Postdoctoral Position: Microbiome Analysis in Agroecological Systems

Project Title: **ALLEcoSys**: Agroecology Living Labs Fostering Prosperous and Sustainable Agri-Food Systems
Host Laboratory: Résistance Induite et Bioprotection des Plantes (RIBP), Université de Reims Champagne-Ardenne, Reims, France
Duration: 3 years
Start Date: September 2025
Application Deadline: June 30, 2025
Contact:
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Project summary:

The **AllEcoSys** project (https://www.agroecologypartnership.eu/allecosys), funded under the Horizon Europe Agroecology call and co-financed by the European Union, is dedicated to fostering resilient and **sustainable agricultural systems** across Europe. The project focuses on creating a network of **living labs** to promote **agroecological practices** that **enhance soil health**, increase **biodiversity**, and **foster natural pest and disease control**. By combining traditional and indigenous knowledge with scientific insights through a co-creation process, AllEcoSys seeks to empower farmers and improve their collaboration with research infrastructures. This approach supports the transition towards more sustainable and **resilient agroecosystems**.

The project aims to achieve several core objectives, including improving soil quality and carbon storage through sustainable practices like cover cropping and minimum tillage. It also seeks to promote crop diversification to increase resilience against environmental stresses, while enhancing microbial communities in the soil that support plant health. The project integrates biocontrol strategies to reduce dependency on chemical pesticides and focuses on assessing the socio-economic impacts of agroecological practices at the farm level.

The AllEcoSys project is being carried out in collaboration with several European partners, including universities and research institutions from Romania, Germany, Denmark, Norway, Ireland, and France. The project's structure includes six work packages, covering project management, co-creation and stakeholder engagement, soil and **microbiome analysis**, crop diversification, biocontrol, and socioeconomic evaluation. Living labs in six different countries serve as experimental sites for testing and refining these innovative agroecological practices, offering a platform for collaboration between farmers, researchers, and industry stakeholders.

The postdoctoral position, based at the RIBP Laboratory at the University of Reims Champagne-Ardenne, offers an exciting opportunity to contribute to the different Work Packages especially WP3 and WP4. These work packages are focused on understanding how agroecological and agronomic practices impact soil microbiomes and how these, in turn, influence plant health, resilience, and crop yield. The postdoctoral fellow will also explore the role of crop diversification and biocontrol methods to increase agroecosystem resilience, thereby improving plant robustness and yield. The work involves collaborating closely with living labs across the project consortium and will require strong involvement in the implementing agroecological practices.

Requirements:

Applicants should have a Ph.D. in **microbiology, agricultural sciences, biology**, or a related field, with expertise in **microbial ecology, bioinformatics, and plant-microbe interactions**. Experience in **metagenomics analysis** of soil and plant samples, along with proficiency in **bioinformatics tools** (R/Python) for data analysis, is essential. Candidates should be highly collaborative, with excellent communication skills, and the ability to work effectively within interdisciplinary research teams. Proficiency in written and spoken English is required for project communications.

How to Apply:

The successful candidate will have the opportunity to work in a dynamic, multidisciplinary environment, gaining access to state-of-the-art laboratories and advanced research tools. The role offers a stimulating opportunity for skill development, networking, and contributing to innovative solutions for sustainable agriculture.

Interested candidates are invited to submit a **letter of interest**, **curriculum vitae (CV)**, and **two reference letters in single PDF file** to Prof. **Essaid Ait Barka** (ea.barka@univ-reims.fr) and Dr. **Qassim Esmaeel** (qassim.esmaeel@univ-reims.fr).