanz Taberner.
- 4. RTI2018-099738-B-C21:** “Structuring oils through the use of hydrocolloids as a strategy to replace high plasticity saturated fats. Rheological, structural and sensorial research”. Funding Organization: Ministry of Economy and Competitiveness (2018). Time scale: 3 years (01/01/2019 to 31/12/2021). Funding obtained: 140.000€. Main researchers: **Ana Salvador Alcaraz** and Teresa Sanz Taberner.
- 5. AGL2015-68923-C2-1-R:** “Hydrocolloids functionality in the reduction of *in vitro* fat digestion in food emulsions: rheology, structure and sensory perception. Funding Organization: Ministry of Economy and Competitiveness (2015). Funding obtained: 110.000€. Time scale: 3 years (01/01/2016 to 31/12/2018). Main researchers: **Ana Salvador Alcaraz** and Teresa Sanz Taberner
- 6. AGL2012-36753-C02-01:** “Formulación de alimentos con hidrocoloides de efecto saciante. Reología, estructura y percepción sensorial y del consumidor. Estudio de trayectoria oral y digestión *in vitro*”. Funding Organization: CICYT (AGL)-2012. Funding obtained: 62.000€. Time scale: 3 years (01/01/2013 to 31/12/2015). Main research: Susana Fiszman Dal Santo. Other researchers: **Ana Salvador Alcaraz** and Paula Varela.

C.4. Contracts, technological or transfer merits

- 1. I+D Contract:** “Obtención de aromas de alto valor añadido mediante nuevos métodos de extracción sostenibles” Company: Ceylan, S.A. Funding: 48.400€. Time scale: 02/03/2020 to 01/03/2022. Main research: Mónica Flores. Other researchers: **Ana Salvador**, Fidel Toldrá, Leticia Mora and Carmela Benlloch.
- 2. I+D Contract:** “Determinación del perfil aromático y sensorial de preparaciones aromatizantes de pimienta negra y blanca y nuez. Company: Manufacturas Ceylan S.L. Funding: 6050€. Time scale: 01/12/2014 to 30/06/2015. Main research: Mónica Flores. Other researchers: **Ana Salvador** and Sara Corral.
- 3. I+D Contract:** “Vida útil sensorial ampliada de alimentos infantiles de frutas”. Company: Citrus Levante. Funding: 9.680€. Time scale: 01/03/2014 to 31/07/2014. Main research: **Ana Salvador**. Other researchers: T. Sanz, S.M. Fiszman.
- 5. Contract of exclusive license of Patent P201131749** to the Company Vedeqsa-Lamirsa, S.A. Funding obtained: 18.150€. Time scale: 6/10/2014 to 6/10/2034. Researchers: Teresa Sanz, **Ana Salvador**, Susana Fiszman and Laura Laguna.
- 6. I+D Contract:** “Study of the viability at room temperature of a fat substitute emulsion protected by the patent n°P201131749”. Company: Vedeqsa-Lamirsa. Funding obtained: 35000€. Time scale: 01/06/2013 to 31/12/2013. Main Research: Teresa Sanz Taberner. Other IATA participants: **Ana Salvador** y Susana Fiszman.