

JOB POSITION

Engineer in Molecular Microbial Ecology

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 Food Microbial Ecology or FME lab (<https://fme.micalis.fr/>) which is part of the Micalis unit – Food and Gut Microbiology for Health - (Joint Research Unit INRAE-AgroParisTech located in Jouy-en-Josas, Yvelines, Ile-de-France). The FME team develops microbial ecology approaches on food microbiota and its activities are declined according to four types of research: 1) To obtain a holistic view of food microbiota in the food chain; 2) To improve the functional analysis of metabolic interactions of food microbes; 3) To develop synthetic food microbial ecology methodologies; 4) To study the interactions between food and gut microbiota.

■ You will work as a Design Engineer in close collaboration with the researchers of the team. You will be in charge of the organizational support (lab manager) and the implementation of methodological developments associated with our different projects. In this context, you will help the researchers to implement strategies for the reconstruction of microbial consortia in order to elucidate the metabolic interactions between microbial species from various foods. You will be particularly involved in the ANR Metasimfood project (<http://fme.micalis.fr/projects/metasimfood/>) and the European Horizon project, Domino (<http://fme.micalis.fr/projects/domino/>).

■ To study these microbial communities, you will have access to unique infrastructures and will be integrated into our network of national and international collaborations which includes the best experts in the field. In particular, you will be required to:

1. Master the growth and assembly of microbial strains to recreate artificial communities.
2. Develop simplified and miniaturized foods.
3. Implement methodologies for screening microbial strains using mini bioreactors, imaging or 3D printing.
4. Participate in the development of nucleic acid (DNA; RNA) purification & analysis methods for high-throughput sequencing (metagenomic sequencing).

You will also play an active role in the technical and scientific supervision of the students (master, thesis) welcomed in the team. Finally, in consultation with the team members, you will participate in the management, maintenance and acquisition of new equipment for our infrastructure dedicated to the study of microbial communities.

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: Master 2 or engineering degree with initial training in general science or microbiology. A first experience in a laboratory (academic or private) will be appreciated but not necessary.
- Required skills: Molecular microbiology techniques (nucleic acid extraction, PCR, quantitative PCR) and use of office automation for processing large amounts of data (Excel). Microbiology, biochemistry, laboratory management.
- English: A good level of English language (B2 min.) is desirable because of the participation in the European Domino project and for the interaction with international team members.
- Desired skills: rigor, organizational skills, autonomy and data management, working within a team, ability to interact with different interlocutors and simultaneous involvement in different projects.

↘ Reception modalities

- Unit: Micalis
- Postal code + city: 78352 Jouy-en-Josas
- Type of contract: Mission on Project
- Duration of the contract: 48 months
- Starting date: 2023, September 1st.
- Remuneration: 2,100 to 2,500 € gross/month depending on previous experiences.

↘ How to apply

Send a motivation letter and a CV to both:

Stéphane CHAILLOU

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& Marie-Christine CHAMPOMIER VERGES

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✗ Deadline for applications: **2023, June 1st**.