

Postdoc position in plant virus detection and characterization (HTS, bioinformatics & bioassays) at Gembloux Agro-Bio Tech – Belgium

Scientific context:

The advances in high-throughput sequencing (HTS) technologies and bioinformatic analyses have created new opportunities for detecting viruses and for analysing their genome diversity. The development of Oxford Nanopore Technologies (ONT) now allows a flexible use of HTS technologies in virus detection and characterization. So, the laboratory aims to use ONT for improving the detection and characterization of plant viruses, using banana as study case.

The GxABT team is also currently developing machine learning models for exploring biological properties of uncharacterized plant viruses using proteomic features and biological information from 1000+ characterized plant viruses. These models should be validated by biological experimentations in greenhouse (mechanical or vector-based inoculation) which will be carried out in the frame of an informal consortium coordinated by the GxABT laboratory.

Work to be carried out. The study will therefore focus on 2 main research axes:

1. Improving plant virus detection and characterization using Oxford Nanopore Technologies (Minion and Flongle) and innovative protocols for bioinformatics
2. Studying the biology of newly discovered viruses through greenhouse bioassays and application of machine learning pipelines developed in the laboratory

The scientist will also develop his/her management and training skills by providing scientific and management support to the research team, tutoring Master and/or PhD students.

The team and the laboratory. The scientist will join an international team (7 nationalities) of 12 members, including post-docs, PhD students and technicians with a research expertise on plant virus epidemiology, ecology, microbiome and diagnostic improvement. The team has strong network of international collaborations ongoing with 15+ countries around the world, through both European and international projects. Formal (journal club, lab meetings, international conferences ...) and informal (coffee break ideas, idea challenging, mutual support ...) exchanges are the team's DNA to foster collaboration within and outside the team.

Skills / Knowledge: The scientist should have a good background in virology, molecular biology (High Throughput Sequencing) and bioinformatics. We look for a scientist with very good communication skills and teamwork ability to interact daily within and outside the research team. Curiosity, rigor, and autonomy are also key assets.

Campus: Located in the countryside of Brussels, GxABT campus is just a short drive from the cosmopolitan capital of Europe (35 minutes by train). The city combines the serenity of a peaceful lifestyle with convenient access to city amenities.

Duration: 1 year (renewable by a 2-years contract) from July 2025 to June 2026.

Contact : for any information: sebastien.massart@uliege.be. Complete CV and application letter should be sent at the same e-mail address by 28th April the latest.