

IRTA is a research institute owned by the Government of Catalonia ascribed to the Ministry of Climate Action, Food and Rural Agenda. IRTA is one of the CERCA centres of excellence of the Catalan Research System. Our 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. We are granted by the EU with the [HRS4R](#) distinction for "HR Excellence in Research" and thus we offer a rich environment for knowledge development and exchange where to develop a scientific career, and possibilities for professional promotion according to the attained achievements. Check our initiatives [here](#).







PhD candidate for the Efficient Use of Water in Agriculture Program.

[ref. CPI1724]

*IRTA is currently seeking an enthusiastic and motivated PhD candidate to join the Efficient Use of Water in Agriculture Program. We invite applications from ambitious candidates with relevant research experience and passion to conduct research and innovation activities on the project titled: "**Normalized physiological indicators and technological approaches for optimizing water management in fruit tree orchards**".*

The project will be focused on understanding the physiological and agronomical responses of fruit trees to droughts, and how to manage irrigation considering: (i) the changes in environmental conditions and tree water demand, (ii) the adoption of new cultivation conditions aligned with different scenarios of water availability, and (iii) the need of determining new physiological indicators (in-situ and remote) that are robust, reliable and can be easily included in autonomous digital systems for irrigation management.

The results of this project will provide fruit growers with physiological indicators, also validated from an agronomic perspective, that can monitor tree water status, consider the different variables that may affect the indicator's response, and allow automatic and remote irrigation scheduling based on threshold values, to optimize water use efficiency for sustainable fruit production under climate change conditions.

-  Supervisor/s: Dr Victor Blanco Montoya victor.blanco@irta.cat
-  Job location: Fruitcentre (Lleida)
-  Full-time position (h/week): 37.5
-  Terms of appointment: 4 years
-  Salary: The financial remuneration for the PhD Candidate contract will be €1,336.3/gross per month (18,708.20/gross per annum) and for the first and second years. For this third year, it will be €1,431.83/gross per month (€20,045.62/gross per annum) and for the fourth year it will be €1,789.79/gross per month (€25,057.06/gross per annum) which 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. ⁽¹⁾
-  Employee Benefits: 22 vacation days, 3 days of family & work conciliation, 45h of personal days, Friday afternoon off, Compressed Summer schedule from 15/06 to 15/09, Conciliation schedule.

Tasks and Responsibilities:

The incumbent will perform a wide range of duties including the experimental planning, set-up and execution (data acquisition, processing, and analysis) of laboratory and field experiments related to tree water relations, ecophysiology, irrigation and orchard management.

Among others, the responsibilities of the incumbent will include:

- In situ field measurements of plant physiological and agronomical responses.
- Monitoring plant, soil and atmosphere water status throughout the season under different edaphoclimatic conditions on the field.
- Plant and soil sample collection and sensor installation.
- Sample processing in the lab.
- Data compilation and management, including big datasets.
- Data analysis, including statistical analysis and modeling.
- Scientific literature search, review and metadata analysis.
- Writing scientific papers and reports (state hypothesis, detail how you tested your hypothesis, express and critically discuss the data collected and the implication of your findings).
- Participating and preparing scientific and extension material for communication and dissemination activities (conferences, seminars, workshops, ...).

Required qualifications and experience:

- Candidates must hold one of the following degrees:
 - a) A Bachelor's degree in Agronomy, Biology, Environmental Science, or similar.
 - b) A Master's in Agricultural Engineering, Horticulture, Plant Physiology, or similar.
 - c) To be in a position to access a doctoral programme according to the requirements of Catalan universities, *i.e.* accrediting between 60 and 120 ECTS credits at the official university master's degree level or equivalent.
- Not to have a previous PhD degree.
- Car driving license.
- Candidates who have been chosen for an interview with the Selection Committee, should bring or send – for the interview – a certified copy of the degree and/or master, as well as the academic record showing the marks of all subjects studied.

Desirable requirements:

- Previous experience in research projects dealing with tree water relations, irrigation, precision horticulture, plant science, environmental science or climate change.
- Field experience performing professional-level work with scientific or commercial research protocols.
- Experience in ecophysiology, plant, soil and environment sampling methods.
- Knowledge of data management, text editing and presentation softwares (e.g. Microsoft Office skills).
- Knowledge of statistics and R software language.
- Good communication skills, verbal and written.
- Previous scientific publications will be valued positively.

Languages:

- Proficiency in English
- Catalan and Spanish are valued

Application process

If you wish to be considered for this position, please, apply via our [Recruitment Platform](#) to the job post with reference CPI1724 and upload your CV and motivation letter. All information will be treated in the strictest confidence.

Deadline for application: 30/06

Timings in the Recruitment Process of ref. CPI1724	PhD candidate for efficient use of water in agriculture
30 natural 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 matching eligibility criteria to the Recruitment Committee. Communication via e-mail with the not pre-selected candidates who will not be further included in the process.
20 following working days	Recruitment Committee: <ul style="list-style-type: none"> - Communication via e-mail with the not-selected candidates by the Recruitment Committee. - Interview with selected candidates by the Recruitment Committee. - Accord of the Recruitment Committee stating the selected candidate and detailed reasoning for the decline of the rest of the candidates. - Communication via e-mail with the interviewed and not-selected candidates
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.
Third Trimester 2024	Start of employment

IRTA guarantees an open, transparent, and merit-based recruitment process (OTM-R) to all registered candidacies avoiding thus any bias on gender, origin, age, ideology, or other circumstances that could be discriminatory. Candidates in a situation of social exclusion will be considered in the first place.

Please know that if you are the chosen candidate and you are from a country which does not belong to the UE, IRTA's Human Resources Department will support you to get the residence and working permits.

⁽¹⁾ The financial remuneration of the PhD Candidate contract may not be less than 56% of the salary established for the category of Research Collaborator F of the Collective Agreement of the IRTA during the first two years, 60% in the third year and 75% in the fourth.