

PhD position: Protecting rice against biotic and abiotic stress

Agrotecnio is committed to a diverse and inclusive work environment. Employment is assessed on the basis of qualifications, competence, integrity and organizational needs, in accordance with the HRS4R certification requirements. Women are strongly encouraged to apply.

Description of the activity

Crop productivity and nutritional quality are constrained by intensifying multifactorial abiotic and biotic stresses, which conventional breeding and single-trait biotechnological approaches can no longer address effectively. Climate change, soil degradation, resource depletion, and geopolitical instability underscore the urgent need to enhance crop productivity and reinforce the EU's independence and resilience in food, feed and fiber production. BIOCRAFT will tackle these intertwined challenges by pioneering disruptive biotechnological solutions that deliver new climate-resilient, high-yielding and nutritionally enhanced crops, while enabling the innovative plant-based production of non-native high-value biomolecules (e.g., growth factors for biomedical and food applications).

We are seeking a highly motivated PhD student to generate multiplex genome edited (GE) rice plants tolerant to biotic and abiotic stresses. The successful candidate will primarily contribute to research on plant–fungal interactions, with a focus on assessing the tolerance of genome-edited rice lines to *Magnaporthe oryzae*, the causal agent of rice blast disease. Prior hands-on experience with rice and/or *Magnaporthe oryzae* is advantageous but not essential.

The doctoral candidate will be mentored by a multidisciplinary team of researchers from Agrotecnio and partner institutions with expertise in GE rice plants, artificial intelligence (AI)-driven high-throughput phenotyping and multi-omic analytics and soil microbiome monitoring. The PhD project is embedded within the BIOCRAFT project. This synergistic combination of multiplex GE, predictive AI and real-time phenotyping will shorten breeding cycles and enhance the accuracy of selection.

The PhD candidate will conduct laboratory experiments, perform data analysis using advanced statistical methods, prepare scientific manuscripts, and participate in broader project activities such as synthesis, dissemination, and co-creation workshops. Active participation in BIOCRAFT project meetings and close collaboration with the international project network is expected.

The position can be fully funded up to three years, with the expectation that the student will defend their doctoral thesis at the end of this period.

Key responsibilities:

1. Design, execute, and optimize pathogen infection assays to evaluate rice blast tolerance in genome-edited rice lines.
2. Perform phenotypic, molecular, and statistical analyses of plant responses to fungal challenge.

3. Contribute to the interpretation and integration of experimental results within the broader BIOCRAFT breeding pipeline.
4. Collaborate closely with other lab members and consortium partners working on plant biotechnology, phenotyping, microbiome research, and molecular breeding.
5. Contribute to project reporting, manuscript preparation, and dissemination of research outcomes.
6. Maintain high standards of experimental rigor, reproducibility, and compliance with biosafety and research quality requirements.

Location

This PhD project will be based in Agrotecnio - CERCA Center in Lleida, Spain (www.agrotecnio.org).

Agrotecnio- Universitat de Lleida

Campus Agroalimentari, Forestal i Veterinari
Avinguda Alcalde Rovira Roure, 191. 25198 Lleida

Candidate profile and Qualifications

Requirements:

1. MSc degree in a relevant subject (biotechnology, biology, agriculture, chemistry, environmental sciences or related fields).
2. Experience with molecular biology techniques.
3. Skills in collecting and analyzing data and writing reports.
4. Excellent written and spoken English.

Merits:

1. Relevant experience and training in molecular biology.
2. Some experience conducting rice fieldwork.
3. Familiarity with GE techniques.

We are looking for a candidate with strong scientific curiosity, excellent interpersonal skills, and the ability to work both independently and collaboratively in an international, interdisciplinary environment. Time management, problem-solving ability, and clear communication—both written and verbal—are essential. A passion for research that bridges science and real-world impact is highly valued.

Expected duration

3 years

Terms of employment

The position is a full-time (37.5 hours/week), fully funded doctoral position for a period of

three years. The successful candidate will be employed by Agrotecnio, and enrolled in a PhD program at the University of Lleida, Spain.

The successful candidate is expected to be physically based in Lleida, with participation in project meetings, workshops, and training activities.

The annual gross salary 24.000 €. The position includes full social security and health coverage, and entitlements to paid holidays and leave according to national labor regulations.

Name of the responsible researcher

Teresa Capell, Ludovic Bassie

Application

Interested candidates should submit the following documents in English, combined into a single pdf file, to: administration@agrotecnio.udl.cat

- Cover letter (max. 1 page) describing your motivation and fit for the position
- Curriculum Vitae (including graduation dates and relevant experience)
- Contact information for two professional references (name, relation to candidate, e-mail, and phone number). No letters needed at this stage
- A copy or link to your Master's thesis
- List of publications (if any), including reports, scientific articles, popular science, etc.
- Degree certificates

Deadline for applications:

14 September 2026

Online interviews will be conducted with shortlisted candidates.

The outcome of the selection process will be published on the Agrotecnio website: <https://agrotecnio.org/careers-job-offers/>

Additional information

If you require further information on matters relating to the call, please

contact: Ludovic.bassie@udl.cat

The contractual modality is of indefinite duration, with specific clauses linked to the financing of the project in accordance with art. 49 1.b) and art. and 52.e) of Royal Legislative Decree 2/2015, of October 23, whereby the revised text of the Workers' Statute Law is approved.

Foot note: Appeals against outcome of the administrative selection process may be directed to the Director/Acting director of the Center within one month outcome of the selection process.

Lleida, 30 July 2026

Teresa Capell