



JOB POSITION

Two-year Engineer position in Rose cell biology (Scent-related genes functional validation)

The French National Research Institute for Agriculture, Food, and the Environment (INRAE) is a public research establishment. It is a community of 12,000 people with more than 200 research units and 42 experimental units located throughout France. The institute is among the world leaders in agricultural and food sciences, in plant and animal sciences, and is 11th in the world in ecology and environment. INRAE's main goal is to be a key player in the transitions necessary to address major global challenges. In the face of the increase in population, climate change, scarcity of resources and decline in biodiversity, the institute develops solutions for multiperformance agriculture, high quality food and sustainable management of resources and ecosystems.

WORKING ENVIRONMENT AND ACTIVITIES

■ You will be welcomed in the unit IRHS (Angers, France). The Research Institute of Horticulture and Seeds (IRHS) is a large laboratory with approximately 240 members. The institute conducts research on the quality and health of horticultural crops and seeds. The main objects of study are roses and other ornamental plants, pome-fruits, vegetables, plant pathogenic bacteria and fungi, and grain legume seed. The IRHS develops integrated approaches by combining expertise in genetics, genomics, epi-genomics, breeding, microbiology, physiology, biochemistry, metabolomics, eco-physiology, modelling, bioinformatics, image signal processing, and statistics. The institute is organized into 14 research teams including the GDO (Genetic and Diversity of Ornamentals) team, which is offering this engineer position. The GDO team's objectives are: (i) to characterize the impact of evolutionary history, natural selection and human activities on *Rosa* diversity, (ii) to understand the genetic basis of traits of interest in ornamental plants.

■ Project and missions:

Plants emit a diversity of volatile compounds that are important for reproduction and defense, serve as products for humans, and influence atmospheric chemistry and climate. Over the past two decades, significant progress has been made in elucidating the biosynthesis of these molecules. However, their subcellular localization, storage in the cellular organelles, and release to the atmosphere remains largely unknown. As part of the international ANR STRASS (Subcellular Trafficking and Secretion of Scent) project, coordinated by Sylvie Baudino (BvPAM, University of Saint-Etienne), we will study the trafficking and the secretion of volatile compounds in three plant species, that differ in the volatiles they produced and stored: rose and petunia petals, and glandular trichomes of pelargonium leaves. State-of-the-art imaging methods and mathematical modeling of metabolic fluxes will be used in addition to genetic, biochemical and cell biology approaches. In this project, the GDO team will focus on studying candidate genes involved in VOC emission by functional validation in rose. As Rose is a recalcitrant plant for genetic transformation, **the candidate will be responsible for** developing protocols for genetic transformation across different genotypes and then, he/she will validate candidate genes identified by project partners.

■ Special conditions of activity:

The successful candidate will be trained for the required techniques and will be supported in other academic activities such as conference attendance, student supervision and grant & manuscript writing.

The position will be based in Angers, 300 km west of Paris. Angers is a medium-sized, dynamic and welcoming city.

INRAE'S LIFE QUALITY

By joining our teams, you benefit from (depending on the type of contract):

- until 30 days of annual leave + 15 days "Reduction of Working Time" (for a full time);
- [parenting support](#): CESU childcare, leisure services;
- skills development systems: [training](#), [career advise](#);
- [social support](#): advice and listening, social assistance and loans;
- [holiday and leisure services](#): holiday vouchers, accommodation at preferential rates;
- [sports and cultural activities](#);
- collective catering.

TRAINING AND SKILLS REQUIRED

- Recommended training: PhD in plant Science
- Knowledge required: strong background in **plant cell biology**. The working language is **English** and the candidate should be fluent in both oral and written English
- Appreciated experience: experience in **in vitro culture** techniques and/or **genetic transformation** methods will be assessed positively
- Skills sought: plant cell biology, *in vitro* culture, molecular biology, plant physiology.

↘ Reception modalities

- Unit: IRHS
- Postal code + city: 49071 BEAUCOUZE
- Type of contract: Non-permanent
- Duration of the contract: 2 years
- Starting date: January, 2025
- Remuneration: 49k€/years (gross)

↘ How to apply

Send a motivation letter and a CV to : Laurence Hibrand-Saint Oyant and/or Fabrice Foucher

- By e-mail: laurence.hibrand-saint-oyant@inrae.fr ; fabrice.foucher@inrae.fr

✗ Deadline for applications: September, 29th

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