

Job Offer – Engineer/Master in Biotechnology/Microbial Ecology

Position Overview

We are seeking a highly motivated researcher to join the Watereex project, an initiative aligned with the B4B program. Watereex focuses on hydrothermal processing for the valorization of plant biomass through a biorefinery approach, targeting both solid and liquid valorization pathways to achieve zero waste.

Watereex aims to explore agricultural applications of aqueous by-products resulting from hydrothermal treatments such as steam explosion applied to hemp, hop and nettle. The candidate will contribute to characterizing and demonstrating the biological activity of the extracts.

Responsibilities

In compliance with standardized protocols and a rigorous quality approach, your tasks will include:

- Participate in laboratory-scale hydrothermal treatment and fractionation of lignocellulosic biomass.
- Characterize the aqueous phase by-products using analytical chemistry and bioassay techniques.
- Evaluate the **bioactivity of extracts** (e.g., anti-microbial (biocontrol), plant growth promotion (biostimulation) properties).
- Evaluate the ecotoxicological effects of the extracts on soil microorganisms (respiration, metabolic activities, microbial diversity)
- Contribute to the integration of findings across **WP1 (biomolecule extraction)**, **WP2 (fractionation)**, and **WP3 (bioactivity evaluation)** of the B4B program.

Candidate Profile

- MSc or PhD in **Biotechnology, Agronomy, Environmental Sciences**, or related fields.
- Experience with **biorefinery concepts, hydrothermal processes**, microbial ecology, or **plant secondary metabolite analysis** is desirable.
- Analytical skills, particularly in microbial diversity (metabarcoding), pasteurian microbiology, **HPLC, GC-MS, or spectroscopic** methods.
- Interest in **sustainable agriculture, circular economy**, and **green technologies**.
- Excellent organizational, communication, and collaborative skills.

Position Details

- **Location:** Vandœuvre-lès-Nancy (Faculty of Sciences)
- **Contract:** Fixed-term (12 months)
- **Start Date:** October 1, 2025
- **Salary:** Based on experience and according to current pay scale

Application

Please send your CV, transcript of records and cover letter to:

nicolas.brosse@univ-lorraine.fr and damien.blaudez@univ-lorraine.fr

Deadline for application: 2025, July, 3rd