Funded Ph.D. position

Genetic Determinants of the Typicity of Riesling and Gewurztraminer Wines

INRAE, the French National Institute for Agricultural, Food, and Environmental Research

The National Research Institute for Agriculture, Food, and the Environment (INRAE) is a public research institution comprising a workforce of 12,000 people, with 268 research, service, and experimental units located in 18 centers throughout France. INRAE ranks among the world's leading institutions in agricultural and food sciences, as well as plant and animal sciences. Its research aims to develop solutions for high-performance agriculture, high-quality food, and the sustainable management of resources and ecosystems.

YOUR MISSION

You will join the UMR1131 research unit, "Vine Health and Wine Quality," which brings together researchers and technicians from INRAE and the University of Strasbourg. The unit conducts research on fungal and viral vine diseases, which are among the most damaging to French vineyards. By understanding the interactions between the vine and its pests and the development of grape quality, researchers can propose innovative solutions that address the challenges of sustainable viticulture. (https://www6.colmar.inrae.fr/svqv/).

Summary:
Wine typicity refers to its ability to reflect its grape variety and terroir through its organoleptic characteristics. It depends in part on molecules synthesized in the grape based on the variety's genetic makeup. Although research has identified certain genes responsible for the production of aromatic molecules in grapes, the genetic determinants of wine typicity remain largely unknown. In this context, the objective of this thesis project is to characterize the molecular and genetic determinants of the typicity of Riesling (Ri) and Gewurztraminer (Gw) wines, using a genetic analysis strategy applied directly to the wine's composition.

Thesis Objectives (Funding: INRAE-Grand Est Region Ph.D. Fellowship)
With the aim of better understanding the genetic basis of wine typicity, the doctoral student will therefore seek to answer the following research question: What are the molecular and genetic determinants of the typicity of Ri and Gw wines? More specifically, he or she will examine the following two questions: 1. What molecules are associated with the typicity of Ri and Gw wines? 2. What genetic factors determine the biosynthesis of these molecules associated with typicity?

Details of the project are available on the website of the Strasbourg Doctoral School of Life and Health Sciences via the following link: https://amethis3.unistra.fr/amethis-client/prd/consulter/offre/1133

Skills acquired during the thesis:

- Analysis of metabolomic data
- Quantitative genetics and QTL mapping
- Functional validation of candidate genes

The unit has the infrastructure (mass spectrometry analysis platform, computing server) and expertise to conduct integrative studies combining metabolomics and genetics for the identification and functional validation of genes involved in plant metabolism.

THE PROFILE WE ARE LOOKING FOR

- Recommended education: Master's degree in plant science, genetics, or biochemistry
- Strong background in plant biology and biochemistry, with knowledge of genetics. Strong background in statistics. Proficiency in scientific English.
- Desirable experience: Interest in plant chemistry and analytical chemistry methods (chromatography and mass spectrometry).

↘ Information

- UMR1131 " Santé de la Vigne et Qualité du Vin ", Colmar, France.

https://svqv.colmar.hub.inrae.fr/

- Contract type: Doctoral contract
- Contract term: 36 months
- Start date: October 1, 2026
- Salary: approximately 2300 € gross per month

↘ How to Apply

Please submit the following documents:
- A detailed **resume with 1–2 references,**
- A **cover letter**
- **Grades** from your first and second years of master's studies (M1 and M2)
- If possible, **a report** from your second-year internship (M2) demonstrating your research training

Per e-mail :
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✖ **Application deadline: July 15, 2026**