

## Post doc position (2 years) in the field of Molecular plant-bacteria-insect multitrophic interactions in Gembloux Agro-Bio Tech

### CALL FOR APPLICATIONS

A full-time post doc position is open in the field of "Molecular plant-PGPR-insect multitrophic interactions" at the Faculty of Gembloux Agro-Bio Tech - University of Liège (GxABT-ULiège) from February 2021, for a period of 2 years.

You will find below some information's about research activities, profile and application procedure.

### GENERAL CONTEXT

Gembloux Agro-Bio Tech (GxABT) located 45km from Brussels and 75km from Liège is a faculty recognized internationally for the excellence of its research and occupies the buildings of an 18th century Benedictine abbey, in the heart of a 130 ha campus including 17 ha wooded park. According to a faculty strategy in GxABT to develop collaborative initiatives and share expertise and facilities, different "omics" platforms were organized and included in the TERRA research and teaching center in Gembloux campus. Several laboratories bring together leading research expertise in Entomology, Microbiology, Analytical Chemistry, Biophysics and Bioinformatics promoting a multidisciplinary approach to study bacteria - insect - plant interactions. Complementary investigations will be performed to apply various approaches and techniques to investigate trophic relations and detect both direct and indirect effects between protagonists. The outcomes will not only drive forward the fundamental scientific research but will also provide ideas for further applications.

### RESEARCH

In a multitrophic era, many fundamental questions about the role of microbiota remain unanswered. Especially, the role of micro-organisms related to one source such as host plant and the impact on other organisms from the ecosystem should be further investigated. Considering PGPR, even if first evidences of the beneficial influence of them toward plant pathogens were demonstrated, there are still not broad information's on their impact on insect pests and beneficials. As there is increasing number of studies demonstrating the impact of PGPR on plant physiology and defense mechanisms, their involvement on insect pest biology and behaviour should also be considered. Moreover, knowing that herbivores are also able to induce plant defense responses, cross-reactions in plant toward both micro- and macro-organisms should happen. In this context, our aim is to understand the impact of PGPR on insects through plants and assess the interactions between elicitors from bacteria and herbivores. We propose to investigate (i) the impact of plant PGPR application on the biology and behaviors of different insect models, (ii), the plant response to PGPR and insect pests based on «omics» techniques (iii) the fatty-acid elicitor composition in insect saliva and testing in crossing with plant PGPR applications and (iv) the fatty acid insect saliva elicitors effect using whole plants and plant cell models.

## PROFILE

Candidates must:

- hold a doctoral degree with a thesis and have significant expertise in the field of the call;
- demonstrate scientific knowledges in entomology and microbiology with both biological and biochemical approaches recognised by international publications in the field of the call;
- demonstrate the ability to perform high-level scientific research,
- skills and autonomy in writing papers and reports in English;
- be willing to work in a team of professors and researchers from different disciplines and with shared human and material resources within several laboratories;
- have very good communication skills, be a positive and solution-oriented person;
- adhere to the quality management and continuous improvement system set up by the Institution;
- have postdoctoral experience attested by an extended study period abroad or significant experience acquired outside their home institution.

## INFORMATION SUBMISSION OF APPLICATIONS

Further information can be obtained from Prof. Frédéric FRANCIS, Head of Entomology department  
Applicants are requested to submit their applications by email to [Frederic.Francis@uliege.be](mailto:Frederic.Francis@uliege.be) for the 26<sup>th</sup> February 2021 at the latest. Interviews will be organised with selected candidates.

The complete file will be composed of:

- ✓ an application letter including technical expertise description and date of availability;
- ✓ a complete curriculum vitae mentioning all publications;
- ✓ two support letters from former supervisors.