

Job Description

Job Title: A2A43 - Engineer in Biological Techniques

Recruitment Level:

Bachelor's degree (Bac+3) minimum

18-month fixed-term contract starting from 01/06/2025 - Salary based on experience

1. Mission

The research engineer will contribute to the development and experiments of the Spatial-Cell-ID platform. This platform implements spatial transcriptomics pipelines in various organisms using advanced imaging and genomics techniques. The engineer will develop a 3D MERFISH (Multiplexed Error-Robust Fluorescence In Situ Hybridization) pipeline in Arabidopsis. 3D MERFISH allows the visualization of hundreds of genes in situ in 3D through multiple cycles of RNA fluorescence in situ hybridization and imaging, using a microfluidic system coupled with a microscope.

2. Activities

- Develop and adapt experimental conditions for implementing smFISH/MERFISH techniques.
- Design and optimize experiments within a biological research framework.
- Write experimental reports, technical notes, and study documentation.
- Contribute to the management of technical resources.
- Conduct scientific and technological monitoring in the field.
- Implement quality control and metrological monitoring of equipment.

3. Required Skills

➤ KNOWLEDGE

- Biology (in-depth knowledge)
- Health & safety regulations
- Legal and ethical frameworks
- Applied informatics
- English proficiency: B1 to B2

➤ TECHNICAL SKILLS

- Molecular biology techniques, experience in smFISH (*Single Molecule Fluorescence In Situ Hybridization*) is a plus.
- Experience in light microscopy, particularly in biological system imaging.
- Proficiency in software tools related to the activity.
- Experimental device design.
- Scientific writing skills.

➤ BEHAVIOURAL SKILLS

- Analytical reasoning ability
- Organizational skills: precision and dynamism

- Interpersonal skills: ability to work and interact within a multidisciplinary team

4. Environnement et contexte de travail

As part of the Spatial-Cell-ID project, École Normale Supérieure de Lyon (ENS) is hiring a research engineer to be based at the Institute of Functional Genomics of Lyon (IGFL, ENSL). The IGFL provides all the necessary infrastructure for developing a complete 3D MERFISH pipeline, from probe design to data analysis, including: 3D STED microscope coupled with a microfluidic system and Bioinformatics facility. The production of the samples will take place at the Reproduction and Plant Development (RDP) laboratory, on the ENSL site.

5. Hierarchical Relationship

The research engineer will report to Jonathan Enriquez, co-coordinator of the ExploraE project (INRAE), which funds the 3D MERFISH development in plants. Additionally, the engineer will be supervised by Teva Vernoux, co-coordinator of ExploraE and Spatial-Cell-ID projects. The engineer may also report to the laboratory or institute management, depending on the internal organization.

6. Functional Relationships

The research engineer will collaborate with a working group from EquipEx+ Spatial-Cell-ID, composed of: biologists, microscopists, bioinformaticians. Additionally, they will work closely with Teva Vernoux's team at RDP (Laboratory of Plant Reproduction and Development) to implement 3D MERFISH in plants.

You can submit your application by following this link: <https://ens-lyon.softy.pro/offre/155412>



MERFISH

Equipe Spatial-Cell-ID

Microscope 3D STED

IGFL