

## ***IRTA IS SEEKING A PhD STUDENT GRANTED BY THE SPANISH RESEARCH AGENCY (AEI)***

IRTA is interested in contracting a PhD student for its Centre of Cabrils (Barcelona) in the Sustainable Plant Protection Programme, which is going to be granted by the Spanish Research Agency under the FPI program.

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

**“SUSTAINABLE PRACTICES FOR PEST CONTROL IN FRUIT ORCHARDS (SUSFRUIT)”**

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

For many years, intensification of food production has been the strategy to increase yields. However, the social concerns for a more sustainable food provision leads to seek tools that are more health and environmental friendly, especially for fresh products. Integrated Pest Management (IPM) has been proposed since long as an approach to sustainable agriculture. It focuses on managing insects, weeds, and diseases through a combination of methods that are cost-effective, environmentally sound, and socially acceptable. Although the big efforts done for years to implement IPM practices in apples and peaches, crop protection strategies are still largely relying in the use of pesticides: therefore, there is still room to improve sustainability of these crops and to reduce the number of insecticides used. Conservation biological control (CBC) relies on adopting management techniques or modifications of the environment to preserve already existing natural enemies and enhance their populations and effectiveness in crops. One of the main limiting factors for the implementation of successful CBC is that the intensification of agriculture has unquestionably contributed to the impoverishment of European farmland biodiversity and, therefore, to the lack of crucial resources for natural enemies like food, shelter, alternative hosts or prey. Provision of on-farm habitats for natural enemies is a promising strategy to increase biodiversity and enhance the pest control services.

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

The project aims to improve the sustainability of pome and stone fruit production developing innovative tools that contribute to the decrease of insecticide use. To achieve this main objective, the activities in which the PhD student will be enrolled will focus on improving the biological control of aphids. More specifically activity will aim to (a) determine the suitability of selected nectar sources to improve the fitness of key natural enemies of apple and nectarine; (b) select volatiles that attract and retain key aphid natural enemies in the crop; (c) evaluate in field conditions an ‘attract and reward’ biological control approach to enhance the efficacy of natural enemies in the control of aphids in apple orchards.

## **Duration**

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

## **Remuneration**

- 17,785.00 € gross/year during the first two years
- 18,182.22 € gross/year during the third year
- 22,727.74 € gross/year during the fourth year

The salary will be subject to the corresponding withholdings, pursuant to prevailing regulations, and to the collective employment agreement of IRTA.

IRTA will also pay the fees of the doctoral school when receiving the enrolment.

## **Requirements:**

### Candidate profile:

Degree in Agricultural Engineering, Biology, Environmental Sciences or similar.

Master degree in related subjects, interest in entomology and plant protection and prior experience in research or laboratory work will be viewed positively.

Other requirements: High English level. Concepts of statistics

Interested candidates should submit a letter of interest, 2 references, and CV (including the academic record) to Dr Judit Arnó ([judit.arno@irta.cat](mailto:judit.arno@irta.cat)). **Deadline: October 20, 2020**

You can find more information at the following link (for making your request to the Ministry)

<https://www.ciencia.gob.es/portal/site/MICINN/menuitem.edc7f2029a2be27d7010721001432ea0/?vgnnextoid=9e1362a5d58f4710VgnVCM1000001d04140aR CRD>