

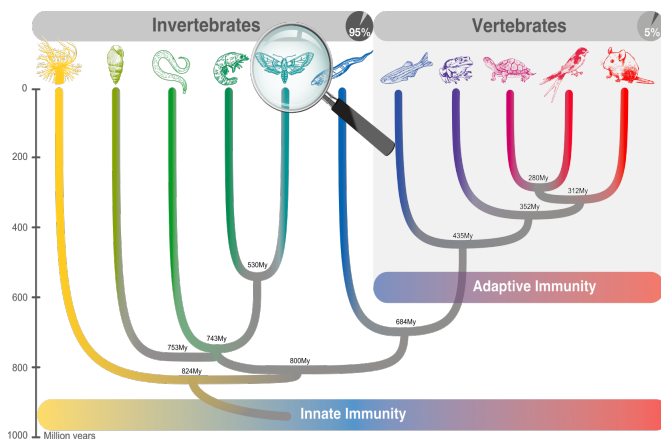
Post-doctoral position in *Drosophila* genetics/cell biology

Functional characterization of STING-regulated genes

Institut de Biologie Moléculaire et Cellulaire, Strasbourg



A post-doctoral position funded by the European Research Council (ERC) is available to investigate the function of genes regulated by the STING pathway in *Drosophila*. STING is a critical molecule of the antiviral innate immune pathway in mammals, whose activation or deregulation is involved in several types of pathologies beyond infectious diseases (e.g., cancer, neurodegenerative diseases). In *Drosophila*, STING participates in antiviral innate immunity and is activated by cyclic dinucleotides produced by at least two cGAS-like receptors (cGRL), which sense the presence of viruses. The aim of the project is to identify among the STING-regulated genes new antiviral factors and to make use of the assets of the *Drosophila* model to characterize their functions and document original antiviral strategies, with the long-term goal of inspiring innovative therapeutic approaches against viral infections.



- Exploring 600Mya of evolution
- Standardize between insects
- Readout : RNA sequencing
- Sequenced arthropods
- One organism per order
- Relevant for societal impact

The selected applicant will join a multinational team coordinated by Carine Meignin and Jean-Luc Imler and hosted by the Institut de Biologie Moléculaire et Cellulaire (CNRS) on the central campus of the University of Strasbourg (<https://ibmc.cnrs.fr/en/laboratoire/m3i/>). The project involves collaborations with leading laboratories in France, Denmark, China and USA.

The applicants must have expertise in **cell biology and *Drosophila* genetics**. Enquiries/applications should be made by e-mail in the form of a CV, a letter of motivation and the names and addresses of three references to Bénédicte Stévenin (b.stevenin@ibmc-cnrs.unistra.fr). Starting date of the contract: spring 2025.

Selected reading for more information on the project:

Cai H *et al.* (2020) 2'3'-cGAMP triggers a STING and NF- κ B dependent broad antiviral response in *Drosophila*. **Science Signaling**, **13**: eabc4537.

Holleufer A *et al.* (2021) Two cGAS-like receptors induce a Sting-dependent antiviral immune response in *Drosophila melanogaster*. **Nature**, **597** : 114-118.

Cai H *et al.* (2023) The virus-induced cyclic dinucleotide 2'3'-c-di-GMP mediates STING-dependent antiviral immunity in *Drosophila*. **Immunity**, **56**: 1991-2005

Hédelin L *et al.* (2024) Investigating the evolution of *Drosophila* STING-dependent antiviral immunity by multispecies comparison of 2'3'-cGAMP responses. **Molecular Biology & Evolution**, **41**: msae032

Imler JL *et al.* (2024). Evolutionary immunology to explore original antiviral strategies. **Philosophical Transactions B**, **279**: 20230068