

Position description

1. Position identification

Title of post : Post-doctoral position in Drosophila genetics/cell biology

Type of contract : Fixed-term contract funded by the European Research Council (ERC)

Category (A,B or C) : A

Contract/project period : 1 year, renewable **Expected date of employment : 1/5/2025**

Proportion of work : Full-time

Workplace : Institut de Biologie Moléculaire et Cellulaire (CNRS), University of Strasbourg, France

Desired level of education : PhD in relevant fields such as genetics, cell biology, or related disciplines

Experience required : Expertise in Drosophila genetics and cell biology

Contact(s) for information on the position (identity, position, e-mail address, telephone) : Bénédicte Stévenin, Administrative contact, m3i-sec@ibmc-cnrs.unistra.fr

Date of publication : 16/01/2025

Closing date for the receipt of applications : 13/02/2025

2. Research project or operation

The post-doctoral project aims to investigate the function of genes regulated by the STING pathway in *Drosophila* species and other arthropods. The objective is to explore the evolutionary diversity of antiviral immunity, leveraging the conserved and taxon-specific adaptations of the STING pathway. The focus will be to:

- Identify STING-regulated genes with antiviral properties across diverse insect species.
- Characterize these genes to uncover conserved mechanisms and lineage-specific adaptations.
- Characterize these genes using the advantages of *Drosophila* as a model organism.
- Explore innovative therapeutic approaches for viral infections by studying the evolutionary arms race between viruses and host immune systems.

This work is part of a broader collaboration with leading laboratories in France, China, and the USA.

3. Activities

➤ **Description of the research activities :**

- Realize experiments with one organism per order of insects.
- Generate and analyze RNA sequencing data to identify candidate genes.
- Perform functional characterization of STING-regulated genes in *Drosophila* and beyond.
- Conduct genetic and cellular assays to study antiviral mechanisms.

Related activities :

- Collaborate with national and international research teams.
- Contribute to the publication of scientific articles.
- Engage in lab meetings and present research findings.

4. Skills

➤ Qualifications/knowledge :

- Strong foundation in genetics and cell biology.
- Knowledge of *Drosophila* as a model organism.
- Familiarity with innate immune pathways and STING signaling.

➤ Operational skills/expertise :

- Expertise in genetic manipulation and molecular biology techniques.
- Basic competence in data analysis and bioinformatics (e.g., RNA sequencing), with the possibility to improve or develop further skills in collaboration.
- Ability to design and conduct experiments independently.

➤ Personal qualities :

- Strong organizational and time management skills.
- Effective communication and teamwork abilities.
- Enthusiasm for exploring evolutionary biology and innovative research.

5. Environment and context of work

➤ Presentation of the laboratory/unity :

The position is hosted by the Institut de Biologie Moléculaire et Cellulaire (CNRS) on the central campus of the University of Strasbourg. The research team is coordinated by Jean-Luc Imler & Carine Meignin is part of an international collaborative network.

The selected candidate will join a multinational team entitled "Antiviral innate immunity in insects: Antiviral innate immunity in insects" within the 'Insect model of innate immunity, one of three units hosted by the Institut de Biologie Moléculaire et Cellulaire located on the central campus of the University of Strasbourg, France. This unit specialises in the study of the molecular and cellular basis of anti-infective defense, using *Drosophila melanogaster* and mosquitoes as models.

➤ Hierarchical relationship :

Reports to the principal investigators, Jean-Luc Imler & Carine Meignin

➤ Special conditions of practice (notice attached):

The role may require travel to partner laboratories.

To apply, please send your CV, cover letter and diploma to :

Applicants should send the following documents via email to Bénédicte Stévenin (m3i-sec@ibmc-cnrs.unistra.fr):

- CV
- Letter of motivation
- Names and contact details of three references