



**RESEARCHER IN FOOD  
FUNCTIONALIZATION AND  
STRUCTURING FOR THE FOOD  
SAFETY AND FUNCTIONALITY  
PROGRAM**

## About IRTA

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**IRTA** is a research institute owned by the Government of Catalonia ascribed to the Ministry of Climate Action, Food and Rural Agenda. It is regulated by Law 04/2009, passed by the Catalan Parliament on 15 April 2009, and it is ruled by private regulations. IRTA is one of the CERCA centers of excellence of the Catalan Research System.

IRTA's purpose is to contribute to the modernization, competitiveness and sustainable development of agriculture, food and aquaculture sectors, the supply of healthy and quality foods for consumers and, generally, improving the welfare and prosperity of the society.



Contribute to the modernization, competitiveness and sustainable development of the agrarian, food and aquaculture sectors, to the provision of healthy and quality food for consumers and, in general, to improve the welfare of the population.



Become a scientific reference, an engine of innovation and technology transfer. We want to be the strategic ally of the agri-food sector.



1. Commitment
2. Creativity
3. Learning
4. Innovation
5. Leadership
6. Respect
7. Vocation of service

## THE PROGRAM OF FOOD SAFETY AND FUNCTIONALITY

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The **Food Safety and Functionality Program** has been working for more than 25 years on improving the safety and quality of a variety of foods from the microbiological and chemical points of view along the food supply chain: from raw materials to food products, considering food processing and preservation technologies, as well as the factors associated with retail and consumer phases.

The research of the Program aims to support and promote the development and innovation within the agri-food sector through applied and strategic research and innovation projects, technology transfer and training activities in the global field of food safety and functionality in three main areas:

- Development, optimization and validation of analytical protocols based on chromatographic techniques and sensors for the detection, identification and quantification of chemical compounds, as well as "omic" techniques for the rapid detection, identification, typification and quantification of microorganisms.
- Obtaining and characterizing compounds of interest to the agri-food sector, with technological, nutritional and/or bioactive functionality, mainly from sustainable sources (biorefinery, valorisation of by-products within the bioeconomy context) and microorganisms (starter cultures, bioprotective cultures and probiotics).
- Evaluation and design of food hygiene, processing, and preservation strategies to improve chemical and microbiological safety and extend food shelf life. Emerging approaches based on predictive microbiology and risk assessment are developed and applied to develop food security management tools.

## ROLE PROFILE

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IRTA is currently seeking a **Researcher for the Food Safety and Functionality Program** to conduct research and innovation activities on the functionalization of food matrixes (including ingredients from sustainable sources, with special focus on the protein and lipid fractions) and their application to food formulation and processing.

Within this framework, IRTA is proposing a research position with the following characteristics:

## **DUTIES AND RESPONSIBILITIES**

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The researcher will be involved in projects dealing with the research profile mentioned above. The activity of the researcher will be framed in the following activities:

- To contribute to the activities of the research Program, performing scientific and technical tasks, taking part in the planning and execution of the experiments to ensure the achievement of milestones of research projects.
- To perform literature review, data collection and management, involving statistical analysis.
- To contribute to the scientific production of the research and innovation activities of the Program.
- To lead and actively contribute fund rising through the preparation and submission of project proposals for public competitive calls and for contracts with the private sector, as well reporting process, such as writing progress and final reports of research activities.
- To identify opportunities for cutting-edge research and innovation to address strategic priorities of the Food Safety and Functionality Program within the Food Industry Area.
- To contribute to the teamwork and team-spirit in the Food Safety and Functionality Program within the Food Industry Area, fostering collaboration and integration activities.
- To contribute to dynamic and multidisciplinary teams composed by technical and research staff as well as to increase critical mass of the Program with temporary pre/post-doctoral researchers(s) and post-graduate student/s.
- To be involved in knowledge transfer, communication, and dissemination activities.
- To actively take part on the management and improvement of the lab protocols (for experiments, tests, and data analysis) and ensure the maintenance of the equipment's and the facilities required under the quality standard of the organization.

## REQUIRED EXPERIENCE AND QUALIFICATIONS

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### Essential requirements:

- Ph.D. in Food Chemistry, Food Physics, Food Engineering or related fields applied to the food science and technology, with post-doctoral experience in the research topic, preferably with an international scope and applied approach regarding colloids and soft matter.
- Proven experience in at least one of the following areas:
  - the assessment of the interaction of different food components with particular focus on the technological properties of protein and lipid fractions.
  - processes and/or technologies for protein functionalisation (e.g., derivatisation, hydrolysis, extrusion, shear-flow, fermentation) as well as the evaluation of the conformational changes and the impact regarding the interaction with other components of food.
  - technological role of proteins and its exploitation for the design of food formulation and processing (“protein exchangeability” concept).
- Proved research skills: experience on project proposal writing, literature review, experimental design and implementation, data analysis, scientific article writing.
- Dissemination skills: presentation/communication skills, and technical writing.
- Capacity to successfully develop collaborative research links with national and international research organizations.
- Sound informatics background at advance user level of the Office package (Word, Excel, Power Point, etc.) and data analysis software.
- Proficiency in English.

