PhD in plant-microbe interaction

"Bio-solutions for sustainable viticulture"

Grape downy mildew, caused by *Plasmopara viticola*, is one of the most damaging pathogens to viticulture worldwide, leading to significant losses in grape yield. To date, chemical control remains the most effective and economical strategy to protect crops from the downy mildew under conditions favorable to disease development. However, the chemical pesticides use has caused issues with the appearance of resistance phenomena of pathogens, resurgence, and residues in food, as well as creating diffuse environmental pollution. In the last few years, the biological control of plant pathogens has emerged as a promising and eco-friendly alternative to synthetic pesticides and fungicides.

In this way, Ever Vigne is a collaborative project, led by ARD (https://www.a-r-d.fr/), bringing together players from the agri-viticultural sector, research centers and producers of bio-input products. The ultimate objective of Ever Vigne project is to develop, industrialize and market new biocontrol solutions, on the basis of micro-organisms, with proven effectiveness against downy mildew in vineyards to guarantee their rapid adoption by the market.

The University of Reims Champagne-Ardenne is recruiting, within the framework of the Ever Vigne project, a **PhD student for 3 years** who will carry out his or her missions within the RIBP Research Unit (Induced Resistance and Bioprotection of Plants), USC INRAE 1488 campus Moulin de la Housse, UFR Sciences (Reims) (https://www.univ-reims.fr/ribp).

The objective of this PhD project is to identify effective biocontrol agents against grapevine downy mildew. The different steps of this project are: (i) to screen a collection of microorganisms isolated from the vineyard, (ii) to select the most effective strains, and finally (iii) to understand how they trigger the mechanisms of resistance against *P. viticola*.

Candidate profile:

- Master's degree in plant biology or microbiology
- Theoretical and/or practical knowledge in plant-microbe interactions and biocontrol
- Rigorous, autonomous, dynamic, and highly motivated student
- Teamwork skills

Location:
RIBP, USC INRAE 1488, University of Reims Champagne-Ardenne, Moulin de la Housse – Bât. 18, 51687 Reims cedex 2, France.

Key words: grapevine, *Plasmopara viticola*, biocontrol agents (BCAs)

More information on RIBP : https://www.univ-reims.fr/ribp - ARD : https://www.a-r-d.fr/

Deadline for submission: September 30, 2022

Send in a single pdf file a CV, cover letter and letter(s) of recommendation to:
Pr Essaïd Aït Barka : ea.barka@univ-reims.fr
Dr Lisa Sanchez : lisa.sanchez@univ-reims.fr
Dr Qassim Esmaeel : qassim.esmaeel@univ-reims.fr