

## ***IRTA IS SEEKING A PhD STUDENT GRANTED BY Convocatoria contractos predoctorales FPU 2019***

**Reference: PRO1120**

IRTA is interested in contracting a PhD student for its Centre of Monells, which is going to be granted by “*Convocatoria contractos predoctorales FPU 2019*”

### ***Title of the project in which the PhD student will be involved***

“Study of new sustainable thermal processing technologies”

### ***Concept and approach of the project***

Food industry seeks new processing technologies, to prevent microbial and enzymatic spoilage, but, at the same time, keeping the freshness and nutritive value of raw food. At the same time, more sustainable processing (use of less water and energy, especially fossil fuels), is also a requirement from consumers and environmental policies.

The project is focused on the use of radiofrequency heating, to sterilize milk and dairy products. The treated samples will be compared with traditional UHT indirect interchange processing. IRTA has a full pilot plant to carry out the comparative study between the use of this new technology, and the traditional UHT system. Microbial inactivation rates, key nutritive compounds, thermal processing indicators, consumer acceptance and milk functionality (for yogurt and cheese elaboration), will be performed.

### ***General objectives of the project.***

The general objective of this project is: Evaluation of milk and other dairy products properties, after radiofrequency and indirect heating treatments (pasteurization and UHT sterilization). Inactivation rates for different microorganisms, physical properties, functional properties (capacity to elaborate dairy products), sensorial profile, vitamins and nutritive compounds, protein denaturation, and other quality parameters will be monitored after and along the dairy shelf live.

**The IRTA** is a pioneering agriculture and food research institute in Catalonia, founded on 1985, with a team of over 700 people performing its activities with the clear vocation of a public service. It has 10 work centres of its own on locations.

## ***PhD thesis project***

PhD student will be mainly involved in the objectives of the project

## ***Duration***

The duration of the PhD student contract will be for four (4) years.

## ***Remuneration***

The financial remuneration will be of €1,185.47/gross per month (€20,582.04/gross per annum) for the first and second year. For the third year the remuneration will be of €1,270.15/gross per month (€ 21,901.44/gross per annum). For the fourth year the remuneration will be €1.587,69/gross per month (€ 22.227,66/gross per annum).

IRTA will also pay the fees of the doctoral school (three years) when receiving the enrolment.

## ***Requirements:***

Candidate profile: candidates must hold one of the following degrees: Chemistry, Biochemistry, Food Science, Food Engineering, Biology, and have completed their studies leading to such an award in January 2015 or later.

A Master's in Food Industry or any area related with chemistry and biology.

## **Other requirements:**

Persons interested, please, contact by email to Dr. Xavier Felipe ([xavier.felipe@irta.cat](mailto:xavier.felipe@irta.cat)), sending the CV together with a letter of presentation and including the medium note of his/her academic record. **Deadline: 11-11-2019**