### Desirable requirements:

- Expertise in methodological approaches to understand the technological functionality (rheology, tribology, etc.), stability and potential safety implications.
- Experience on assessment of the effects of different food technologies on the nutritional, sensory, technological, and microstructural properties of plant and animal food products.
- Multidisciplinary profile (Food Chemistry, Food Technology) with ability to perform a holistic approach and contribute to multi-criteria analysis (including economic and sustainability aspects).
- Involvement and/or coordination of research projects funded through competitive calls and in collaboration with private companies.
- Experience on working under the integrated quality management systems.

- Full driving license for Europe and travelling availability.
- Knowledge of Catalan and Spanish will also be valued.

**Skills:**

- Strong organization capacity and ability to learn and successfully work within multidisciplinary teams and experience to motivate research teams.
- Mind-oriented to challenges and focus on results.
- Capacity and skills to develop and encourage strong collaborative alliances with the national and international scientific community.
- Capacity to foresee, plan and write R+D projects, reports and technical documents.
- Communication and team working attitude.
- Good integration in multidisciplinary teams.
- Organization and motivation.
- Compromise and cooperation.
- Pro-activity.

## TERMS OF APPOINTMENT

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This is a **full-time position** with the possibility of the successful candidate to be recruited as IRTA's permanent staff after a probationary period of one year. Gross salary will be commensurate with the qualifications and experience.

IRTA offers a rich environment for knowledge development and exchange where to develop a scientific career, and possibilities for professional promotion according to the attained achievements.

**LOCATION: MONELLS (GIRONA)**

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Monells is a town from Baix Empordà, part of the municipality of Cruïlles, Monells and Sant Sadurní de l'Heura, which is the administrative center and where the City Council is located. Monells has 166 inhabitants. You can find more information about the area in the City Council web page <http://www.cmss.cat/>

Monells is located at 40 Km from the city of Girona and 22 km from Costa Brava.

## GIRONA

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Girona is the capital of the province of Girona, north-east of Catalonia, located 100 km from Barcelona and 96 Km from Perpignan. Very well communicated through, express train, bus and motorway.

The city of Girona is one of the four main cities of Catalonia. Culture comes alive in Girona. The city is restless, curious, and very open to any different cultural events. You can find more information here <http://www.girona.cat/turisme/eng/cultura.php>

Furthermore, its ideal geographical location allows to easy access to the Pyrenees (80 km) and get into the gorgeous Costa Brava in a flash! (50 km).

For more information, please visit the following link <http://www2.girona.cat/ca>

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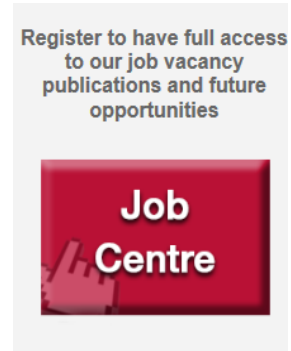
## KEY STEPS IN THE SELECTION PROCESS

If you wish to be considered for this position, please, go to the link:

<http://www.irta.cat/en/work-at-irta/>

and register yourself. You should load your CV and motivation letter in Adobe Acrobat pdf format before the 6<sup>th</sup> of February 2022. All information will be in the strictest confidence.

During the recruitment process, the Human Resources Department will keep you informed in which step your application is.



Timing Vacancy Ref. 82/21 - Researcher in Food Functionalization and Structuring for the Food Safety and Functionality Program	
84 days	Publication and diffusion of the job advertisement on IRTA's website, EURAXESS Jobs, social media and other specific recruitment places.
5 following working days	Distribution of the pre-selected CVs which match eligibility criteria to the Selection Committee. Communication via e-mail with the not pre-selected candidates who will not be further included in the process.
15 following working days	Selection Committee: <ul style="list-style-type: none"> <li>- Communication via e-mail with the not-selected candidates by the Selection Committee.</li> <li>- Interview with selected candidates by the Selection Committee.</li> <li>- Accord of the Selection Committee stating the selected candidate and detailed reasoning for the decline of the rest of the candidates.</li> <li>- Communication via e-mail with the interviewed and not-selected candidates.</li> </ul>
10 following working days	Provision by the selected candidate of requested legal and official documentation to the HR department to coordinate the start of the candidate.
First trimester 2022	Start of employment (approximately)